Agro-food SME clustering

Towards an EU legal framework for achieving socio-economic development

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Abstract

The business clustering of small and medium-sized enterprises related to the agro-food supply chain (agro-food SME clusters) would be able to contribute significantly to achieving socio-economic development throughout the regions of the European Union. To that end, this thesis discusses the importance of business clustering for SMEs by highlighting relevant legal challenges and arguing for the competitive potential of the agro-food supply chain. It also examines the comparative advantages of high-quality European agro-food goods for the EU and, most importantly, identifies an appropriate EU legal framework in order for the business networks of agro-food SME clusters to operate as *commons*. By proposing a combined contractual and corporate legal structure for agro-food SME clustering, it argues that SMEs should be connected via contracts with the network centre (cluster organisation) that would operate with a commons approach for the benefit of society and the economy.

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Abbreviations and Acronyms

ASEAN	Association of Southeast Asian Nations
BGB	German Civil Code
CAP	Common Agricultural Policy
CELDF	Community Environmental Legal Defence Fund
CESL	Common European Sales Law
CFR	Common Frame of Reference
CISG	Convention on Contracts for the International Sale of Goods
CJEU	Court of Justice of the European Union
CMO	Common Market Organisation
COSME	Competitiveness of Small and Medium-sized Enterprises
DAO	Decentralised Autonomous Organisation
DCFR	Draft Common Frame of Reference
EAFRD	European Agricultural Fund for Rural Development
ECCP	European Cluster Collaboration Platform
ECEI	European Cluster Excellence Initiative
ECHR	European Convention on Human Rights
ECSC	European Coal and Steel Community
ECtHR	European Court of Human Rights
EEIG	European Economic Interest Grouping
EFQM	European Foundation for Quality Management
EFTA	European Free Trade Association
EP	European Parliament
EPA	Environmental Protection Agency

ERDF	European Regional Development Fund
EC	European Commission
ESC	European Social Charter
ESF	European Social Fund
ESI	European Structural and Investment
EU	European Union
EUCFR	EU Charter of Fundamental Rights
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GDPR	General Data Protection Regulation
GIs	Geographical Indications
GMOs	Genetically Modified Organisms
HACCP	Hazard Analysis and Critical Control Points
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICT	Information and Communication Technology
IFRS	International Financial Reporting Standards
IPOs	Initial Public Offerings
IPRs	Intellectual Property Rights
ISO	International Organisation for Standardisation
NGO	Non-Governmental Organisation
NUTS	Nomenclature of territorial units for statistics
NUTS-2	Nomenclature of territorial units for statistics - 2
OMC	Open Method of Coordination
OSH	Occupational Safety and Health
PAPs	Processed Agricultural Products

PDO	Protection of Designations of Origin
PGI	Protection of Geographical Indications
R&D	Research and Development
REACH	Regulation on chemicals
REFIT	Platform for the Regulatory Fitness and Performance
RoHS	Restriction of Hazardous Substances Directive
RTAs	Regional Trade Agreements
SBS	Small Business Standards
SCE	Societas Cooperativa Europaea
SE	Societas Europaea
SEPA	Single Euro Payments Area
SMEs	Small and medium-sized enterprises
SPS	Sanitary and Phytosanitary Measures
SUP	Societas Unius Personae
TBT	Technical Barriers to Trade
TEU	Treaty on European Union
TFEU	Treaty on the Functioning of the European Union
TRIPS	Trade-Related Aspects of Intellectual Property Rights
TSCA	US Toxic Substance Control Act
TTIP	Trade and Investment Partnership
UK	United Kingdom
US	United States
VAT	Value Added Tax
WIPO	World Intellectual Property Organization
WTO	World Trade Organisation

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THESIS INTRODUCTION

This study explores EU legal aspects for the business clustering of SMEs related to the agro-food supply chain (agro-food SME clusters) and considers the extent to which it can contribute to the socio-economic development of the EU regions.[1] The agro-food SME clusters are considered in this thesis as business networks scattered across the EU. These clusters can consist of SMEs from the primary, secondary, and tertiary sectors of the economy that network and participate in the process of production, processing, and distribution of high-quality agro-food goods. To that end, this thesis discusses the importance of business clustering for SMEs across the EU by highlighting relevant legal challenges and arguing for the competitive potential of the EU's agro-food supply chain. It also examines the comparative advantages of high-quality agro-food goods for the EU and, most importantly, identifies an appropriate EU legal framework in order for the agro-food SME clusters to operate as *commons* for the benefit of society and the economy. In this way, this thesis addresses the existing lack of relevant sources and through interdisciplinary research, aims to make a substantial and original contribution to the literature concerning the growing field of economic analysis of law and business clustering.

Context of the study

The EU is experiencing important economic repercussions due to recent and current multiple crises, such as the migration and refugee crisis, Brexit, pandemic outbreak, and the effects of the war in Ukraine on energy. These events have merely deepened and accelerated the consequences of the 2008 economic and financial crisis, which reversed many years of Europe's development and uncovered structural disadvantages of the European economy.[2] In the meantime, the multi-dimensional global economic challenges are intensified. While the western economies have been facing the risk of recession for a long time, many of the emerging economies in the developing world have made significant progress in recent decades.

[1] Nomenclature of territorial units for statistics-(NUTS-2). The NUTS 2 classification is a hierarchical system for dividing up the economic territory of the EU in 242 regions for the purpose of framing of EU regional policies: Regulation (EC) No 1059/2003 of the European Parliament and of the Council of 26 May 2003 on the establishment of a common classification of territorial units for statistics (NUTS).

[2] European Parliament (2019) 'A decade on from the crisis: Main responses and remaining challenges'. European Parliamentary Research Service, October 2019.

According to the World Bank,[3] the developing countries have created more flourishing societies in which more and more parts of their population have been lifted out of poverty more quickly than previously recorded.[4] Thus, this situation appears to be an evolutionary process of overall progress that is simply concerned with the shift of a considerable part of wealth and power away from the western world. However, as new economic powers have begun to play a central role in shaping the economic map of the 21st century, it is important to consider the potential role of the EU in these global challenges.

Against this backdrop, EU competitiveness has been influenced detrimentally by the contraction of productive sectors of the European economy. This is because many large industrial businesses have moved, or outsourced their production activities, overseas to cost-effective locations in emerging economies.[5] On the other side, the remaining SMEs in the territory of the EU, which are the backbone of its economy,[6] cannot tackle the issue of competitiveness because they are not sufficiently powerful to be able to compete effectively against large-scale competitors. From a macroeconomic aspect, the concept of competitiveness does not reflect the performance of the national or regional economy itself, but the performance of those businesses located within this national or regional economy.[7] Thus, in the context of Europe, EU competitiveness depends on the capacity of domestic businesses in the EU territory to thrive and flourish. Consequently, European SMEs need to focus on the productive use of human capital and resources, in order to increase their competitiveness against the large businesses that can, without difficulty, go where they are able to produce commodities at the minimum cost with the least intervention by regulatory institutions.[8]

To address the problem of competitiveness, the EU has undertaken initiatives to strengthen SMEs via their participation in business clusters,[9] which are 'groups of firms, related economic actors, and institutions located near each other and with sufficient scale to develop specialised expertise, services, resources, suppliers and skills'.[10] Due to the synergy effects of cooperative relationships, the concept of business clustering could assist SMEs to overcome

[3] World Bank'Poverty'. <http://www.worldbank.org/en/topic/poverty/overview#1>.
[4] World Bank 'Reversals of Fortune' Poverty and Shared Prosperity 2020. 21-80.
[5] De Schutter O (2015) 'Trade in the service of climate change mitigation: The question of linkage'. Journal of Human Rights and the Environment, 5:65-102: 65; Scheffler P (2015) *Global sourcing: performance and competition. How to benefit from an international scope*. Logos Verlag Berlin .2.
[6] SMEs represent 99% of all businesses in the EU, European Commission Single 'Entrepreneurship and Small and medium-sized enterprises (SMEs)'. <https://ec.europa.eu/growth/smes_en>.
[7] Krugman P (1994) 'Competitiveness: A Dangerous Obsession'. Foreign Affairs. 73(2) 31–42.
[8] See above (n 5).
[9] European Commission 'Cluster policy'. <https://single-market-economy.ec.europa.eu/industry/strategy/cluster-policy_en>.
[10] European Commission 'The concept of clusters and cluster policies and their role for competitiveness and innovation: Main statistical results and lessons learned' SWD SEC(2008): 5.

their size limits and gain a comparative advantage over individual businesses.[11] As part of the European industrial strategy, the EU cluster policy aims to enhance economic growth and competitiveness in the EU by supporting clusters to become responsible for a large share of European employment, SME growth and specialisation within regions.[12] The EU has also developed the European Cluster Partnerships in order to urge clusters to strengthen collaboration throughout regions and sectors.[13] In general, the EU cluster policy assists clusters to become core players for resilient, green, and digital economies in regions. To this end, it provides aid to each cluster organisation, which can be defined as 'the legal entity engineering, steering and managing the clusters, including usually the participation and access to the cluster's premises, facilities and activities'.[14]

Nevertheless, the findings presented by the 2020 European Panorama report show that there are important issues regarding the effectiveness of EU cluster policy due to low levels of cluster strength and economic performance in the EU regions.[15] This report is based on data derived from the European cluster database,[16] and was published under the European Observatory for Clusters and Industrial Change, which has developed a specific methodology for measuring cluster strength. In particular, cluster strength has been measured by capturing the size, degree of specialisation and employee productivity, as well as the presence of high-growth SMEs and the presence of innovation leaders.[17] According to the report analysis, there is only a small number of high-performing clusters, and most of the areas of sectoral industries are without cluster strength.[18] Furthermore, the EU is experiencing low levels of specialisation, which is a key concept for a better and more targeted cluster policy.[19] Hence, there are still many regions in the EU without cluster strength,[20] thus causing issues regarding the dynamism of cluster organisations so that they can operate effectively as network centres in clusters.[21]

Importantly, the EU cluster policy is not implemented under a unified system for all EU regions, which would function within an appropriately regulated environment for the clustering

[11] Porter M (2008) *On Competition.* Harvard Business Press. 213-304.
[12] European Commission 'For a European Industrial Renaissance'. COM(2014) 14 final, 8-9.
[13] European Cluster Collaboration Platform (ECCP) 'European Cluster Partnerships' <https://clustercollaboration.eu/eu-cluster-partnerships>.
[14] European Commission, (n 10) 43.
[15] European Commission 'European Panorama of Clusters and Industrial Change', (Panorama 2020).
[16] European cluster database, Cluster mapping tool <https://www.clustercollaboration.eu/cluster-mapping>.
[17] European Commission 'Methodology report for the European panorama of clusters and industrial change and European cluster database' Report (2019).
[18] Panorama 2020 (n 15) 13.
[19] Ibid. 48; See also Ketels C & Protsiv S (2021)' Cluster presence and economic performance: a new look based on European data'. Regional Studies. 55:2, 208-220.
[20] Ibid. 31-33.
[21] European Commission 'Summary Report on lessons learnt from fostering modern Cluster Policy in regions in industrial transition' (2019) 3-4.

of SMEs. On the contrary, this policy is only a set of best practices, approaches, initiatives and recommendations for cluster stakeholders and relevant authorities.[22] In general, the clusters have some form of an agreement governing the relationships between their members, but this is only operational without covering the legal obligations and rights of the parties.[23] It is worth noting that instead of signing a formal agreement, most of the clusters in the EU follow non-binding rules governing operational matters, such as attendance at meetings and events and more.[24] On the other side, the members of almost all high-performing clusters have signed some kind of legally binding provisions related mostly to liability and dispute issues, confidentiality, and intellectual property rights.[25] Given that formal legal rules seem to favour cluster strength and performance, the problem of exiting low-level clustering in the EU appears to mainly be the absence of a single institutional framework that could have a central role in the shape and direction taken by the EU cluster policy. This framework may be able to reverse the reduced effectiveness of the cluster actions and thus the waste of public resources. Consequently, this study argues that designing suitable legal rules for cluster members would facilitate them to efficiently participate in the process of coordination and implementation of EU cluster policy.

An appropriate EU legal framework for clustering may constitute the basis for the scope and targeting of the cluster policy to contribute to achieving socio-economic development in the regions. The concept of socio-economic development refers to the progress of prosperity in terms of economic and social dynamics within a geographic unit. It emphasises raising economic growth accompanied by qualitative changes in the structure of production and employment, and improving social well-being through social justice, inclusiveness, and the common good.[26] To face the new challenges of global markets and foster socio-economic development, however, the EU cluster policy needs to focus on sectors of the economy that further the most competitive products of the EU through specific actors, mainly SMEs. These economic sectors could be involved in the agro-food supply chain because the EU has a leading position as a regulatory power worldwide in the policy domains of environmental protection,

[22] European Commission 'Smart guide to cluster policy' (2016).
[23] See relevant empirical research in: Cooper V et al. (2005) 'Legal issues in SME clusters'. In 2005 IEEE International Technology Management Conference (ICE). IEEE, 1-5; Konstantynova A & Wilson J.R (2017) 'Cluster policies and cluster institutions: an opportunity to bind social and economic dimensions?'. Economia e Politica Industriale, 44(4) 457–472: 462-463.
[24] European Cluster Collaboration Platform 'Cluster Organisations'.<https://clustercollaboration.eu/cluster-list?profile_type[cluster_profile]=cluster_profile&zone[]=1&zone[]=2&pk_vid=e6493a161774bf9d1664019747943fda>.
[25] European Cluster Database 'Cluster mapping tool' < https://www.clustercollaboration.eu/cluster-mapping´>.See also about high-performing clusters in 'traded industries" in European Panorama (2020).
[26] See generally for socio-economic development, in: Szirmai A (2015) *Socio-economic development*. (CUP).

health and food safety,[27] which constitute the fundamental determinants to ensure a competitive position of high-quality European agro-food goods. Accordingly, cluster strength and performance would be improved significantly via a new institutional form that may assist EU cluster policy to support the emergence and operation of business networks of agro-food SME clusters across the regions.

The agro-food supply chain consists mainly of agriculture, food processing and food distribution sectors, which are parts of one of the largest industries in the EU. The agro-food industry produces a vast array of goods that emanate mostly from SMEs that are located on the European territory, as this industry is directly dependent on the raw materials of the primary sector.[28] As a result, businesses involved in the European agro-food supply chain cannot move away from the EU to other locations, where they could produce goods at the lowest cost with the least interference from regulatory bodies, on environmental rules, labour standards and standards in the production process. It is noteworthy that the Common Agricultural Policy (CAP), which constitutes the fundamental policy for agro-food goods in the EU,[29] is strongly linked to socio-economic development in the EU regions, as confirmed by the CAP's objectives stated in Article 39 TFEU.[30]

The agro-food SME clustering under a specific EU legal framework may become a new prosperity model that can contribute to address ing various socio-economic issues in the EU regions. It is broadly known that the European social model for a society that combines high living standards and good working conditions with economic growth is currently experiencing one of the greatest challenges in its history.[31] Relevant EU actions may also be required as the operation of agro-food SME clusters could be affected by legal and socio-economic challenges caused by new technologies, such as robotics that has already begun to transform modern agriculture, food processing, and food distribution systems. In this context, blockchain technology may be able to facilitate agro-food SME clustering to cope with the disruption in the labour market due to the advent of robots by supporting a job guarantee that preserves the social aspects of work and strengthens the fundamental right to work for everyone.

[27] Bradford A (2020) *The Brussels Effect: How the European Union Rules the World*. (OUP) 171-234.
[28] European Commission 'Monitoring of the implementation of principles of good practice in vertical relationships in the food supply chain'. (January 2016) 6.
[29] Usher J. A (2001) *EC Agricultural Law*. (OUP) pp.vii-viii.
[30] TFEU Article 39(1): The objectives of the CAP shall be: (a) to increase agricultural productivity; (b) thus to ensure a fair standard of living for the agricultural community; (c) to stabilise markets; (d) to assure the availability of supplies; (e) to ensure that supplies reach consumers at reasonable prices.
[31] See generally for the crisis of the European Social Model, In: Barnard C (2014) 'EU Employment Law and the European Social Model: The Past, the Present and the Future' University of Cambridge Paper No. 43/2014.

Another crucial challenge that may require EU actions relates to the interaction between global and local competitive forces for European agro-food goods. Specifically, the WTO's multilateral trading negotiations and the bilateral and regional trade agreements of the EU could be able to support a system of geographical indications protection for agro-food goods.[32] This regime of intellectual property rights may operate as a comparative advantage of agro-food SME clustering in the global context. It also would contribute to achieving high levels of balanced regional development, which can respond to the particular needs of each EU region, thus offering a favourable environment for the emergence and future paths of agro-food SME clusters.

Aim of the study

Based on the abovementioned reasons, the research aim of this study is to identify an appropriate EU legal framework for the establishment of agro-food SME clusters across the EU and their contribution to achieving socio-economic development. This may be an effective route for a new model of prosperity that would be founded directly upon the dynamism of SMEs in the competitive sectors of the EU economy. To this end, it is important for the study to consider the contractual relationships between the cluster organisation of each agro-food SME cluster and its members. Cluster organisations could ensure a resilient form of networking integration by operating as centres that have signed bilateral contracts with every cluster member, such as SMEs that can preserve their own economic and legal independence. Despite the legal inadequacies of network forms,[33] the concept of connected contracts may be able to address issues related to liability through contract law. In fact, however, the connected contracts remain unavoidably incomplete due to the absence of foreseeability at the time of drafting. For this reason, the thesis argues that the gap-filling role of EU company law could contribute to the completion of contracts by designing a suitable legal form for cluster organisations. This may decrease uncertainty among stakeholders who would possess property rights, meaning that agro-food SME clusters can be considered as commons. Based on the

[32] WTO: Geographical Indicators (2005) "Papers circulated in the negotiations, European Communities, geographical indications". June 14, 2005, TN/IP/W/11 (also WT/GC/W/547 and TN/C/W/26); Commission: Regulation Proposal (2022) 'Proposal for a Regulation on European Union geographical indications for wine, spirit drinks and agricultural products, and quality schemes for agricultural products'. COM/2022/134.

[33] Collins H (1990) 'Ascription of Legal Responsibility to Groups in Complex Patters of Economic Integration'. 53 MLR 731, 742–3.

economic theory of commons,[34] their purpose would be to produce a surplus for stakeholders and society as a whole in the EU regions. Accordingly, the thesis also argues that the governance framework for cluster organisations, under a suitable EU-wide legal form with a commons approach, could include all affected stakeholders from the business activity.

Objectives and research questions

To achieve its research aim, the thesis focuses on the fulfilment of the following objectives by answering articulated research questions.

The first objective is to justify the significance of agro-food SME clustering for a socio-economic transformation in the EU by providing answers to the following set of three research questions: How can business clustering through the concept of cooperation promote entrepreneurship and enhance competitiveness for European SMEs? What are the key issues and legal challenges for the emergence and effective operation of clusters as business networks in the EU? What are the competitive pressures for the EU industry and how can the global reach of EU law ensure a competitive advantage for high-quality European agro-food goods?

Subsequently, the second objective is to demonstrate the value of agro-food goods via business clustering for socio-economic development in EU regions by answering four research questions, which are: What are the key elements of the main sectors of the agro-food supply chain (agriculture, food processing, food distribution)? What are the legal aspects and socio-economic implications of new technologies in agro-food SME clustering in the EU regions? How can the competitive high-quality agro-food goods ensure global opportunities for agro-food SME clusters? How can the challenge of balanced regional development affect the establishment of agro-food SME clusters throughout the EU regions?

Finally, the third objective is to identify an appropriate EU legal framework for the emergence and effective operation of agro-food SME clusters in the EU regions by providing answers to the following two research questions: How can network forms contribute to the regulation of connected contracts of agro-food SME clusters in the EU? What are the governance framework and legal implications of an EU-wide legal status for the cluster

[34] Ostrom E et al. (2010) *Working Together: Collective Action, the Commons, and Multiple Methods in Practice*. Princeton University Press.

organisation, so that the agro-food SME clusters can effectively operate as commons across the EU regions?

Synopsis of the research design and methods

This is primarily a literature-based study that is identifying legal implications, opportunities, and challenges in various disciplines in order to present an appropriate EU legal framework for agro-food SME clustering. To overcome the boundaries between disciplines, however, the thesis adopts the interdisciplinary approach, which bridges the divide between law and other areas,[35] such as business, economics, sociology, economic geography, political science and more. Given that this approach attracts ideas from dissimilar fields,[36] the research tends to produce contradictory findings in some parts of the thesis. For these parts, the study adopts comparative methods which can challenge generalisations and facilitate critical and questioning attitudes to legal provisions and practices.[37] Nevertheless, most of the comparative research in the thesis is based upon secondary sources, particularly articles, textbooks, EU publications and internet sources. In order for the research to use primary sources of law, however, the doctrinal approach is also adopted as it can technically describe the purely legal meaning of rules and principles.[38] By putting this combination of the abovementioned methods and techniques in the context of the research, this thesis can accomplish its three research objectives and identify an EU legal framework which could facilitate the establishment of agro-food SME clusters across the EU regions and contribute to achieving socio-economic development.

To justify the significance of agro-food SME clustering for a socio-economic transformation in the EU, this study initially shows how the cooperative relationships in clustering can promote entrepreneurship and enhance the competitiveness of SMEs. To achieve this, it uses examples of existing business clusters and critically examines selected EU policy texts and literature from social sciences and humanities. Then, this study analyses findings based on indicators included in the European cluster database to ascertain key issues of the current EU cluster policy. It evaluates whether an effective clustering of SMEs may operate

[35] Travers M (2005) *Theory and method in socio-legal research*. Hart. pp.1-25.
[36] Harris P (1986) 'Curriculem Development in Legal Studies'. *Law Teacher*, 20(2): 110-123., p.112.
[37] Curran V (2998) 'Dealing in Difference'. *The American Journal of Comparative Law*, 46(4):657-668. p.189.
[38] Nelken D (1981) "The 'Gap Problem' in the Sociology of Law: A Theoretical Review". 1 *Windsor Yearbook of Access to Justice*. p 35.

under a potential institutional model, which is discussed and relatively articulated through academic sources from the field of economic analysis of law. To identify the suitable sectors of the European economy for clustering of SMEs, however, this study firstly estimates the competitive pressures for the EU in the global context, drawing on relevant case law and additional legal texts and economic reports of the EU and other international organisations. By comparing similar sources with the academic literature on the extraterritoriality of EU law, it secondly detects the competitive position of high-quality European agro-food goods and the appropriateness of economic sectors of the agro-food supply chain for the clustering of SMEs.

Furthermore, to demonstrate the value of agro-food goods via business clustering for socio-economic development in the EU regions, this study examines key elements of agriculture, food processing and food distribution sectors of the agro-food supply chain via interpretation of TFEU provisions related to the objectives of the CAP. By exploring EU legal texts on agricultural law and food law, it then identifies the importance of new technologies, external competitiveness of the EU, and balanced regional development for high-quality agro-food goods and socio-economic development. Concerning new technologies, this study researches tort theory and law and technology academic sources to recommend EU legal solutions to address robot liability. It also composes literature on labour law with relevant CJEU rulings and academic sources on regulating blockchain to consider the potential of agro-food SME clustering to socio-economic development in the EU. In addition, this study investigates WTO legal texts, EU reports and case law on GIs to consider how the level of external competitiveness of the EU can affect the competitive position of high-quality European agro-food goods. As regards balanced regional development, it analyses EU and academic sources on economic geography and business economics to identify the basic steps for the realisation of agro-food SME clusters and their operation throughout the regions.

Finally, to identify an appropriate EU legal framework for the emergence and effective operation of agro-food SME clusters in EU regions, this study focuses mostly on academic sources within the area of economic analysis of law. It draws on literature related to national contract law in the EU and economics to establish the concept of connected contracts as a principle of legal systems. It then conducts an extensive analysis of an academic proposal for the Europeanisation of contract rules as well as considering CJEU decisions in relevant contract law cases to regulate the network form of agro-food SME clusters. In addition, this study explores the literature on theories of corporate law and property rights in relation to the economic theory of commons in natural resources, so that it can form the governance framework for cluster organisations and examine the implications of the law for commons.

Subsequently, it draws on academic sources of EU company law and economics to justify the model of reflexive harmonisation as a basis for a supranational legal form of cluster organisations with a commons approach. To design an EU-wide legal status for cluster organisations, this study compares provisions from legal structures of selected EU-wide business forms, thereby identifying suitable legal elements for agro-food SME clusters to operate as commons in the EU regions.

Overview of the thesis structure

The content of the main research work is divided into three parts.

Part One aims to provide an analysis of the foundations for a socio-economic transformation in the EU, with a focus on the role of SMEs and the notion of business clustering, in three chapters. Chapter 1 stresses the main characteristics of the European SMEs, and the concept of cooperation as an indispensable ingredient in business clustering. It then considers how the clustering of SMEs can promote entrepreneurship and enhance competitiveness in the EU. Chapter 2 identifies key issues and legal challenges for the emergence and operation of clusters of SMEs in the EU. It discusses the EU cluster policy as well as the potential network form of clusters of SMEs and the nature of cluster organisations. Chapter 3 focuses on global challenges for the clustering of SMEs, such as the competitive pressures from emerging economies in industrial production. In addition, it highlights the importance of the global reach of EU law for high-quality European agro-food goods.

Part Two aims to consider agro-food goods in the context of the EU's competitive advantage for clustering of SMEs, in four chapters. Chapter 4 emphasises the strong position of the agro-food supply chain through its main sectors, such as agriculture, food processing and food distribution. It primarily discusses the extensive role and significance of the CAP and the position of food law in the EU for agro-food SME clustering. Chapter 5 points out the capability of agro-food SME clusters via new technologies for socio-economic development. It explores the legal aspects of regulating robots in the EU and the potential socio-economic implications of their use. It then illustrates the role of blockchain technology in agro-food SME clustering for the designing of a new socio-economic model in the EU regions. Chapter 6 examines the importance of high-quality European agro-food goods in global markets. In particular, it discusses the EU's external competitiveness by providing an analysis of the WTO

multilateral trading system and the EU's bilateral and free trade agreements. It also indicates the benefits stemming from the GI's protection of agro-food goods to regional development and local economies. Chapter 7 explores the interaction between global and local forces for the establishment of agro-food SME clusters. It then considers the challenge of balanced regional development for the effective operation of agro-food SME clusters across EU regions.

Part Three aims to present a proposal to design an EU legal framework for agro-food SME clustering, in two chapters. Chapter 8 examines the legal implications of network forms for the regulation of contractual networking in agro-food SME clusters. Specifically, it explores the concept of connected contracts as a principle of legal systems and then the judicial framework of EU contract law. It also researches the Europeanisation of rules and the designing of a Common Frame of Reference for the contractual networks of agro-food SME clusters. Chapter 9 explores legal elements to design a supranational corporate form for cluster organisations by considering the agro-food SME clustering as commons. In particular, it discusses their governance framework in order to identify property rights and affected stakeholders from their business activity. It also examines the legal implications to form the law for the commons in agro-food SME clusters in the EU. It then considers the concept of legal diversity with particular emphasis on the phenomenon of regulatory competition and the model of reflexive harmonisation in order to identify an EU-wide legal status for cluster organisations. To this end, it assesses existing supranational legal forms of EU-wide business entities to select appropriate legal elements for cluster organisations with a commons approach.

PART ONE

Foundations for a socio-economic transformation in the EU

CHAPTER 1: The importance of business clustering for the European SMEs

Introduction

It is well recognised that businesses that have developed networking relationships show a relatively decent economic performance than their competitors in the EU. Specifically, these businesses present high levels of employment and productivity as they operate in a highly cooperative business environment that furthers a dynamic entrepreneurial society and reinforces the competitiveness of the economy.[1] Nonetheless, how can European SMEs develop this particular cooperative *spirit*, which constitutes the essential component of the success of business networking? Asking this question is particularly important in light of the fact that cooperation among the European SMEs may find its expression in the concept of clustering which could contribute significantly to promoting entrepreneurship and enhancing competitiveness.[2]

For this reason, this chapter aims to show that the advantages of synergy effects stemming from cooperative relationships may assist SMEs to overcome the consequences of the recent economic downturn and, hence, face competitive pressures in the global context. Pointing out the important role of a strong entrepreneurial society in the development of SMEs, this chapter also presents the relevant policies and legal actions by the EU institutions to promote entrepreneurship. By analysing the limited effects of these EU initiatives on the creation of a favourable entrepreneurial environment across Europe, it shows how the notions of external economies and geographical proximity, which constitute fundamental elements of business clustering, could contribute to promoting entrepreneurship. Subsequently, this chapter outlines the EU efforts to enhance competitiveness via drafting policies that facilitate access to finance and internalisation of the European SMEs. Through consideration of the persisting obstacles that prevent them to increase their competitiveness against large businesses, it discusses the advantages of SMEs clustering for the increase of productivity that arguably determines, at the micro and macro level of the economy, the magnitude of competitiveness.

[1] European Commission 'European Panorama of Clusters and Industrial Change' (Panorama 2020).
[2] Hampden-Turner C & Trompenaars F (2015) Nine visions of capitalism: Unlocking the meanings of wealth creation. Infinite Ideas. 157-159.

I - The advantages of synergy effects on SMEs

A - SMEs at the crossroads

SMEs constitute the mainstay of the European economy, as they account for 99.8 per cent of all enterprises,[3] of which 93 per cent are micro-enterprises employing less than ten people. According to the relevant EU Recommendation,[4] SMEs are defined on the basis of staff headcount and financial ceilings. The category of micro, small and medium-sized enterprises contains enterprises with fewer than 250 employees and turnover less than 50 million euros, or a balance sheet total of less than 43 million euros.[5] However, there is not an internationally accepted definition for SMEs. Apart from the above EU approach, there are additional jurisdictions, such as the United Kingdom, Canada, the United States, and World Bank, which identify this type of business entity based on factors related, among others, to annual gross or net revenue, value of assets and/or liabilities, the value of sales, legal structure, or the number of employees.[6]

In addition to quantitative and simply demonstrable criteria, SMEs are normally determined from qualitative characteristics, which relate primarily to the ownership of their resources, their management and their means of financing.[7] Many of these business entities are usually enterprises fully reliant on family funds and self-financing. This is vital for them due to the durable stability they bring, the particular commitment they point to local societies, and the values they represent.[8] Moreover, ownership and management typically belong to the same persons, which themselves run the everyday tasks of the business, thereby achieving rapidity and flexibility in the decision-making and effective personal relationships with staff, customers, suppliers and other stakeholders.[9] However, SMEs have a number of disadvantages such as troubles with the existing complex administrative environment and legal procedures in the business, as well as facing funding difficulties that prevent them to grow and develop their activities. It is more difficult and comparatively more costly for them to have access to finance, especially in tight credit market conditions, than the large businesses which have more financing alternatives available.[10]

[3] Enterprises in the non-financial business sector in the EU-27.
[4] Recommendation 2003/361/EC concerning the definition of micro, small and medium-sized enterprise.
[5] This category includes thresholds for small enterprises (50 employees and balance sheet total 10 million euros) and microenterprises (10 employees balance sheet total 2 million euros).
[6] Mevorach I et al. (2018) *The Modular Approach to Micro, Small, and Medium Enterprise Insolvency.* (OUP) 11-12.
[7] Moussis N (2015) *Access to European Union: Law, Economics, Policies*. 21st ed., Intersentia. 18-19.
[8] European Commission 'Overview of Family Business Relevant Issues' Report of the Expert Group (2009) 22.
[9] Moussis (n 7) 18.
[10] OECD: Scoreboard (2022) 'Financing SMEs and Entrepreneurs 2022'.

The EU considers SMEs as crucial business entities for ensuring economic growth, innovation, job creation, and social integration across Europe. Specifically, supporting actions for SMEs were prioritised for the first time in the 1980s, during the process of the creation of the internal market.[11] Also, according to Article 173 TFEU, the action of the EU and the Member States '….shall be aimed at […] encouraging an environment favourable to the initiative and to the development of undertakings throughout the Union, particularly small and medium-sized undertakings'.[12] It is noteworthy that Article 153 TFEU states, regarding several directives adopted by the EU institutions, that 'such directives shall avoid imposing administrative, financial and legal constraints in a way which would hold back the creation and development of small and medium-sized undertakings'.[13] Building a friendly business environment for SMEs and entrepreneurs is therefore one of the EU's core objectives based on the Small Business Act for Europe,[14] which is the main framework for the EU policy on SMEs.

This EU policy aims to simplify the regulatory environment for SMEs and eliminate the remaining obstacles to their development. Generally, these business entities are especially vulnerable in times of crisis as it is difficult for them to downscale, because of their already small size. They are also less diversified in terms of economic and commercial activity as well as having weaker financial structure due to low capitalisation.[15] Additionally, SMEs are extremely defenceless in international value chains, since they are bearing the brunt of the complications of large businesses, and consequently it is very costly and challenging for them to find their appropriate position internationally.

In their international activities, SMEs cope with more complicated matters, which are related to compliance with foreign legislation, such as customs rules and rules of contract law, technical regulations and standards, managing technology transfer and protecting industrial or intellectual property rights.[16] In responding to such challenges, SMEs are less equipped than large businesses with relevant expertise and human and financial resources. As a result, SMEs seem to have a low tendency in internationalising within and outside the EU, which causes adverse effects on the EU competitiveness as a whole. This is because SMEs predominate as the main entity of economic activity across the EU. In particular, these effects are reflected by the existing gap in productivity between SMEs and large businesses. Indeed, many European

[11] European Commission, White Paper 'Completing the Internal Market' (14 June 1985), COM(85) 310, para 2.
[12] TFEU, Article 173, para 1.
[13] TFEU, Article 173, para 2(b).
[14] European Commission, Communication 'Think Small First - A Small Business Act for Europe' COM(2008) 394 final.
[15] OECD, 'SMEs and entrepreneurship' <https://www.oecd.org/cfe/smes/>.
[16] European Commission, Communication 'Small Business, Big World'. COM(2011) 702 final 3.

SMEs are still making a low contribution to the evolution of value-added and employment in the EU and several Member States from 2008 to date.[17]

Nevertheless, SMEs that participate in business clusters show relatively decent economic performance due to the cooperative efficiency of joint actions, which contribute to increasing the levels of employment and productivity.[18] Business clustering also provides customised supporting measures and tools to SMEs for their paths towards internationalisation, thereby helping them to increase their economic performance and obtain access to global markets.[19] A recent example is the Lifestyle & Design Cluster which is located in the area of Midtjylland in Denmark and supports businesses from the Danish interior and clothing industries to be among the most innovative in the world. 277 out of its 318 members are SMEs, which have strengthened their economic position in their industries and increased their internationalisation activities by developing strong links with twenty-eight partners from various countries within and outside the EU.[20] In addition, Vegepolys is a business cluster that gathers businesses and research centres in the plant field around some innovative projects to strengthen the businesses' economic performance. Born in the Pays de la Loire territory in France, the Verepolys cluster is made up of over 400 members, of which 280 are SMEs that participate in an international network of partnerships from Europe and worldwide, especially from South America, Asia and ASEAN Countries.[21]

Undoubtedly, business clustering facilitates cooperation between cluster participants and across cluster initiatives by triggering a certain behaviour among businesses and other cluster stakeholders, which affects the individual cluster actors and the cluster in its entirety.[22] Results of the pan-European cluster benchmarking programme in 2010-2011 have demonstrated that there is a causal cooperative relationship between certain services of a cluster and the R&D and business activities undertaken by SMEs.[23] For example, more than 60 SMEs that are members of the chemical cluster Bavaria Chemie-Cluster Bayern in Germany, constitute important actors in cooperative initiatives through the Value Creation Partnership programme to explore industrial target applications and cross-cutting industrial value chains. In this programme, chemical companies and universities as innovation partners have developed a cooperative spirit in order for the cluster's SMEs to take advantage of a service function for

[17] European Commission 'Small Business Act - Database of good practices' <https://ec.europa.eu/growth/tools-databases/sme-best-practices/SBA/index.cfm?fuseaction=welcome.detail>.
[18] Panorama (2020) (n 1) 5.
[19] European Commission 'Cluster Internationalisation and Global Mega Trends' Observatory (2016) 31.
[20] Lifestyle & Design Cluster (2022) <www.ldcluster.com>.
[21] Vegepolys Valley Cluster (2022) <https://www.vegepolys-valley.eu/en/>.
[22] European Commission: 'Smart guide to cluster policy' (2016) 35.
[23] NGPE, The Nordic-German-Polish Cluster Excellence Conference (6–27 May 2011 Copenhagen).

industrial user segments, especially for those who are not closely involved in chemical supply chains.[24] Accordingly, this cooperative spirit within clusters could help businesses to fully exploit new opportunities that are available in their sectors, such as the SMEs in the chemical cluster of Bavaria, which take opportunities created for both chemical suppliers and industrial users.

B – The concept of cooperation as an indispensable ingredient in business clustering

The concept of cooperation is a central element for the networking of businesses, and hence it can constitute the fundamental component for the emergence and operation of business clusters. Essentially, cooperative behaviour is an inherently human feature that has determined the course of mankind over the centuries. Apart from the fact that people tend to cooperate for their own self-interest, there are also some principles in their nature that make them concerned as regards the well-being of others.[25] Contributing to a successful group project can evoke feelings of pride and satisfaction, whereas its failure is often considered as a source of shame and guilt. These feelings are *moral sentiments* that drive humans to become a highly cooperative species in a mutually beneficial activity.[26] Therefore, engaging with others through cooperation is beneficial to the members of groups that practice it, and accordingly it could constitute a key basis for a successful business clustering of SMEs across the EU regions.

In some settings, it is feasible for the concept of competition to be an effective means for achieving a mutually beneficial activity by unravelling various forms of antisocial collusion, such as price-fixing by cartels. Then, the *invisible hand* of the economy can direct the efforts of several self-interested producers to coordinate the division of labour for the interest of all.[27] However, the theories of the prisoner's dilemma and the tragedy of the commons attempted to invert the logic of the invisible hand, arguing that even when cooperation was necessary to pursue common goals, it would cease in front of self-interest.[28] This aspect has been overturned by the fact that workers and other democrats have put their lives at risk in collective actions for centuries, thus defying the theory of the prisoner's dilemma.[29] Furthermore, the logic of self-interest has been weakened by empirical observation in hundreds of decentralised common

[24] Bavaria 'Chemie-Cluster Bayern' <www.chemiecluster-bayern.de>.
[25] Smith A(1759 [2000]) *The Theory of Moral Sentiments.* Chapter 1.
[26] Bowles S & H Gintis (2011) *A cooperative species: human reciprocity and its evolution.* Princeton University Press. 1-2.
[27] Rothschild E (1994) 'Adam Smith and the Invisible Hand' The American Economic Review 84(2).
[28] Hardin G (1968) 'The Tragedy of the Commons' New Series 162 (3859) 1243-1248:1246.
[29] Moore Jr. B (1978) *Injustice: the social bases of obedience and revolt.* Macmillan.

governance systems that prevent tragedy in common property resources around the world, such as irrigation, forestry and fisheries.[30] Consequently, cooperation that enhances collective action, which is a driving force of human history, can be a considerable element of effective business activity, and hence this cooperative spirit could find its expression in the concept of clustering that operates as a special set of human and, by extension, business relationships.

Cooperation among businesses has proliferated during the last decades as a particular form of business behaviour to address the challenges of an increasingly competitive global environment. Undoubtedly, this is a technical necessity for the production processes, which reflects the mutual dependence between businesses that maintain their separate identity as economic and legal entities.[31] These cooperative relations favour the emergence of the visible hand of management, which can replace the invisible hand, since it 'has a far greater influence in determining size and concentration in… [industries] … than other factors so often cited as critical: the quality of entrepreneurship, the availability of capital, or public policy'.[32]

Indeed, according to the theory of competitive advantage, strategic management improves business competitiveness, which enables the optimisation of respective value chains of businesses joined by the agreement based on cooperation.[33] Cooperation agreements can generally be considered as strategic decisions when there is a need for a greater market presence, so that businesses can achieve growth through complementariness and synergy effects. For instance, cooperation is the best option for businesses with dissimilar capabilities that should be *closely complementary* to produce a given product. Its production would be more efficient through coordination of productive activities within a cooperation agreement than through the independent production of its parts from every business and then using the market to conduct the necessary coordination.[34] The productive activities of a business are governed by its *productive opportunity*,[35] which comprises all of the productive possibilities that can be identified via the accumulation of increasing knowledge generated from the experience gained when businesses operate as a working unit.[36] Accordingly, it is reasonable for cooperating

[30] Ostrom E (1990) *Governing the Commons: The Evolution of Institutions for Collective Action.* Cambridge University Press.
[31] You J & F Wilkinson (1994) 'Competition and co-operation: toward understanding industrial districts' Review of Political Economy. 6(3) 259-278.
[32] Chandler A (1977) *The visible hand: the managerial revolution in American business*. Harvard University Press.
[33] Porter M E (1990) 'The Competitive Advantage of Nations'. Harvard Business Review.
[34] Richardson G B (2003) 'The Organization of Industry Re-visited' (DRUID Summer Conference) 6-7.
[35] Penrose E T (1959 [1995]) *The Theory of the Growth of the Firm*. Oxford University Press. In: [Penrose 1959: 31-32].
[36] Ibid 52-53.

entities in business clusters to expect that a joint productive opportunity will be created from joint knowledge and joint experience generated from working together in joint activities.[37]

In this way, the European SMEs could, via the appropriate EU policies, be benefited from the complementariness and synergy effects generated by the cooperative relationships among their stakeholders. Business networking may be a suitable route for reinforcing SMEs to respond to the current challenges in the business environment, since the concept of active business clustering can build a strong competitive advantage for European businesses and regions.[38] Without a doubt, the business formation of clustering has been widely recognised as an appropriate way for SMEs to overcome their size limitations and, hence, improve their productivity and competitiveness.[39] In addition, business clusters could generally be geographical agglomerations of SMEs that acquire benefits due to co-location by participating in an array of connected industries and related entities vital to competition.[40]

This kind of business organisation can extend downstream to various channels, customers and businesses of complementary activities,[41] thereby 'sharing a common vision, and exhibiting horizontal, vertical intra- and/or inter-sectoral linkages, embedded in a supportive socio-institutional setting, and cooperating and competing in national and international markets'.[42] Accordingly, business clusters may incorporate relevant governmental and associated institutions, such as research centres, universities, professional associations, think tanks and agencies that offer specialised research, information, training, education and technical support.[43] A notable example is the Flanders' Food cluster in Belgium, which consists of 310 businesses, 210 of which are SMEs, thirty-seven research organisations, universities and technology centres, and twenty-five other ecosystem actors. This business cluster uses two million euros per year, allocated by the Flemish Government, to promote innovative projects in various areas identified by its participants.[44]

Business clustering can be therefore characterised by high rates of horizontal and vertical specialisation, through their participation in a dense network of socio-economic, cooperative and competitive relations, which facilitates the exchange of information, knowledge and

[37] Pitelis et al. (eds.) (2006) *Clusters and globalisation: the development of urban and regional economies*. Edward Elgar Publishing. 34.
[38] Porter (n 33) 80-86.
[39] Porter M E (2008) *On Competition*. Harvard Business School Press. Chapter 7.
[40] Reichhart A & Holweg M (2008) 'Co-located supplier clusters: forms, functions and theoretical perspectives'. International Journal of Operations & Production Management. 28(1) 53-78:53.
[41] Porter M E (1998) 'Clusters and the new economics of competition'. Harvard Business Review 76(6),7-90:78.
[42] Pitelis C (2012) 'Clusters, entrepreneurial ecosystem co-creation, and appropriability: a conceptual framework'. Industrial and Corporate Change. Volume, 21(6) 1359–1388:1361.
[43] Porter (n 33) 78-79.
[44] Flanders' Food Cluster <https://www.flandersfood.com/>.

innovation. Thus, SMEs located in clusters in the EU could produce and sell a wide range of relevant and complementary goods and services, by facing common opportunities and challenges. This is because business clusters are geographical concentrations of a critical mass of interdependent businesses and relevant organisations. For this reason, all cluster participants, namely SMEs and other stakeholders, may be able to easily operate via active networks for business dialogue, communication and transactions in order to promote entrepreneurship and enhance the competitiveness of SMEs for socio-economic development in the EU regions.

II - Promoting Entrepreneurship

A - Supportive actions for entrepreneurs by the EU

The EU institutions have designed policies to promote entrepreneurship, which creates businesses, discovers new markets and cultivates new skills that are important for the development of SMEs. In particular, promoting entrepreneurship constitutes a priority of the Small Business Act policy framework,[45] because the economic growth in the EU depends mainly on its ability to strengthen SMEs.[46] The notion of entrepreneurship motivates individuals to turn ideas into action by combining risk-taking, innovation and creativity to plan and manage projects.[47] Thus, entrepreneurs have to tackle various challenges, such as difficult access to finance and markets, burdensome administrative procedures, trouble in transferring businesses, and the fear of possible sanctions in case of failure.[48]

For this reason, the Entrepreneurship Action Plan was adopted in 2013 to enhance the entrepreneurial spirit across the EU by promoting policies for educating people on entrepreneurship, facilitating administrative requirements, helping to attract investors, and more.[49] To encourage people to create their own business, the Commission provides information on start-up procedures, bankruptcy, second chance and transfer of business. It also supports entrepreneurship education through the exchange Erasmus programme for young entrepreneurs and coordinates various campaigns and projects, such as the European SME

[45] Communication (n 14).
[46] Communication (n 16) 4.
[47] Neville N & Sorensen K (2014) 'Promoting entrepreneurship - the new company law agenda'. European Business Organization Law Review' 15(4) 545-584:554-556.
[48] European Commission 'Supporting entrepreneurship' <https://single-market-economy.ec.europa.eu/smes/supporting-entrepreneurship_en>.
[49] European Commission, Communication 'Entrepreneurship 2020 Action Plan: Reigniting the entrepreneurial spirit in Europe' COM(2012) 0795 final 5.

Week, which aim to promote a business-friendly environment, exchange ideas among entrepreneurs and share best practices. An additional EU initiative to promote entrepreneurship is the establishment of the Think Small First principle in the policy-making and promotion of legislative proposals from regulation to public service,[50] such as the revised General Block Exemption Regulation for state aid.[51] The Commission adopted this Regulation to support entrepreneurship by harmonising and simplifying existing rules and increasing investment aid forces for SMEs.[52]

Undoubtedly, the most burdensome constraint for SMEs is compliance with administrative regulations, because these business entities bear a disproportionate administrative and regulatory burden compared to large businesses. For this reason, the Commission has set up a Platform for the Regulatory Fitness and Performance (REFIT),[53] hoping to achieve 'a clear, stable and predictable regulatory framework supporting growth and jobs'.[54] To that end, REFIT works with the EU institutions, Member States and other stakeholders, such as businesses, social partners and civil society, to conduct an ongoing dialogue on improving EU legislation for entrepreneurs and SMEs.[55] As part of REFIT, the Commission set up the Fit for Future Platform in 2020, which is a high-level expert group that examines the effectiveness of existing laws in addressing new challenges such as digitalisation.[56]

The EU promote entrepreneurship by facilitating the freedom of business establishment throughout the EU, in accordance with Article 49 TFEU which guarantees the right of EU nationals 'to take up and pursue activities as self-employed persons and to set up and manage undertakings'.[57] Moreover, in *Centros*, the CJEU affirmed the right of business to a secondary establishment in other EU countries.[58] In particular, while a business maintains corporate status in the home Member State, other Member States should recognise this business as validly incorporated in accordance with Article 54 TFEU, which requires the European businesses to

[50] Communication (n 14) 3.
[51] Commission Regulation (EU) 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty.
[52] Ibid, Article 17.
[53] Commission Decision C(2015) 3261 of 19.5.2015 establishing the REFIT Platform.
[54] European Commission 'The European Commission adopts report on use of International Financial Reporting Standards in the EU' Press Release, 18 June 2015.
[55] European Commission Communication 'Better regulation for better results - An EU agenda' COM(2015) 215 final 13-14.
[56] European Commission, REFIT 'Fit for Future Platform (F4F)'. <https://ec.europa.eu/info/law/law-making-process/evaluating-and-improving-existing-laws/refit-making-eu-law-simpler-less-costly-and-future-proof/fit-future-platform-f4f_en>.
[57] TFEU, Article 49.
[58] Case C-212/97 *Centros Ltd v Erhvervs- og Selskabsstyrelsen* [1999] ECR I-1459. (*Centros*)

'be treated in the same way as natural persons who are nationals of Member States'.[59] This implies that the business in the *Centros* case is entitled to the benefits of Article 49 TFEU.[60]

The *Centros* ruling has been described as the beginning of competition among national laws, providing in this way an alternative route for the completion of the internal market.[61] Although it could be helpful to promote entrepreneurship, this regulatory competition raises policy concerns since businesses can merely incorporate in the Member State that its financial and corporate regime is the most advantageous for them.[62] For this reason, Member States have tried to stop this practice in cases before the CJEU, such as in the *Überseering* case.[63] Nevertheless, despite the absence of harmonisation of the rules for incorporation, the *Überseering* case established that a Member State can allow the business, which is incorporated under its law, to retain its legal personality in accordance with 'the law of that State subject to restrictions on the transfer of the [business's] actual centre of administration to a foreign country'.[64] Accordingly, in *Überseering* the CJEU confirmed and extended the approach of ruling in *Centros*.[65] The decisions in both cases favour entrepreneurship across the EU because they show that a Member State must recognise the legitimacy of incorporation of a business in accordance with the law of another Member State, and should not impose unnecessary limitations on the right of secondary establishment.[66]

B – Overview of EU entrepreneurial environment

Despite all the above-mentioned policies and legislation designed by the EU, the entrepreneurial environment in several European countries is still unfavourable.[67] During the last decade, the EU has been experiencing an *entrepreneurship crisis* because entrepreneurs fare less well in terms of earnings compared to wage earners and their businesses are not creating sufficient jobs to raise labour productivity.[68] The relationship between Small Business Act policy framework and the Entrepreneurship 2020 Action Plan was not clear in recent years. Both of these policies have not offered the expected added value to entrepreneurship. This is

[59] TFEU, Article 54.
[60] *Centros*, (n 58) paras 19-21, 30.
[61] Deakin S (1999) 'Two Types of Regulatory Competition: Competitive Federalism Versus Reflexive Harmonisation. A Law and Economics Perspective on Centros' Cambridge Yearbook of European Legal Studies (Vol. 2) 231-260.
[62] Ibid, 231-232.
[63] Case C-208/00 *Überseering BV v Nordic Construction Company Baumanagement GmbH (NCC)* [2002] ECR I-09919.
[64] Ibid. para 70.
[65] Craig P & de Burca G (2015) *EU Law, Text, Cases and Materials*. (6th ed) Oxford University Press 813.
[66] Ibid. 815.
[67] SBA (n 17).
[68] Naude W (2016) 'Is European Entrepreneurship in Crisis?' IZA Discussion Paper No. 9817, 7-8.

because the Commission did not clarify either strengthening the importance of entrepreneurship as an independent EU policy or creating deep interconnections between entrepreneurship and other related policies.[69]

To face this situation, the Commission presented in 2020 the SME strategy that aims to support the transition to sustainability and digitalisation, as well as reducing regulatory burden and improving market access.[70] Although the SME Strategy was timely and published along with the EU's Industry Strategy,[71] it has been overhauled by the current predicament, where 'entrepreneurs fight for their survival and fear the future of their company and their employees'.[72] In particular, entrepreneurs are faced with a difficult regulatory environment due to existing complex and burdensome legislation. The ambition of the Commission is that 'all future legislation, at European and national levels, is made with the end user in mind'.[73] To achieve this goal, the Commission uses only the SME-envoy network which is not enough, although it works in close collaboration with the SME stakeholders.[74] Additionally, apart from the Think Small First principle, the EU launched the Once-Only principle project to reduce administrative burdens for individuals and businesses that provide diverse data only once to public administrations.[75] However, the guarantee of these principles is not applied throughout all policy areas appropriately,[76] and for this reason the Commission should further reinforce its Better Regulation processes,[77] to support entrepreneurs.

Although the REFIT platform has contributed to reducing regulatory burdens, the legislation is not adapted to the particular needs and characteristics of entrepreneurs, thus facing issues regarding its implementation and compliance with it.[78] Without regulatory simplification and burden reduction, entrepreneurs cannot take full advantage of their potential for innovation and prosperity.[79] Burdensome regulation is partly unjustly attributed to the EU owing to the lack of transparency on the transposition of directives in the national context.

[69] UEAPME 'Position on the Public Consultation on the Small Business Act' (2015) 6.
[70] European Commission, Communication 'An SME Strategy for a sustainable and digital Europe' COM(2020) 103 final.
[71] European Commission 'Making Europe's businesses future-ready: A new industrial strategy for a globally competitive, green and digital Europe – March 2020' <https://ec.europa.eu/commission/presscorner/detail/en/fs_20_425>.
[72] SMEunited 'Position paper on the SME Strategy' (2022) 1.
[73] Communication (n 70) 7-8.
[74] SMEunited (n 72) 6.
[75] European Commission 'The Once Only Principle System'. <https://ec.europa.eu/info/news/once-only-principle-system-breakthrough-eus-digital-single-market-2020-nov-05_en>.
[76] SMEunited (n 72) 6.
[77] European Commission 'Better regulation: taking stock and sustaining our commitment' <https://ec.europa.eu/info/law/law-making-process/planning-and-proposing-law/better-regulation-why-and-how/better-regulation-taking-stock-and-sustaining-our-commitment_en>.
[78] Luc Hendrickx spoke in the panel on "Better Regulation in the 2020s-challenges and opportunities". The Meeting of Directors and Experts of Better Regulation (DEBR), Helsinki.
[79] European Commission 'Stocktaking of the Commission's 'better regulation' approach – public consultation' Published Initiatives (2022) 3.

Also, predetermined outcomes in consultations, evaluations and impact assessments undermine the transparency and quality of EU decision-making. Certainly, the EU's regulatory environment is not flexible enough to allow entrepreneurs to thrive through the expansion of innovation and new business models in rapidly changing business environments, such as digital markets.[80] Bureaucracy and red tape are major barriers to the effective functioning of SMEs, thereby causing a tendency for people to abstain from taking risks and hence from becoming entrepreneurs.[81]

In contrast, large businesses manage to escape from the EU's bureaucracy by either leaving Europe or outsourcing their jobs, or increasingly engaging in lobbying and trying to take advantage of the *Brussels gravy train*.[82] For this reason, policy measures aimed at reducing red tape for businesses have been adopted under the Think Small First principle. Recent examples include the creation of Spain's SME platform that facilitates access to information for entrepreneurs via a single point of information, and the removal of minimum share-capital requirements for limited liability companies in Finland.[83] Nevertheless, entrepreneurs across the EU still perceive bureaucracy and red tape as stumbling blocks that prevent SMEs from accomplishing their full potential. They consider excessive regulation as the EU's biggest shortcoming, which is mainly related to administrative burdens that come from regulations on labour markets, tax systems, occupational safety and health, environment, food safety, and consumer rights legislation.[84]

In many EU countries, entrepreneurs attempt to obtain the necessary competencies via self-study, since entrepreneurship education possesses low levels of participation in practical entrepreneurial learning at school.[85] In 2018, the Commission developed the European Entrepreneurship Competence Framework, which aims to offer a comprehensive understanding of the knowledge, skills and attitudes required by entrepreneurs to create financial, cultural and social value for others. However, there are still shortages and mismatches related to entrepreneurial skills that create bottlenecks to SME growth. Entrepreneurs do not have easy access to tools that support the development of their skills.[86] The absence of a strong knowledge base in entrepreneurship stresses the importance of appropriate school curricula to assist students in acquiring entrepreneurial skills and the need

[80] SMEunited (n 72) 6.
[81] Aristovnik A & Obadić A (2015) 'The impact and efficiency of public administration excellence on fostering SMEs in EU countries'. Amfiteatru Economic 17(39): 761-774: 772-773.
[82] Naude (n 68). 8.
[83] European Commission 'SBA Fact Sheet & Scoreboard' (2019) 6.
[84] SMEunited' 'Memorandum for the European elections' (2019) 6.
[85] European Commission 'Entrepreneurship Education at School in Europe' Eurydice Report (2016) 9; SMEunited (n 72) 5.
[86] Business Europe 'The new EU SME strategy: 50 actions to make it work' (2020) 14-15.

for lifelong learning of entrepreneurs in close connection with the new business models and production processes.

In addition, there is no culture of a second chance in the EU and thus failed entrepreneurs often face difficulties to implement a new business idea. Conversely in the United States, starting a business, although non-successful, is considered an important experience because an entrepreneur who has failed, may do better in the second attempt.[87] However, the recently adopted Restructuring and Second Chance Directive aims to address many concerns of businesses in distress and allow bankrupt entrepreneurs to be given another opportunity.[88] Moreover, the Early Warning Europe network provides support to entrepreneurs and businesses in financial difficulties to manage a crisis, deal with bankruptcy and get a second chance.[89] Nevertheless, Member States seem to be reluctant in transposing the Directive provisions into their national laws in order for businesses to get access to support services that would help them avoid bankruptcy. Accordingly, existing stigmatising insolvency legislation continues to make it more difficult for entrepreneurs to relieve the stigma of failure and get a second chance.[90]

The professional qualification of entrepreneurs plays a central role in the process of starting a business and the quality of products and services. Although it facilitates the pursuit of activity by proving certification of skills that make the holder more marketable, its recognition is not dealt with within a reasonable timeframe, thus preventing ensuring quality to consumers.[91] Problems with recognition of qualifications and different regulations on professions also constitute a barrier to cross-border service provision,[92] and cause difficulties in creating a good start-up climate and start-up culture that would lead to sustainable enterprises. Despite the comprehensive scope of the Directive on the recognition of professional qualifications,[93] a number of its provisions overlap with some of those of the Services Directive.[94] Thus, it is not simple for entrepreneurs and SMEs to differentiate between obligations arising from both directives. There are also several cases and circumstances where the legislation does not offer a conclusive response for mutual recognition of professional

[87] Hegarty C et al. (2020) 'ReSTART: Developing Entrepreneurial Competencies for Second Chance Entrepreneurs'. In Developing Entrepreneurial Competencies for Start-Ups and Small Business 253-270: 255.
[88] Directive (EU) 2019/1023 on preventive restructuring frameworks, on discharge of debt and disqualifications, and on measures to increase the efficiency of procedures concerning restructuring, insolvency and discharge of debt.
[89] Early Warning Europe <https://www.earlywarningeurope.eu/about>.
[90] Business Europe (n 86) 3.
[91] Chalmers D (2019) Eu*ropean Union Law Text and Materials.* 4th Edition CUP. 868.
[92] SMEunited' (2020) 'Strengthening crafts & SMEs for the future of the European Union'. 36. < https://smeunited.eu/admin/storage/smeunited/190701-sme2024.pdf>.
[93] Directive 2005/36/EC on the recognition of professional qualifications.
[94] Directive 2006/123/EC on services in the internal market.

qualifications.[95] In *Vlassopoulou*,[96] the CJEU outlined the basic principles in such situations and ruled that even the exercise of freedom of establishment may be hindered by the non-discriminatory application of national qualification requirements.[97]

Entrepreneurs cannot also easily develop Intellectual Property (IP) strategies to shield their R&D investments and increase growth capital. Only less than 10 per cent of SMEs are able to protect their IP rights because there is insufficient awareness of EU and national IP initiatives,[98] which are not clear but targeted at improving the tangible skills needed in acquiring and enforcing IP protection.[99] Additionally, there is a fear of high expenses for entrepreneurs on IP rights, although the possible introduction of lower costs for SMEs is clearly stressed in the Think Small First principle and in the implementation of the EU unitary patent. It is noteworthy that slow and complex administrative procedures impede entrepreneurs from using IP as a lever to obtain access to finance. They are also confronted with IP registration and strategic IP advice issues, such as the complexity of EU legislation on industrial designs and the fragmented information about EU-level R&D funding.[100]

Other persisting obstacles to the entrepreneurial environment are related to public procurement. During the last decades, the EU directives on public procurement have created huge confusion among regulators and stakeholders because of the absence of a well-defined vision of what the directives may achieve.[101] The 2004 Directive on public procurement,[102] constituted one of the most burdensome EU legislative acts for SMEs, mainly because of demanding requirements regarding the economic standing of entrepreneurs.[103] Accordingly, the EU institutions promoted a new SME-friendly policy in 2014 by repealing the previous EU directives on public procurement.[104] The current EU public procurement legislation includes a list of obligations to support SMEs to participate in public tenders.[105] However, there are still administrative burdens and red tape that continue to favour the large businesses, while

[95] C-313/01 *Morgenbesser v Consiglio dell'Ordine degli avvocati di Genova* [2003] ECR I-13467; Joined cases C-372/09 and C-373/09 Peñarroja Fa EU:C:2011:156.
[96] C-340/89 *Vlassopoulou v Ministerium für Justiz, Bundes- und Europaangelegenheiten Baden-Württemberg* [1991] ECR 2357.
[97] Ibid, para 16.
[98] Communication (n 70) 4.
[99] SMEunited (n 72) 5.
[100] Communication (n 70) 4.
[101] Arrowsmith S (2012) 'The purposes of the EU procurement directives: ends, means and the implications for national regulatory space for commercial and horizontal procurement policies'. Cambridge Yearbook of European Legal Studies, 14, 1-47.
[102] Directive 2004/18/EC on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts.
[103] Chalmers (n 91) 674.
[104] New EU directives on public procurements: Directive 2014/24/EU; Directive 2014/25/EU; Directive 2014/23/EU.
[105] SMEunited (n 92) 41.

simultaneously they constitute a problematic scope for the participation of SMEs in public tenders that are increasingly overcharged with extensive and complex conditions.[106]

The legislation of data protection in the EU, especially the General Data Protection Regulation (GDPR),[107] is exceptionally detailed in obligations imposed on entrepreneurs as regards processing personal data. Thus, SMEs continue to face practical difficulties to comply with the law and handle personal information appropriately in safeguarding personal data and meeting the requirements.[108] Entrepreneurs cannot afford the cost of technical expertise required by GDPR that many large businesses have at their disposal, such as appointing a data protection officer to ensure that their business is compliant with the rules.[109] Another pressing issue for entrepreneurs is the high amount that they could be fined, given that all businesses are exposed to the new regime of administrative fines on data protection, regardless of size. [110] It is worth noting that SMEs are particularly vulnerable to the infringement of GDPR rules, as it is difficult for them to manage complex issues relating to notification obligations and records of processing activities, such as the duty to provide information at the time of data collection.[111] Generally, the key economic benefits of the EU reform on data protection accumulate in large businesses that mostly conduct cross-border trade because they take advantage of the harmonisation of GDPR. Instead, entrepreneurs that trade only on a domestic level should endure the burden of additional obligations imposed by GDPR.[112]

C - Business clustering and entrepreneurship

Entrepreneurship can be enhanced through the clustering of SMEs because clusters gain significant advantages compared to individual undertakings due to their higher cooperative efficacy of external economies and joint actions,[113] which substitute the *traditional distinction* between large businesses and SMEs.[114] The strong presence of external economies furthers the dissemination of know-how, experience and new ideas. This triggers cultural homogeneity,

[106] Business Europe (n 86) 5.
[107] Regulation 2016/679/EU on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (GDPR); Directive (EU) 2016/680 on the protection of natural persons regarding processing of personal data connected with criminal offences or the execution of criminal penalties, and on the free movement of such data.
[108] SMEunited (n 92) 21; Holman M (2016) 'Tidal wave on the horizon: the GDPR and SMEs' Comps. & Law 26(6): 24-27.
[109] GDPR, Article 37-39; Business Europe (2019) 'Review of the General Data Protection Regulation (GDPR)' 6.
[110] GDPR. Article. 83.
[111] GDPR Article 33-34.
[112] SMEunited (n 92) 21.
[113] Humphrey J & Schmitz H (1995) Principles for Promoting Clusters and Networks of SMEs". Paper commissioned by the Small and Medium Enterprises Branch. UNIDO. 7.
[114] Castells M (2000) *The Information Age: Economy, Society and Culture, the rise of network society*. Blackwell 502.

promotes common traditions, decreases transaction and transportation costs, and facilitates easier access to complementary actions, services and capabilities.[115] The existence of complementary economic activities generates externalities that increase incentives and reduce barriers to new business formation.[116] The healthcare cluster in Massachusetts is a representative example of continuing development of entrepreneurship as the level of activity and differentiation for life sciences of this cluster adapts to market conditions over time. It essentially provides support infrastructure for enabling healthcare-related entrepreneurship in Massachusetts.[117]

The development of external economies highlights the significance of spatial proximity,[118] which is linked with variables related to business clustering, such as the interaction of individuals, the different forms of tacit knowledge, the degree of business flexibility and several social dynamics that form a particular *local spirit*.[119] This local spirit of clusters can 'foster entrepreneurship by lowering the cost of starting a business, enhancing opportunities for innovations and enabling better access to a more diverse range of inputs and complementary products'.[120] In addition, business clusters receive their logic from the notion of *external economies of scale* that concerns various sources of productivity, which can serve as a means, beyond the normal boundaries of the individual enterprise, typically incorporated in regional economies.[121] In this manner, the entrepreneurs of clusters act within a business and socio-economic environment associated with spatial proximity that represents the interaction between linked common activities and geographical proximity, thus taking the economic benefits derived from various types of positive location-specific external economies.[122] These external economies include a capability for high performance in direct competition, the import of intermediate inputs and technological spillovers, and access to specialised human resources and suppliers.[123]

Geographical proximity is of immense importance for entrepreneurs as it causes the reduction of transaction and transportation costs, thereby decreasing risks and hence insurance expenses. Furthermore, concentrating ever more entrepreneurs in a geographical area through clustering the business operational costs are decreased, as their presence attracts even more

[115] Marshall A (1920) *Industry and Trade*. 3rd ed. Macmillan. 97-121.
[116] Porter M. E et al. (2010) 'Clusters and entrepreneurship' Journal of economic geography 10(4) 495-518:495–518.
[117] Lämmer-Gamp T et al. (2016) 'Clusters and Entrepreneurship in Emerging Industries' European Commission. 27-30.
[118] Brennan J & Martin E (2012) 'Spatial proximity is more than just a distance measure' International Journal of Human-Computer Studies, 70(1) 88–106.
[119] Marshall A (1920) (n 115) 20-23.
[120] Porter (n 116) 496.
[121] Marshall A (1890) *Principles of Economics.* Macmillan, Book IV.XIII.2.
[122] Krugman P (1991) *Geography and Trade*. MIT Press 62.
[123] Ibid, 71.

providers of infrastructure and business services.[124] Respectively, clusters can be established in locations where there is already appropriate infrastructure, enabling the entrepreneurs to benefit from it, such as specialised institutions, universities, research centres, communal organisations and more. Simultaneously, the developed infrastructure can contribute to attracting new entrepreneurs in clusters willing to gain competitive advantages. On the other side, business clustering can stimulate the establishment of local supporting institutions oriented towards enhancing the competitiveness of the cluster participants.[125]

Significant benefits to promote entrepreneurship are provided because dynamic entrepreneurs are not isolated due to geographical proximity, which contributes to developing further technological and financial advantages that directly influence the production function. Moreover, it boosts the extensive interaction among cluster entrepreneurs, thus intensifying the exchange of knowledge that can be easily transferred via several informal channels of communication.[126] This is because the tacit knowledge is exchanged, as a randomised information flow, quite accidentally since senders and receivers are not aware of its existence prior to their involvement in the communication process.[127] Therefore, this kind of communication enhances trust between entrepreneurs of the cluster. Thus, it represents an intangible asset which is, unlike financial and physical ones, difficult for competitors to imitate, thereby making it a strong source of competitive advantage.[128]

Nevertheless, the rapid progress of communication and information technologies tend to develop virtual links between trading partners and, therefore, contribute to achieving collaborative relationships among entrepreneurs regardless of the need for geographical proximity.[129] In addition, the usage of advanced technologies facilitates virtual processes, which decrease costs and improve the quality of service to customers. However, even though geographical proximity loses its importance due to the easier access nowadays to information technologies than previously, the example of the world's best-known cluster Silicon Valley demonstrates that there is still valuable non-codified tacit knowledge, which can be acquired

[124] Hinzmann S et al. (2019) 'The role of geographical proximity for project performance: Evidence from the German leading-edge cluster competition' The Journal of Technology Transfer 44(6) 1744-1783:7.
[125] Porter (n 41).
[126] Maghssudipour A et al. (2020) 'The role of multiple ties in knowledge networks: Complementarity in the Montefalco wine cluster' Industrial Marketing Management. 90, 667-678; Wolter K (2003) 'A life cycle for clusters? The dynamics governing regional agglomerations' (Conference) University of Modena and Reggio Emilia; Belleflamme P et al. (2000). 'An economic theory of regional clusters' Journal of Urban Economic 48(1):158-84.
[127] Krugman (n 141) 53; Balland P. A et al (2016) 'The Dynamics of Technical and Business Knowledge Networks in Industrial Clusters: Embeddedness, Status, or Proximity?' Economic Geography 92(1) 35-60:37-39.
[128] Mathews M. (2008) 'Information, Institutions and Trust in Clusters", Conference on Appropriability, Proximity, Routines and Innovation' (Conference Copenhagen) 2-6.
[129] Huggins R & Thompson P (2015) 'Entrepreneurship, innovation and regional growth: a network theory' Small Business Economics 45(1) 103–128:112-113.

within a business cluster. Consequently, tacit knowledge is able to convey valuable information and, for this reason, it seems that the advanced communication technologies have not managed to reduce the significance of geographically concentrated business clustering.[130]

III - Enhancing Competitiveness

A – EU actions for financial support and internationalisation of SMEs

To enhance the competitiveness of European SMEs, the Small Business Act policy framework has put as a priority their access to finance. Working with financial institutions, the Commission aims to provide funding by stimulating loans and venture capital via local and national authorities, and intermediaries such as venture capital funds and banks. It also offers support for access to other sources related to the areas of business angels, growth stock markets, crowdfunding and fintech/blockchain.[131] Meanwhile, EU policies proposed ensuring that credit reaches SMEs by banks and other financial institutions,[132] as well as providing alternative sources of finance to entrepreneurs that struggle to obtain funding.[133] Recently, the High-Level Forum on Capital Markets Union submitted targeted policy recommendations for future Capital Markets Union actions to ensure that SMEs can access capital markets throughout the EU on equal terms and regardless of their geographical location.[134]

Furthermore, the COSME programme has been established to facilitate access to finance for SMEs in different phases of their lifecycle, such as formation, development and business transfer.[135] At least 60 per cent of the COSME programme eases access to loans and equity finance for SMEs related to identified market gaps, through the European Investment Fund in cooperation with financial intermediaries in EU countries and complemented by resources from the European Fund for Strategic Investments. To protect European SMEs against late payments

[130] Della Peruta M. R et al. (2018) 'Open Innovation, Product Development, and Inter-Company Relationships Within Regional Knowledge Clusters' J Knowl Econ 9, 680–693; Woods J (2016) 'From Decreasing to Increasing Returns: the Role of Tacit Knowledge Capital in Firm Production and Industrial Growth'. Journal of the Knowledge Economy; Lis A. M & Lis A (2019) 'To meet or to connect? Face-to-face contacts vs ICT in cluster organisations' Engineering Management in Production and Services 11(4) 103-117:115; Darchen S (2016) 'Clusters" or "communities"?' Urban Geography 37(2) 202-222.
[131] European Commission 'Access to finance'. <https://ec.europa.eu/growth/access-to-finance_en>.
[132] European Commission, Communication 'An action plan to improve access to finance for SMEs' COM(2011) 870. 14.
[133] European Commission, Communication: Action Plan (2015) 'Action Plan on Building a Capital Markets Union'. COM(2015) 468, 7-11.
[134] European Union 'A new Vision for Europe's capital markets' Final Report of the High-Level Forum on the Capital Markets Union (2020).
[135] Regulation (EU) No 1287/2013 establishing a Programme for the Competitiveness of Enterprises and small and medium-sized enterprises (COSME) (2014-2020).

and thus improve their competitiveness, the Late Payment Directive was adopted to put in place strict measures to harmonise payment periods for payments by public authorities to businesses.[136] In particular, this Directive aims to foster the competitiveness of SMEs by improving their liquidity, thereby contributing to employment and growth. SMEs also that operate across borders face debt recovery issues with stakeholders located in other EU countries. These issues discourage them from participating in cross-border activities and thus benefitting from the internal market. To face this situation, an EU guideline has been developed to provide guidance about suitable measures that SMEs should take to prevent and avoid bad debt, and inform about available measures in the event of an actual case of bad debt.[137]

Increasing the internationalisation of SMEs is a crucial matter for competitiveness because international businesses can create more and better jobs. Access to global markets is among the priorities of the Small Business Act policy framework.[138] For this reason, the Your Europe Business portal offers help to SMEs that intend to expand their activities to other EU countries by providing practical information on EU rules and linking them to national rules. Additionally, the Enterprise Europe Network supports SMEs to face competition by exploiting business opportunities throughout the EU and beyond. This is a communication channel between the Commission and SMEs, which assists them to achieve access to market information and identify potential business partners. The Commission has also launched a related policy,[139] which sets out actions and promotes networks when SMEs go international, through leveraging existing EU external policies and rationalising new activities in priority markets.

Furthermore, the European Standardisation System is a key tool for enhancing competitiveness and facilitating SMEs' access to global markets, as standards help in reducing costs and technical barriers to trade and improving innovative capacity. Specifically, the European non-profit association Small Business Standards (SBS) represents SMEs and defends their interests in the standardisation process at the EU and international levels. It directly participates in European standardisation organisations and technical committees of the International Organisation for Standardisation (ISO). SBS actions are designed to respond to the interests of SMEs in the European Standardisation System and provide a voice to them in

[136] Directive 2011/7/EU of the European Parliament and of the Council of 16 February 2011 on combating late payment in commercial transactions.
[137] European Commission 'Guide to cross-border credit and claims management –Supporting SMEs in enforcing cross-border claims' (2013) 3.
[138] Communication (n 14).
[139] Communication (n 16) 2-3.

the standardisation process in order to actively shape the outcome of standards.[140] In addition to national and European standardisation organisations, SBS also maintains a close partnership with organisations which, according to the Regulation on the European Standardisation System, represent the interests of SMEs, and consumer, environmental and social interests.[141]

The White Paper on the Completion of the Internal Market has recognised the potential shortcomings of the measure of European standardisation in the context of harmonisation.[142] Nonetheless, a significant contribution to the establishment of a common market constituted the ruling in *Cassis de Dijon*.[143] By dealing with the trade-restricting effects, the CJEU developed the idea of *mutual recognition*, which is one of the most important legal developments since the EU's foundation.[144] According to this idea, the CJEU found that any product lawfully produced and marketed in one of the Member States should be admitted into the market of any other Member State.[145] The impact of this decision has contributed to strengthening the competitiveness of SMEs because it discourages the Member States to introduce national technical regulations in order to create technical barriers to trade.

B - Persisting obstacles to SMEs' competitiveness

Regardless of the above EU actions, there are still obstacles that cause negative effects on SMEs' competitiveness. Although the proposed EU policies attempt to cover various areas and types of financing for SMEs, the funding support however provided the necessary means to only a small number of them.[146] Due to limited budget, SMEs received considerably less support to start up, expand, invest, grow and employ additional personnel than in the previous programming periods. In particular, the COSME programme did not contribute sufficiently to improving SMEs' competitiveness as it leveraged funds to finance approximately 410,000 SMEs,[147] which represent less than 2 per cent of the 22 million European SMEs. In addition, a substantial regulatory burden to competitiveness is the REACH Regulation on chemicals.[148] From its outset, it is a demanding and complex system, particularly for SMEs because large

[140] Small Business Standards (SBS) 'The Voice of European SMEs in Standardisation'. < http://sbs-sme.eu/.>.
[141] Regulation (EU) 1025/2012 on European standardisation, ANNEX III.
[142] White Paper (n 11) para 64.
[143] Case 120/78, Rewe-*Zentral AG vs. Bundesmonopolverwaltung für Branntwein*, ECR 1979 *(Cassis de Dijon).*
[144] Chalmers (n 91) 775.
[145] *Cassis de Dijon*, (n 143) para 14.
[146] UEAPME (n 69) 4.
[147] The 'EU financing – real benefit for businesses' brochure provides information on the COSME/EFSI results as of December 2018.
[148] Regulation1907/2006/EU concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) & Regulation 317/2014/EU (amending).

businesses possess greater availability of resources to comply with regulatory requirements.[149] Regarding the reduction of registration fees for SMEs in 2018,[150] this is considered an unimportant initiative because fees constitute only a tiny part of the total compliance costs. In general, the Commission seems to underestimate the important impact of the costs arising from the implementation of the REACH Regulation and the need to evaluate possible simplifications.[151] Most importantly, many SMEs are unaware of the REACH regulation, while large businesses have a better knowledge of its implications due to the fact that the size of a business is arguably a critical factor in the understanding of and compliance with the system of chemicals.[152]

SMEs are concerned about several aspects of the Waste Framework Directive,[153] which provides a general framework for treating waste and protecting the environment and human health. In particular, the definition of end-of-waste and by-product is ambiguous and confusing. The lack of a uniform interpretation of these terms discourages innovation and reduces competitiveness.[154] Similarly, the reporting procedures regarding waste management for all products that are placed on the European market,[155] create additional reporting obligations which would hardly be handled by SMEs. For instance, there are bureaucratic obstacles that inhibit them to reduce their food waste.[156] Furthermore, different approaches by local authorities in the interpretation and implementation of the Waste Shipment Regulation,[157] cause difficulties to SMEs and by extension prevent the formation of a single market for waste utilisation and recycling. It is noteworthy that the CJEU, in *Walloon Waste*, ruled that waste must be transported as close to the place of production as possible in order to avoid environmental costs and risks of its transportation.[158] However, the reach of the proximity principle in this decision is unclear, and also unsatisfactory as an instrument for allocating environmental costs.[159] Accordingly, in *Dusseldorp*,[160] the CJEU found that if there is no

[149] Gubbels I et al (2013) REACH: A Killer Whale for SMEs?. Centre for European Policy Studies, Brussels. 3; UEAPME 'Position on the Communication (Commission General Report on the operation of REACH and review of certain elements: Conclusions and Actions)' (2018).
[150] Regulation (EU) 2018/895 on the fees and charges payable to the European Chemicals Agency.
[151] UEAPME (n 149).
[152] Scruggs C et al (2015) 'Effect of company size on potential for REACH compliance and selection of safer chemicals' Environmental Science & Policy 45, 79 – 91:90.
[153] Directive 2008/98/EC on waste; Directive (EU) 2018/851amending Directive 2008/98/EC on waste.
[154] SMEunited (n 92) 26.
[155] Directive (EU) 2018/851 on waste, Article 37.
[156] SMEunited (n 92) 27.
[157] Regulation (EC) No 1013/2006 on shipments of waste.
[158] Case C-2/90 *Commission v Belgium (Walloon Waste)* [1991] ECR I-4431, para 34.
[159] Namely, it is not fair for people who live close to the factory to bear full cost of disposal. In: Von Wilmowsky P (1993), 'Waste Disposal in the Internal Market: The State of Play after the ECJ's ruling on the Walloon Import Ban' Common Market Law Review 30(3) 541–570:547.
[160] Case C-203/96 *Chemische Afvalstoffen Dusseldorp BV and Others v Minister van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer*, ECLI:EU:C:1998:316.

evidence of a health risk resulting from transport, then there is no justification for the restriction on the export of waste with an economic value.

The EU strategic policy for simple, fair and efficient tax systems has not applied to all enterprises,[161] thus leading to a distortion of competition within the internal market, burdening mainly SMEs. For this reason, the Commission proposed to review the current special VAT scheme for them.[162] Indeed, the VAT Directive[163] has been identified as an area of EU legislation most burdensome for SMEs because the system is complicated, with complex national procedures and the absence of a standardised VAT declaration. Divergences among the Member States lead to reduced correctness and timeliness in VAT returns and constitute an obstacle for SMEs in cross-border trade.[164] There is also a risk of increasing compliance costs due to the implementation of the proposed definitive VAT regime based on the country of destination principle.[165] Certainly, another obstacle to SMEs' competitiveness, relating to the VAT Refund Directive,[166] is the absence of responses by a number of Member States to requests for VAT refunds and delays in receiving the refunds.[167]

Simplifying and modernising the EU labour law is a fundamental competitiveness matter as relevant legislation can promote further job creation throughout the EU. However, one of the most burdensome barriers for SMEs is the Temporary Agency Work Directive,[168] because it still puts obstacles for businesses to work across borders due to the diversity of schemes that the Member States have for temporary agency workers.[169] Originally, the purpose of this directive was to stress the connection between the quality of work and economic performance as an example of *productive* social policy to create better jobs, encourage diverse forms of employment and support the reconciliation of flexibility and security.[170] Nevertheless, the diversity of national regulations has not contributed considerably to a flexible labour market, thereby often causing a loss of employment during the last decade. Although workers are recognised as being in an employment relationship for temporary agency work, there are

[161] Strategic Plan 2016-2020, DG TAXUD 2016:3; European Union, The European Union Explained: Taxation towards Simple, Fair and Efficient Taxation in the European Union (2015).
[162] Proposal for a Council Directive amending Directive 2006/112/EC on the common system of value added tax as regards the special scheme for small enterprises COM/2018/21.
[163] Directive 2006/112/EC on the common system of value added tax as regards the special scheme for small enterprises.
[164] SMEunited (n 92) 33.
[165] Merkx M & Gruson J (2019) 'Definitive VAT regime: Ready for the next step?' EC Tax Review 28(3) 136–149.
[166] Directive 2008/9/EC laying down detailed rules for the refund of value added tax.
[167] European Commission "VAT refunds and reimbursements: A quantitative and qualitative study' PwC (2019).
[168] Directive 2008/104/EC on temporary agency work.
[169] Kountouris N (2018) 'The concept of "worker" in European labour law: fragmentation, autonomy and scope.' Industrial Law Journal. 47(2) 192-225:207.
[170] Kenner J (2003) *EU Employment Law: From Rome to Amsterdam and Beyond.* Hart. 496.

limitations regarding their rights or confusions related to rights because of the involvement of multiple parties and national legislation.[171]

Furthermore, in the case of seasonal work or sudden changing levels of demand, Working Time Directive[172] put some obstacles to the competitiveness of SMEs. Its ambition to protect workers' health and safety is tempered by a desire for more flexibility in the organisation of work and the distribution of working time. Thus, the effort to maintain market freedoms and diversity within national social systems reflects an inner tension which explains the directive's complexity.[173] It is a quasi-obligation for SMEs to pursue specialised legal support, which is obviously costly for them, to address the complexity and the burden of working-time record-keeping. National laws often allow for more than the 48-hour maximum average weekly working time limit contained in the directive and, in a number of Member States, the reference period is set to 12 months without a collective agreement. Also, on-call time is treated as working time in its wholeness in some Member States, while in others, inactive on-call time is not entirely counted as working time.[174] In *Jaeger*, the CJEU found that on-call duty performed by a worker wherein he is needed to be physically within the workplace should be considered as working time for the purposes of the directive, even where the worker concerned is allowed to rest at his workplace.[175] However, this ruling tends 'towards an even more rigid and less autonomous interpretation of the directive',[176] thus preventing a more individualised approach that would facilitate SMEs.

Undoubtedly, economic considerations are subordinate to health and safety at work,[177] but it seems that the general obligations of the Occupational Safety and Health (OSH) Framework Directive[178] have generated various obstacles to the competitiveness of SMEs. The conditions for documenting risk assessments in the safety and health of workers at work are not sufficiently flexible, thereby inflicting unnecessary administrative burdens, especially for cases of temporary employment and very small enterprises.[179] Concurrently, a number of legislative measures overlap, thus causing double regulation in several areas, such as for

[171] ILO 'World employment and social outlook' International Labour Office (2015) 33.
[172] Directive 2003/88/EC concerning COM(2013) certain aspects of the organisation of working time.
[173] Kenner J (2007) 'Regulating working time: beyond subordination'. In: Weatherill S (ed.) *Better regulation*. Hart: 195-217:196.
[174] Nowak T (2018) 'The turbulent life of the Working Time Directive' Maastricht Journal of European and Comparative Law 25(1) 118–129:125.
[175] Case C-151/02 *Landeshaupstadt Kiel v Jaeger* [2003] ECR I – 8390.
[176] Kenner J (2004) 'Re-evaluating the concept of working time: an analysis of recent case law' Industrial Relations Journal 35(6) 588-602:601.
[177] Kenner J (2004) 'Working time, Jaeger and the seven-year itch' Columbia Journal of European Law 11(1), 53-76:53-54.
[178] Directive 89/391/EEC on the introduction of measures to encourage improvements in the safety and health of workers at work.
[179] EU-OSHA 'Safety and Health in micro and small enterprises in the EU' European Agency for Safety and Health at Work (2018) 8.

chemical and biological agents,[180] where SMEs have already special duties to make an assessment of the risks. This means a waste of time and frustration for entrepreneurs. Moreover, the obligations relating to risk assessments do not take the size of the business and the period of employment into consideration, thereby favouring large businesses. In general, SMEs have the same general obligations as large businesses, although the Member States have the discretion to tackle resource problems and limit the information and recording responsibilities for them.[181]

C - The impact of clustering on competitiveness

SMEs located in business clusters can increase their competitiveness against large businesses because a host of linkages among cluster members results in a whole greater than the sum of its parts.[182] The nexus of cooperation and complementarity of clustering provides a competitive advantage to SMEs in strengthening skills in trading techniques and project management, and developing products and services.[183] The participants of a cluster are able to take advantage of accumulation effects, thus gaining cost benefits and obtaining easier access to resources which are not available to competitors that are not located within the cluster.[184] This aspect is also supported by an empirical study of 200 businesses that are members of a footwear cluster in Felgueiras and Guimaraes, in the north of Portugal.[185]

Through participation in clusters, SMEs acquire better access to capital funds and finance, broad knowledge regarding technology transfer procedures, and constant connection with specialised legal services for commercial matters, such as intellectual property rights. The timely and direct flow of information is better than before, and their involvement in various activities with research centres, academic institutions and other organisations is facilitated.[186] In this manner, the potential of innovation capacity is enhanced, and therefore SMEs may gain strong negotiating power against competitors, suppliers and other stakeholders.[187] Relevant research on the case of Pleszew's Boiler Cluster, which is located in the Wielkopolska region

[180] Directive 98/24/EC on risks related to chemical agents at work.
[181] Kenner (n 170) 104.
[182] Porter (n 33) 81.
[183] Porter (n 41) 80.
[184] Pouder R & St John C 'Hot spots and blind spots: geographical clusters of firms and innovations' The Academy of Management Review 21(4) 1192-1226:1192.
[185] Lima V et al (2017) 'Access to resources through relationship networks: The perspective of firms in a footwear cluster in the north of Portugal'. Revista Brasileira de Gestao e Desenvolvimento Regional, 13(1) 32-53.
[186] Kerr W. R & Robert-Nicoud F (2020) 'Tech Clusters'. Journal of Economic Perspectives 34(3) 50–76:65-68.
[187] Lämmer-Gamp T et al. (2020) 'Clusters are Individuals' The Danish Agency for Science, Technology and Innovation 68; European Commission 'Smart Guide to cluster policy monitoring and evaluation' (2020) 22.

in Poland, shows that innovation constituted a critical mediating variable for SMEs to become more technologically advanced,[188] thus achieving appropriate business management, decreasing operational costs, and growing the quality of services.[189]

Business co-location generates the concentration of talented people in regions, social embeddedness, mutual trust and capital. It also furthers business flexibility and points out the existence of untraded interdependencies, which emerge from dense inter-firm linkages, networks of associations and interest groups. The creation of *organisational fields* reduces spatial and additionally non-spatial dimensions of proximity.[190] This offers advantages to participating businesses from aggregating diverse interests and mediating conflicts, as well as decreasing consumer search costs and associated demand side-effects. Accordingly, the co-location of SMEs in clusters can form stronger relationships between interfirm marketing cooperation and cognitive, institutional, organisational and social dimension of proximity. This has been confirmed by relevant research conducted in Chilean regions.[191] The findings related to the Limarí Province's agribusiness cluster in north-central Chile support the conclusion that interfirm marketing cooperation is mainly reliant on social proximity.[192] Another study also showed that the clustered businesses of the salmon industry in the Los Lagos region have more benefits and opportunities for interfirm cooperation in marketing activities than non-clustered businesses in this region.[193]

The benefits gained by the association of SMEs in clusters have implications for reducing costs, improving quality, and increasing the marketability of products and services. Thus, the operation of clusters could boost competitiveness, which is defined as 'the ability of an economy to provide its population with high and rising standards of living and a high level of employment for all those willing to work on a sustainable basis'.[194] The methodological basis for determining the role of clusters in the development of regional competitiveness is reflected by the *Diamond Model* which is widely applied to analyse competitive advantages in the international market.[195] 'Clusters constitute one of the peaks forming the diamond model',[196]

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[188] Jankowska, B & Götz, M (2018) 'Does Innovation Trigger the Internationalisation of Clusters? The Case of Polish Boiler-Making Cluster'. In: Belussi F & Hervas-Oliver J L *Agglomeration and Firm Performance*. Advances in Spatial Science 47-62.
[189] Andersson T et al (2004) 'The Cluster Policies Whitebook' International Organisation for Knowledge Economy and Enterprise Development (IKED) 56.
[190] Pitelis (n 42) 1359–1388, 1361-1362.
[191] Geldes C et al. (2015) 'How does proximity affect interfirm marketing cooperation? A study of an agribusiness cluster'. Journal of Business Research 68, 263–272:264.
[192] Ibid.
[193] Felzensztein C et al. (2012) 'Clusters or un-clustered industries? Where inter-firm marketing cooperation matters'. Journal of Business & Industrial Marketing 27(5) 392 – 402.
[194] European Commission 'European competitiveness report – 2003' SWD SEC (2003) 1299 final.
[195] The Diamond Molel is also known as the *Theory* of National Competitive Advantage of Industries In: Porter (n 33).
[196] Porter (n 41) 221.

which is specifically referred to as the advantage of close working relationships stemming from related and supporting industries. A group of related and supporting industries in close proximity, such as the abovementioned footwear cluster in Portugal, may create competitive advantages in several interconnected industries. Shoe designers, for example, consult frequently with leather manufacturers on emerging designs and production methods as well as learning about new qualities and colours of leather. Also, early insights into fashion trends are obtained by leather manufacturers, thus helping them to prepare new items as 'the interaction is mutually advantageous and self-reinforcing, but it does not happen automatically: it is helped by proximity, but occurs only because companies and suppliers work at it'.[197]

The competitiveness of a certain region, at the macro level of the economy, is determined by indicators such as the magnitude of purchase power parity, private consumption and savings, R&D expenditures, and advanced technologies usage. Also, the range of more productive but not inexpensive labour, and higher gross domestic investment constitute significant elements to enhance competitiveness.[198] On the micro level, on the other side, a business is able to obtain benefits over its competitors via differentiation and cost advantage. Through lowering costs, a business gains the ability to create and sell comparable goods in a more efficient manner than its rivals, whereas differentiation constitutes the ability to accomplish the expectations of the customer, via offering unique products and/or services.[199] Therefore, the key factor as regards the identification of competitiveness rates, either at the micro or at the macro level of the economy, seems to be the degree of productivity.

This implies that the benefits resulting from cooperation in the cluster engender impacts on both competitiveness and productivity of businesses. Consequently, competitiveness is strongly related to productivity that is shaped, among others, by the component of human capital situated in the cluster. Due to the continuous interaction that takes place, stakeholders are more likely to increase their availability and quality, and focus on the needs of the cluster.[200] Furthermore, an additional key component constitutes the infrastructure as the cluster can deliver value-added resources and material to the businesses situated within it, compared to others situated outside. For instance, machinery for joint usage is bought via the understanding of reciprocal requirements, and mutual action and financing.[201] The unit cost is another component in determining productivity as the advantages derived by clustering overcome the

[197] Porter (n 33).
[198] Pitelis C & Pseiridis A (2007) 'A conceptual framework for firm co-operation and clusters and their impact on productivity and competitiveness' (No. DYNREG13) 18.
[199] Porter (n 33) 37.
[200] Ibid 74.
[201] Ibid.75; Humphrey & Schmitz (n 113) 8.

losses from the absence of large scope and the benefits typically associated with large quantities of production.[202] All the above-mentioned components, together with the valuable elements of technology and innovation, constitute the determinants of productivity that operate within a wider macro-economic, regional, social, sectoral, and institutional environment in which the SMEs located in clusters would be able to be connected to the *competitiveness wheel*.[203]

Conclusion

This chapter discusses the importance of business clustering for the European SMEs, which cope with issues derived from the recent economic difficulties that adversely affect the overall EU competitiveness. However, SMEs located in clusters could develop a cooperative spirit that assists them to achieve high economic performance due to complementariness and synergy effects, which contribute to increasing the levels of employment and productivity. As a driving force of human history, the concept of cooperation is a form of entrepreneurial behaviour to address the challenges of an increasingly competitive global environment. Thus, strengthening entrepreneurship and competitiveness is of immense significance for the emergence and effective operation of business clusters, where cooperating entities can take advantage of common knowledge and experience generated from working together in joint activities. In this way, SMEs participating in clusters could reap benefits from the cooperative relationships to overcome their size limits and therefore obtain a greater market presence. The cooperative nature of clustering may be a suitable route for this purpose, thereby contributing to promoting entrepreneurship and enhancing the competitiveness of SMEs which are of immense importance for achieving socio-economic development in the EU.

The EU institutions have designed policies to promote entrepreneurship for individuals around Europe to turn ideas into action for creating businesses, discovering new markets and cultivating new skills. Additionally, EU initiatives have been taken to enhance the competitiveness of SMEs by setting as priorities their access to finance and their internationalisation, which can make a contribution to employment and growth. Nevertheless, there are still barriers that affect adversely entrepreneurship and competitiveness in the EU. The entrepreneurial environment is still unfavourable as the EU is experiencing a prolonged *entrepreneurship crisis* mainly because of existing regulatory and administrative burdens.

[202] Marshall (n 121) Book IV.XIII.2
[203] Pitelis & Pseiridis (n 198) 18; Porter (n 33) 76.

Moreover, obstacles such as the limited budget for SMEs' financing and legislative issues related to chemicals, waste and employment, cause negative effects on the competitiveness of SMEs.

This chapter arguably justifies the importance of business clustering for promoting entrepreneurship and enhancing competitiveness in the EU. In particular, clusters of SMEs could advance a propitious business environment for entrepreneurs through the creation of external economies and the local spirit stemming from spatial and geographical proximity. Furthermore, the clustering could make the European SMEs more productive, and therefore more competitive because the degree of productivity determines the level of competitiveness. Given that clustering can promote entrepreneurship and enhance competitiveness, it would be important to explore key issues in order to extract the full potential of European SMEs for socio-economic development in the EU. Thus, designing appropriate policies and addressing legal challenges for clusters of SMEs based on cooperative relationships could lead to their emergence and effective operation across the EU regions.

CHAPTER 2: Key issues and legal challenges for the clusters of SMEs in the EU

Introduction

Business clustering can assist SMEs to gain a competitive advantage over individual businesses due to the synergy effects resulting from cooperative relationships. The collective effectiveness of external economies and geographical proximity of the clustering of SMEs could promote entrepreneurship and enhance competitiveness for achieving socio-economic development.[1] The EU has developed cluster institutions and formed the EU cluster policy to strengthen business clusters in performing their operations as business networks across the EU.[2] Cluster institutions and the EU cluster policy focus also on facilitating cluster organisations to provide a coordinating function within clusters. However, considerable issues related to cluster performance, the dynamism of cluster organisations, and cluster strength of sectors and regions,[3] raise questions about the effectiveness of the above-mentioned initiatives for business clustering. To address these issues, this chapter aims to explore legal challenges and relevant elements, which may constitute the foundations for a new EU cluster policy that would effectively support the business networks of clusters in the EU.

For this purpose, this chapter first describes the EU approach to clustering during the last decades. Specifically, it discusses the development of cluster institutions and the formation process and prospects of EU cluster policy, and explains the coordinating role of cluster organisations. It also presents and analyses data regarding the levels of cluster strength and performance of existing clusters in the EU. This analysis identifies relevant challenges for a new EU cluster policy and offers recommendations related to a specific EU legal framework for the clustering of SMEs. Most importantly, this chapter explores legal foundations for clusters, which can be considered as a particular kind of business networking where SMEs are linked via contractual relationships. It also conducts a historical analysis of business networking to illustrate the form of clustering in relation to the characteristics of the market and the firm. Subsequently, this chapter examines the clustering of SMEs as a distinctive form of economic organisation where SMEs are connected via contracts with the cluster's network centre which may be a central company, known as a cluster organisation. Finally, it considers

[1] See Chapter 1
[2] European Commission 'EU cluster actions' <https://single-market-economy.ec.europa.eu/industry/strategy/cluster-policy_en>.
[3] European Commission 'European Panorama of Clusters and Industrial Change' Panorama (2020).

the nature of the cluster organisation, which may be coincided with the economic phenomenon of the business firm and the legal concept of the corporation.

I – The EU approach to business clustering

A – EU cluster policy

Evidence of cluster advantages prompted governments in several countries to implement cluster policies to generate new sources of competitiveness in their territories since the 1990s.[4] In 2003, the Cluster Initiative Greenbook presented an analysis of about 250 programmes around the world in order to propose a Cluster Initiative Performance Model.[5] Thereafter the Cluster Policies Whitebook considered elements for the formation of a cluster policy.[6] These works contributed to undertaking initiatives to institutionalise the cluster policy on a supranational level in the EU. In policy documents of the EU institutions, clusters were identified as means for strengthening regional innovation and narrowing the gap between business, research and resources. Clusters were also included in the EU regional policy programmes for the period 2007–2013.

Nevertheless, there are different approaches regarding the active development of cluster initiatives,[7] and the paradoxical nature of cluster policy.[8] These approaches are mainly based on questioning the need for government participation in the formation of clusters and argue for the stimulation of growth for strong and inherently more active private equity firms.[9] Perhaps, public authorities could concentrate primarily on the implementation of their traditional tasks, such as creating infrastructure, providing social services and planning environmental protection.[10] However, clusters are a key part of the EU industrial landscape. The EU Council, in its conclusions on the EU strategy on industrial policy in 2018, emphasised the need for

[4] Saublens C (2007). Regional Research Intensive Clusters and Science Parks. European Commission; Lindqvist et al. (2006) Cluster Initiatives in Developing and Transition Economies. Center for Strategy and Competitiveness Stockholm.
[5] Lindqvist et al. (2003) *The Cluster Initiative Greenbook*. Ivory Tower.
[6] Andersson T et al. (2004) *Cluster Policies Whitebook* IKED.
[7] For example: Martin R & Sunley P (2003) 'Deconstructing clusters: chaotic concept or policy panacea?' Journal of economic geography 3(1) 5-35.
[8] Pessoa A (2011) 'The Cluster Policy Paradox: Externalities vs. Comparative Advantages' FEP Working papers 431 Universidade do Porto.
[9] Hospers G. J (2008) 'Silicon Somewhere: Is There a Need for Cluster Policy?' In: Karlsson C (ed.) *Handbook of research on innovation and clusters* Edward Elgar Publishing; Cooke P (2001) 'Regional innovation systems, clusters and the knowledge economy' Industrial and corporate change 10(4)
[10] Duranton G (2011) "California Dreamin': The Feeble Case for Cluster Policies". Review of Economic Analysis, 3; Brakman S & van Marrewijk C (2013) 'Reflections on cluster policies' Cambridge Journal of Regions, Economy and Society 6(2)217-231.

further development of the EU cluster policy to unite and transform regional clusters into pan-European world-class ones and create new value chains.[11] As the EU industrial policy is not aimed at managing the economy based on the top-down model, its clustering will be promoted by the bottom-up approach, encouraging network interactions and corresponding initiatives. This approach means a reduction of public support for entire sectors in favour of the transition to support targeted activities.[12] Indeed, as part of the industrial policy, the EU cluster policy does not intend to create clusters, but it only focuses on creating conditions for dialogue and cooperation between companies, the public sector and non-governmental organisations.

To maintain dialogue and cooperation in the EU, over the past decades, institutions for clusters have been formed. They mainly perform the function of coordination, information gathering, training and assistance in financing cluster participants, and their entry into international markets. In addition, they facilitate cluster organisations to provide a coordinating function within clusters. Cluster organisations are 'the legal entities that support the strengthening of collaboration, networking and learning in innovation clusters and act as innovation support providers by providing or channelling specialised and customised business support services to stimulate innovation activities, especially in SMEs'.[13] Activities of cluster organisations may also involve management of cluster facilities, marketing to increase cluster visibility and the participation of new stakeholders, and organisation of conferences, workshops and training programmes to support networking, and knowledge sharing.

An important place in the formation of a unified pan-European approach to the cluster policy is occupied by individual support institutions. In 2007, the European Cluster Observatory was established to offer cluster mapping data and other information on cluster organisations and cluster-related reports, and classify them according to various parameters. In addition to the consolidation of information, from 2009 to 2012, a methodology was developed to select the best practices among European clusters through the European Cluster Excellence Initiative (ECEI). A key goal of the initiative was to develop a comparative benchmarking of cluster organisations to improve their internal governance and service delivery. After 2012, the tasks of ECEI were transferred to the European Secretariat for Cluster Analysis and the European Foundation for Cluster Excellence, which continue to benchmark cluster organisations on an ongoing basis and deliver special training on value chain development and

[11] The Council of the European Union 'EU industrial policy strategy: Council adopts conclusions' Press release (2018).
[12] Rodrik D (2004) Industrial Policy for the Twenty-First Century UNIDO 23.
[13] Smart guide (2016) 2

cluster excellence addressed to policymakers, economic development professionals or cluster practitioners.

Furthermore, the European Cluster Collaboration Platform (ECCP) was created to facilitate international cooperation between cluster organisations. More than 1000 registered cluster organisations on the platform have the opportunity to compare the results of their activities with others and take part in special events in order to establish mutually beneficial business relationships with counterparts. It is noteworthy that among the total funding of 319 million euros allocated for the COSME programme in 2018, the amount of 5.5 million euros was allocated to 'develop a renewed ECCP to accelerate the partnering and knowledge-sharing among cluster organisations, their cluster firms and cluster policy-makers across Europe'.[14] Taken together, these initiatives and platforms cover the range of tools needed to coordinate a supranational cluster policy and develop relevant projects ranging from collecting information to helping European enterprises enter global markets.

The formation of a new vision for a supranational cluster policy in the EU is central to the EU's new long-term budget cycle (2021–2027) under the Single Market programme, in which clusters are referred to as 'a strategic tool for supporting the competitiveness and scaling-up of SMEs as they offer favourable business environments'.[15] In 2019, additionally, the Commission established a High-Level Expert Group on Clusters to provide recommendations, advice, and expertise for the use of clusters as a strategic tool of industrial policy. This group is supported by the work of the European Cluster Policy Forum, which brings together EU countries for exchanging views on the status and prospects of cluster policy implementation. Importantly, the Forum participants emphasised the need for the formation of Joint Cluster Initiatives in the Single Market Programme as an attempt to combine the EU efforts to stimulate the transformation of clusters into a single system. In general, clusters have a special role to play in the 2030 vision of the EU industry because they are seen as the foundation of ecosystems that foster innovation and promote place-based industrial transformation. To this end, value creation networks can be developed through the upcoming Clusters of Change programme for a new generation of clusters that are 'open, multi-collaborative, entrepreneurship-driven, cross-sectorial … and interconnected across Europe'.[16]

[14] Decision C(2017)7293 on the adoption of the work programme for 2018 and on the financing of the Programme for the Competitiveness of Enterprises and small and medium-sized enterprises 40-43.
[15] European Commission 'Proposal for a Regulation establishing the Programme for single market, competitiveness of enterprises, including small and medium-sized enterprises, and European statistics' COM(2018) 441 final 7.
[16] European Commission 'A Vision for the European Industry Until 2030' Report (2019) 28.

B - Cluster strength and performance

Europe is home to some 2,950 regional clusters that are part of 51 sectoral and 10 cross-sectoral industries. The analysis of cluster strengths and development trends demonstrates that these regional concentrations show higher average wage and employment increases as well as inhabiting a higher number of innovative and high-growth businesses and start-ups.[17] They also concentrate a high number of innovative and high-growth businesses in their formations.[18] Regarding the performance level of each cluster, the 2020 report European Panorama of Clusters and Industrial Change adopted a specific methodology to calculate cluster strength by using a cluster mapping approach. This methodology is based on criteria that measure five categories related to clusters, such as size, specialisation, employee productivity, SME performance and innovation leaders. In particular, the indicator of cluster size captures general employment performance,[19] whereas the degree of specialisation is measured by location quotients.[20] As regards productivity, this category is measured by the average wage per employee in the region as a proxy.[21] Moreover, SME performance is related to the number of high-growth businesses,[22] and the category of innovation leaders is measured by the number of global frontier businesses.[23]

The findings of the report show that there is only a small number of high-performing clusters and most of the areas of sectoral industries are without cluster strength. Specifically, from the total of 2,950 regional industrial clusters across Europe, the report identifies 198 high-performing clusters, which are much less compared to 898 medium-performing and 1,854 basic-performing clusters. Most importantly, 15,053 areas within sectoral industries have not any cluster strength because either their economy is not adequately specialised or they have not yet reached a critical mass of cluster strength.[24] Accordingly, this differentiation in cluster strengths raises questions of whether sectoral industries with cluster strengths perform better economically. The findings reveal that only employment in high-performing clusters has grown

[17] European Commission 'European Panorama of Clusters and Industrial Change' (Panorama 2020) 5.
[18] Ibid 5-9.
[19] It calculates the total number of employees in full-time equivalent units in the industry for a given region.
[20] The location quotient is calculated as the ratio between the industry's share of total employment in a given region and the industry's share of total employment in all the countries considered in the analysis.
[21] Productivity levels vary across Europe and these differences are captured as part of the cluster strength measure.
[22] i.e. have annual growth rates of 20% for turnover or employment over 3 years while respecting minimum employment and turnover size thresholds.
[23] i.e. top 5% of firms in terms of productivity (value added based, per employee), calculated by adding up factor incomes going to employees (wages) and to capital owners (profits) within any given cross-sectoral (emerging) industry or sectoral (exporting) industry and year as the relative strength of such firms reflects their capacity to innovate, rapidly diffuse and replicate cutting-edge ideas.
[24] Ibid 13.

faster than average, while employment in medium- and basic-performing clusters has grown below average. Nevertheless, employment growth in regional clusters is higher than that in sectoral industries without clusters. With regard to productivity, a few high-performing clusters show higher productivity growth than either the group of the medium-performing clusters or the group of basic-performing clusters. Therefore, productivity seems to increase with cluster strength.[25] A reasonable explanation for this would be 'the high demand for and corresponding wages of highly specialised employees in those highly specialised areas'.[26]

Furthermore, the concentration and influence of large businesses and SMEs seem to determine the degree of specialisation, which is a key concept for a better and more targeted EU cluster policy. The analysis of the size of businesses in cross-sectoral industries shows that the large business effect is a more dominant factor than the SME effect for specialisation. This can be explained by the fact that high numbers of employees determine the degree of specialisation. Hence, as large businesses employ more employees than SMEs, they are able to contribute much more to the employment levels of each industry in most regions.[27] However, the EU appears less strongly specialised compared to other big economies, such as the United States, Japan, and China, because large businesses are the most agglomerated in these countries, while the EU experiences a large concentration of SMEs.[28] High-performing clusters of SMEs could cover the gap of the large business effect and become dominant entities in determining the degree of specialisation.[29] Nonetheless, the EU is also less specialised due to the small number of high-performing clusters and, most importantly, the existence of 15,053 areas in sectoral industries that do have not any cluster strength.

In addition, the abovementioned analysis across all the regions has shown that there are large regional differences because there are still many regions in the EU without cluster strength. On the other side, the regions with the highest cluster strength are Lombardia and Ile-De-France, which is the region with the highest number of medium-performing clusters. Piemonte and Stuttgart have the highest number of high-performing clusters, whereas Cataluña is the region with the highest number of basic-performing clusters. Seven Italian regions are in the top 25 regions for cluster strength, followed by five Spanish, four German, two French and two Polish regions. Considering differences based on country size, however, the findings quite

[25] Ibid 13-16.
[26] Ibid 14.
[27] Ibid 50.
[28] Ibid 48.
[29] Ibid 10-16.

surprisingly show Latvia in the highest place with 13 clusters per region, followed by 12,8 Italian, 10,2 Spanish, and 10,2 clusters per region in Belgium.[30]

It is worth noting that many metropolitan areas are included in the top 25 regions with the largest number of strong clusters. This means that there is a substantial relation between the number of clusters and the size of regions measured by population. However, the findings suggest that there is not any correlation between the number of clusters and population density or the degree of urbanisation, both of these indicators are measures of large urbanised and densely populated cities.[31] Differences are also noticed in the level of dynamism of cluster organisations, which can play a central role in strengthening the economic environment in regions.[32] Indicatively, in Centre-Val de Loire, the older cluster organisation Cosmetic Valley with more than 550 members is effectively organised into one of the region's most important sectors.[33] Also, cluster organisations in Piemonte were founded a decade ago in the form of innovation hubs focused on technology transfer and diffusion of innovation, thus succeeding to reveal the region's sectoral orientation.[34] In contrast, there are many cluster organisations that are less developed throughout the EU regions. For instance, cluster organisations in Cantabria provide only services related to attending events and fairs, as well as promoting networking and synergies with potential partners.[35]

C - Challenges for a new cluster policy

Large regional differences and less specialisation in the EU, as well as the different degrees of dynamism of cluster organisations, the small number of high-performing clusters and the high number of areas within sectoral industries that have not any cluster strength constitute crucial issues for the effectiveness of EU cluster policy. It should be noted that the EU cluster policy is not implemented under a unified system for all EU regions, which may operate within an appropriately regulated environment for clustering in the EU. On the

[30] Ibid 31-33.
[31] Ibid 31-33.
[32] European Commission 'Summary Report on lessons learnt from fostering modern Cluster Policy in regions in industrial transition' (2019) 3-4.
[33] Cosmetic Valley 'World's Leading Perfumery Cosmetic Networks' <https://www.cosmetic-valley.com/.>.
[34] Biopmed 'The Cluster'.< https://www.biopmed.eu/ >; DAP 'Areas of Action' <https://www.distrettoaerospazialepiemonte.com/en/.>.
[35] European Commission 'Summary Report on lessons learnt from fostering modern Cluster Policy in regions in industrial transition' (2019) 3-4.

contrary, it is only a set of best practices, approaches, initiatives and recommendations for cluster stakeholders and relevant authorities.[36]

The relationships between the members of the clusters are often governed by some kind of agreement, although this is only operational without covering the parties' legal obligations and rights.[37] Most of the clusters in the EU operate under non-binding rules governing practical aspects, such as attendance at meetings and training activities, rather than signing a formal agreement.[38] However, most of the parties of high-performing clusters have signed some form of an agreement covering legal obligations and rights as regards mainly issues of intellectual property rights and confidentiality. Few of these clusters have set up a separate legal entity to include provisions about liability and dispute issues among the members.[39] It appears that clusters that have signed up to legally binding agreements present high levels of cluster strength and performance. Instead, most clusters in the EU operate without entering into some form of a legal agreement governing the relationship between the members.

The problem of exiting low-level clustering in the EU seems to be the absence of a single institutional framework that can have a central role in the shape and direction taken by the EU cluster policy. This framework could reverse the reduced effectiveness of the cluster actions and thus the waste of public resources.[40] Accordingly, an EU legal framework may facilitate clusters' stakeholders, such as SMEs, cluster organisations, research institutions and more, to efficiently participate in the process of coordination and implementation of EU cluster policy. In this way, they might address issues related to the current challenges of clusters throughout the EU.

The European Expert Group on Clusters has stressed that various issues are associated with a variety of interpretations and uses of the term *cluster*, thus creating misconceptions that affect adversely the external image of clusters.[41] Additionally, different terminology is used by some Member States for clusters, such as value networks, ecosystems and more. For example, the existing national strategy of Finland for regional development calls for the creation of *centres of competence* based on smart specialisation, which are quite similar to the cluster

[36] Smart guide (n 13).
[37] See relevant empirical research in: Cooper V et al. (2005) 'Legal issues in SME clusters' In 2005 IEEE International Technology Management Conference (ICE) IEEE 1-5; Konstantynova A & Wilson J.R (2017) 'Cluster policies and cluster institutions: an opportunity to bind social and economic dimensions?'. Economia e Politica Industriale 44(4) 457–472:462-463.
[38] European Cluster Collaboration Platform (2022c) 'Cluster Organisations'.<https://clustercollaboration.eu/cluster-list?profile_type[cluster_profile]=cluster_profile&zone[]=1&zone[]=2&pk_vid=e6493a161774bf9d1664019747943fda>.
[39] European Cluster Database (2022) 'Cluster mapping tool'. <https://www.clustercollaboration.eu/cluster-mapping>. See also about high-performing clusters in 'traded industries" in Panorama (n 3).
[40] See generally: UNIDO (2010a) 'Cluster development for pro-poor growth: the UNIDO approach' BIT Technical Paper Series 18, 7-11.
[41] European Commission 'European cluster policy forum' – 1st Meeting, Cluster Observatory (2018) 3.

concept.[42] In general, cluster policies may differ in the nature of the government involvement and intervention,[43] and for this reason the EU institutions have adopted an expansive use of the term, which is often attributed to all kinds of business networking.[44] The scope of the new EU cluster policy, however, could be more effective to be related to the operation of programmes with structure and design at the regional level. This is because every EU region, NUTS 2 classification, has its own particular characteristics. Besides, this is why the EU regional policies are designed to support job creation, competitiveness, economic growth, improved quality of life and sustainable development.

Considering the EU regions as places to implement clustering, it may be only a part of the targeting of the new EU cluster policy. Except for places, the targeting examines the degree of covering sectors and specific actors. Cluster policies may cover all sectors and industries or may be limited to certain sectors or areas, or support only one selected sector or area.[45] As regards the new EU cluster policy, it would be useful to focus on sectors that further the most competitive products of each EU region by adopting a systemic cluster approach to related industries by capturing cross-sectoral linkages. Additionally, specific actors of clusters should be mainly SMEs, which are the backbone of the EU economy and thus could contribute to stimulating regional economies and strengthening international competitiveness.

An appropriate EU legal framework for clustering may constitute a basis for identifying the precise targeting of EU cluster policy that would make clusters more noticeable. It is noteworthy that the existing good clusters and good EU cluster initiatives still lack visibility. This means that there is an absence of understanding by the businesses themselves of the clear advantages of support from EU institutions and the expediency of participating in their initiatives. According to the first European Cluster Policy Forum, there is a lack of awareness about existing synergies between cluster policies and initiatives, especially regarding SME scaling-up, smart specialisation and cross-sectoral collaboration.[46] For this reason, the expert group emphasised the importance of finding efficient ways to finance cluster management activities and improving the reach-out to SMEs and their participation in clusters in order to move to those that need the support most.[47] The support would be based on a generally

[42] European Commission (n 35) 3-4.
[43] Fromhold-Eisebith M & Eisebith G (2005) 'How to institutionalize innovative clusters? Comparing explicit top-down and implicit bottom-up approaches' Research policy 34(8) 1250-1268; Hospers G J & Beugelsdijk S (2002) 'Regional cluster policies: learning by comparing?' Kyklos 55(3) 381-402.
[44] European Commission 'Innovation Clusters in Europe: A statistical analysis and overview of current policy support' (Report) 20-21 < https://cluster.hse.ru/mirror/pubs/share/212169880>.
[45] Andersson (n 6).
[46] Cluster Observatory - 1st Meeting (n 41).
[47] Ibid, 2.

recognised cluster evaluation mechanism for the capability of clusters through selected parameters. Obviously, the evaluation process should be open and transparent, applicable to any cluster.[48]

In addition, various funding programmes for clustering by the EU have not shown sufficient results. Essentially, there is confusion as the EU funding is provided from various sources, such as different Directorate-Generals, and that 'it is not cross-fertilised.[49] On the other hand, it is important for public policymakers to explore funding that comes not only from the European Structural and Investment Funds (ESIF).[50] The proportion between direct financial support for clustering and indirect support, such as funding for meetings and events, can indicate the conditions for successful cluster policies because the active engagement among cluster participants results in higher productivity in the regions.[51]

The European Expert Group on Clusters pointed out that for clusters to improve their profile, they need to reduce their reliance on public funding. Otherwise, if the funding comes mainly from public bodies, they would be seen as part of the public authorities.[52] The traditional Triple Helix model that focuses on the interlinkages between businesses, universities and public institutions is considered outdated, and a broader focus that includes investors and civil society should be advocated instead.[53] Namely, a mixed approach that can combine the top-down approach, which refers to public support, and the bottom-up approach characterised by strong involvement by the private actors,[54] could be a suitable way to establish clusters of SMEs in the EU.

An EU legal framework would encourage customised actions needed to overcome the different understandings and the rigidity of clusters. This may be helpful to address existing issues related to clusters' intersectoral, interregional and international cooperation. For instance, the existing limited cross-regional and cross-sectoral clustering faces difficulties to exploit synergies that could push for more integrated European and global value chains.[55] Clusters are currently focusing their efforts on reinforcing linkages and interactions among cluster members. To foster innovation, however, more advanced actions should be taken by

[48] Kind S & zu Köcker G. M (2011). Evaluation concept for clusters and networks. Prerequisites of a Common and Joint Evaluation System.
[49] Cluster Observatory - 1st Meeting (n 41) 8.
[50] Ibid, 4.
[51] Nishimura J & Okamuro H (2011) 'Subsidy and networking: The effects of direct and indirect support programs of the cluster policy' Research Policy 40(5) 714-727.
[52] Cluster Observatory - 2nd Meeting (n 41) 8.
[53] Ibid, 1st Meeting. 4.
[54] Hendry C et al. (2000) 'Regional clustering of high technology-based firms: Opto-electronics in three countries' Regional studies 34(2) 129-144.
[55] Cluster Observatory - 1st Meeting. (n 41) 3.

cluster members through establishing strategic directions and facilitating system transformations on skills, digitalisation, shaping regulation and policies, and more.[56]

Furthermore, several cluster organisations lack the resources necessary to follow a long-term strategy, thus making it difficult for many parts of the EU to establish new clusters. Policymakers are often unaware of their responsibilities and, as a result, do not embrace sufficiently the management of clusters.[57] Perhaps, this happens because the EU cluster policy is not autonomous as a separate element. It is a part of the EU industrial policy, which is a broader one with a corresponding proportion of the cluster policy focus. Hence, it would be important for the EU cluster policy to be exclusively devoted to clustering support under a specific regulatory environment that may ensure a coherent legal basis for the clustering of SMEs.

For all these reasons, the new EU cluster policy for the period 2021-2027 could face the above-mentioned challenges and address issues on cluster strength and performance via underpinnings offered by a favourable regulatory environment, which would stimulate the transformation of clustering into a single and unified system. In this way, clusters as business networks according to the expert group, could obtain 'the potential to accelerate twin green and digital transition, build resilience and boost recovery'.[58] To this end, the designing of a stable and coherent legal framework for clustering is necessary to ensure the scope and targeting of an autonomous EU cluster policy at a regional level. This policy should focus on sectors that further the most competitive products of EU regions through specific actors, mainly SMEs. In addition, this institutional model of clustering of SMEs could adopt a recognised evaluation mechanism for the effectiveness of relevant funding programmes, as well as promoting a suitable proportion of direct and indirect support through a combination of the top-down and bottom-up approaches. By extension, cluster strength and performance may be improved via a new legal framework as a basis for the EU cluster policy that could the business networks of clusters of SMEs across the EU regions.

[56] Cluster Observatory - 2nd Meeting 2.
[57] Cluster Observatory - 1st Meeting 4-5.
[58] European Commission 'European Expert Group on Clusters: Recommendation Report' (Report 2021) 7.

II – Legal grounds for clustering of SMEs

A - Business networking and clustering of SMEs

i – Clusters of SMEs as connected contracts

A suitable way for the clusters of SMEs may be to form them as contractual networks, which constitute an effective response to the small size of businesses.[59] Thus, every one of these business structures may be a bundle of linked entities that are interconnected via contractual relationships.[60] As forms of organising economic activities, contractual networks 'bind formally independent firms who are more or less economically dependent upon one another through stable relationships and complex reciprocity that is more cooperative than competitive in form'.[61] Accordingly, independent firms enter a pattern of connected contracts that are designed to provide the parties with a number of the benefits of coordination achieved through vertical integration in a single business firm.[62]

However, the law fails to address sufficiently problems generated by the economic phenomenon of networks as they do not fit either in the area of corporate law or in the area of contract law.[63] Given that economic productive activity is coordinated by market mechanisms and business firms, the normative implications of clusters of SMEs may lie between the legal categories of contracts and corporations. In the case of contractual relations, the parties agree on a market exchange through which they both expect to obtain a residual profit and improve prosperity after their costs have been subtracted. On the other side, in a corporation, the residual profits generated by the economic activity coordinated by management accrue to the business firm itself.[64]

Social sciences identify the antithesis between market and firm according to different perspectives posed by their disciplines. Economics examines the conditions where it is more effective to create a business firm as opposed to relying on market relationships.[65] Theories of the firm consider various reasons for choosing to make a product via a firm rather than buying it from other business enterprises in the marketplace. These can be the reduction of transaction costs, economies of scale, issues of management of agents, intensification of the division of

[59] Cafaggi F (2011) *Contractual Networks, Inter-Firm Cooperation and Economic Growth* Edward Elgar 4.
[60] Mevorach I (2009) *Insolvency within Multinational Enterprise Groups* (OUP) 20.
[61] Teubner G (2011) *Networks as connected contracts: edited with an introduction by Hugh Collins* Hart 92.
[62] Collins H (2011) 'Introduction to networks as connected contracts'. In: Ibid, 1.
[63] Ibid.
[64] Ibid 4; Teubner (n 61) 39.
[65] Williamson O (2007) 'Transaction Cost Economics: An Introduction' (Discussion Paper 2007-3) University of California, Berkeley.

labour, and the removal of failures in competitive markets.[66] In addition, sociologists focus on the conditions required for the intense social coordination involved in productive activities, so that firms can serve to create trust between individuals in order to establish with greater confidence long-term projects.[67] Through relevant mechanisms, the necessary trust can be built to enable a social order to develop cooperative productive entities, 'to move from taking to trading, and from trading to partnership and organisation'.[68]

From a legal aspect, important issues constitute the allocations of risk and responsibility among the economic actors. Specifically, when the situation is not desirable and confidence lies at low levels, there are two key distinctive features of markets and firms as the two central institutional patterns of economic coordination.[69] In contractual relationships, the parties are expected to act entirely in their own best interests, while members of a business firm owe a legal duty of loyalty to the purposes of the firm, and the law reflects these expectations in the applicable norms.[70]

However, there are several methods of economic coordination that do not fall precisely into the binary categories of market or firm. For instance, the commercial agency is a hybrid, because for some purposes, such as payment by commission on sales, the relation among principal and agent is a market transaction, which fits undoubtedly within the legal paradigm of contract. For other purposes, such as the allocation of risk and a duty of loyalty, the business relation operates as a firm.[71] Moreover, there are various examples of relational contracts that form some features of a firm, such as management systems, the sharing of profits, and a variety of shared systems of information technology to coordinate economic activity.[72] The temporary agency worker is subject to hierarchical relations, but is neither a member of the firm nor an employee of the agency.[73] A contract with hybrid qualities is also the joint venture that functions as a partnership, since the parties offer their skills and resources for a common purpose without, however, to have created a common business entity that receives the residual profits.[74]

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[66] Williamson O (2005) 'The Economics of Governance' American Economic Review 95(2).
[67] Luhmann N (2000) 'Familiarity, Confidence, Trust: Problems and Alternatives', in Gambetta D *Trust: Making and Breaking Cooperative Relations* University of Oxford 103.
[68] Collins (n 62) 5.
[69] Teubner (n 61) 39.
[70] Collins (n 62) 6; Williamson (n 65).
[71] See generally: European Directive 86/653 on the co-ordination of the laws of the Member States relating to self-employed commercial agents.
[72] Campbell D (2001) 'Ian Macneil and the Relational Theory of Contract'. In Macneil IR, *The Relational Theory of Contract: Selected Works of Ian Macneil.* Sweet & Maxwell 3.
[73] Collins (n 62) 6.
[74] Amstutz M & Teubner G (2009) *Networks: Legal Issues of Multilateral Co-operation* Hart Publishing; Macneil IR (1980) *The New Social Contract: An Inquiry into Modern Contractual Relations* Yale University Press.

Furthermore, the contrast between market and firm, in legal terms between contract and corporation, generally includes a distinction regarding the number of parties to the legal relation and the coordinated economic activity. Apart from the contract paradigm that involves two parties to the bilateral exchange, there are a number of types of economic coordination, such as multilateral associations, which involve multiple parties that do not fit the model of a firm, though they share several similar qualities.[75] As a firm, some inter-organisational market transactions contain a constellation of bilateral contracts that are coordinated to serve a common purpose.[76] A typical example is the franchise where the franchisor owns the intellectual property rights to the business format, whereas franchisees acquire a licence to use the format and its logos, together with know-how regarding the exploitation of the brand, in return for payment to the franchisor of a fee and a share of profits.[77]

Understanding the concept of a business network, it may be described as a combination of relational contracts close to the hybrid end of the spectrum together with cooperative components found in multilateral associations connected via bilateral contracts. However, there is no single business entity to consolidate risk and channel responsibility, and to which each participant owes their loyalty.[78] This multilateral structure of bilateral contracts, which obligates the parties to cooperate extensively while remaining individually accountable for their actions, operates in many aspects as a business firm.[79]

Indeed, from a socio-economic perspective, intensive and long-term cooperation, using a series of governance structures to ensure collaboration, generates a degree of economic interdependence that resembles the characteristics of a firm.[80] From a legal viewpoint, however, these forms of economic coordination among multiple parties seem to be understood as compilations of bilateral contracts rather than corporations. This is because none of the aforementioned business networks created an independent legal entity, which would be the repository of legal responsibility, and to which the parties owe duties of loyalty.[81]

Nevertheless, it is necessary to identify a kind of regulation for networks that may function as an appropriate legal framework for the emergence and effective operation of clusters of SMEs as connected contracts across the EU. Given the hybrid character of business

[75] Jensen M & Meckling W (1976) 'Theory of the Firm: Managerial Behavior, Agency Costs, and Capital Structure'. Journal of Financial Economics 3, 305-360:308.
[76] Collins (n 62) 6.
[77] Schwartz A. & Scott R. E (2015) 'Third-Party Beneficiaries and Contractual Networks' Journal of Legal Analysis 7(2) 325-361.
[78] Collins (n 62) 10-11.
[79] Amstutz & Teubner (n 74) 26.
[80] Ibid 26-28.
[81] Collins (n 62) 10-11.

networks, considering them as only a new type of corporation would place an institutional basis that may damage the inherent flexibility achieved by their shifting patterns of bilateral contracts. Likewise, considering them merely as compilations of unconnected bilateral contracts would fail to hold the components of the firm that operate as a pole of attraction to bind the network together.[82]

ii - Business networks from a historical perspective

The concept of a business network is undoubtedly inappropriate as a technical legal term. This is because the conceptual framework of private law doctrine precludes the immediate adoption of the social-economic concept of the network as a legal category.[83] For this reason, the law is obliged to develop its categories that are responsive to the network's logic of action, and define a complete social model of networks, which stresses their substantial social risks and identifies a normative perspective to tackle them.[84] In this way, the legal doctrine could develop a possible legal categorisation for the network form of clusters of SMEs.

The incompatibility of networks with the legal categories of contract and corporation corresponds approximately to the division between market and firm, which prevailed from the era of the industrial revolution. While the network phenomenon is a manifestation of the post-industrial society of the last decades,[85] it is worth noting that various forms of networks predated the appearance of the modern industrial firm. The main form of the economic organisation before the industrial revolution in north America and western Europe was the *corporate guild*, which held several of the qualities associated with the business network.[86]

The corporate guild was an association of producers that were independent with solid local-regional identities, combined elements of competition and cooperation, and shared innovation benefits. Also, it represented a specific type of network form that was based on 'lateral or horizontal patterns of exchange, interdependent flows of resources, and reciprocal lines of communication'.[87] Producer solidarity, communitarianism and protection of the trade's collective property, were the values expressed by guild forms, which could however be

[82] Ibid 30.
[83] Luhmann N (2004) *Law as a Social System* Oxford University Press.
[84] Collins (n 62) 73-74.
[85] Castells M (2000) *The Rise of The Network Society: in The Information Age: Economy, Society and Culture* Blackwell 502.
[86] Deakin S (2006) 'The return of the guild? Network relations in historical perspective' Centre for Business Research Cambridge 1-2.
[87] Powell W (1990) 'Neither market nor hierarchy: network forms of organisation' Research in Organizational Behavior 12, 295-336:295. In: Deakin (n 86).

interpreted as restriction, exclusion and collusion because the English courts in the 17th and 18th centuries considered the corporate guild as a *conspiracy* against consumers and the interests of the society.[88] In particular, by developing the doctrine of *restraint of trade*, common law described it as an unlawful *combination*.[89] Moreover, in continental Europe, guild forms were condemned by relevant post-revolutionary codes and the legislation of the French Revolution.[90] Accordingly, the decline of corporate guilds opened the path for the emergence of the integrated business firm, but some of them survived under the hostile conditions of industrial capitalism.[91] Hence, in case that the current post-industrial capitalism may allow the existence of network forms such as the clusters of SMEs, it may be a helpful approach to identify an analogue to their predecessors and a series of legal concepts and techniques that can support and protect network relations, similar to how the law allows the organisation of firms and markets.

Transaction cost economics describes firms and markets as alternative patterns of economic organisation, but without demonstrating that the network is a distinctive form of governance.[92] However, price, authority and trust may be considered as possible alternative mechanisms of coordination for markets, firms and networks respectively, which would be ideal types of industrial organisation.[93] These types do not represent reality because they tend to be, in practice, 'overlapping, embedded, intertwined, juxtaposed and nested'.[94] Nevertheless, networks could be a distinctive form of coordinating economic activity as they seem to be particularly socially oriented. By embodying mechanisms for social learning and information transfer, they are more reliant on relationships and mutual interests than markets, whereas less driven by a formal hierarchical structure than firms, because they depend on mutual norms of reciprocity.[95] However, these features do not belong exclusively to the networks as they can also be attributed to the other two forms of economic activity, such as markets and firms. Markets can encode and mobilise knowledge which is a key characteristic of market-based

[88] See Smith v. Company of Armourers and Braziers of the City of London (1792), Case of the Tailors of Ipswich (1615), Case of Monopolies (1602): In Deakin (n 86) 8.
[89] Ibid.
[90] In decret Allarde and loi Le Chapelier of 1791. In: Bevir M & Trentmann F (2003) *Markets in Historical Contexts: Ideas and Politics in the Modern World* (CUP) 91-92.
[91] Becattini G et al (2009) *A Handbook of Industrial Districts* E. Elgar 3-9.
[92] Deakin (n 86) 2; Coase R H (1937) 'The Nature of the Firm'. Economica, New Series 4(16) 386-405; Williamson O (1985) *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting* The Free Press.
[93] Ibid 2; Luhmann N (2000) 'Familiarity, Confidence, Trust: Problems and Alternatives' in Gambetta D. *Trust: Making and Breaking Cooperative Relations*, University of Oxford. 103.
[94] Ibid 2; Bradach J & R Eccles (1989) 'Price, authority and trust: from ideal types to plural forms' Annual Review of Sociology 15, 97-118:116.
[95] Powell (n 87).

activity, and firms can exhibit a high level of cooperation and trust among managers and workers, without losing their hierarchical character.[96]

Networks could possess distinctive features based on the assumption that markets and firms are alternatives, since the firm can displace the market due to the costs of organising transactions.[97] However, from a historical perspective, the market and the firm seem to complement each other, rather than operate as alternatives.[98] According to modern systems theory, there was a co-evolution between the emergence of the vertically integrated firm and the relevant mass production organisational techniques, and the rise of markets on the basis of mass consumption of standardised products.[99] This may be described as an industrial evolutionary process from the medieval guilds to the era of factory labour and mass production.

The principal function of the primitive guild symbolised the union of the later different classes of master, journeyman and merchant in one person.[100] Its subsequent fragmentation was not only the result of changes in the organisational and technological production forms, but mainly the consequence of the wide expansion and development of product markets.[101] This caused the separation of retail product markets and wholesale, thus shifting decisively the economic power from producers to consumers. In this manner, 'the ever-widening market from the custom-order stage … removes the journeyman more and more from his market [and] diverts attention to price rather than quality'.[102] These alterations happened without huge modifications in production methods and before the appearance of the factory, which is merely the natural consequence of the last phase of market expansion, in the era of mass production.[103]

The vertical integration of production with the extension of markets in the global context is related to a post-industrial, flexible and, primarily, fragmented economic structure that is understood as a process of disempowering labour.[104] During the first years of the 20th century, craft-based unions and small producers faced the vertical integration of production as a major threat to their independent nature.[105] Then, the legal category of the contract of employment arose mainly as a result of the employers' ambition for a regime that would embody 'the

[96] Deakin (n 86) 3; See also Hayek F.A (1982) *Law, Legislation and Liberty. A New Statement of the Liberal Principles of Justice and Political Economy* Routledge.
[97] Ibid 3.
[98] Ibid.
[99] Ibid; Fögen M.T (2002) 'Legal history – history of the evolution of a social system. A proposal' Rechtsgeschichte 14.
[100] Larson S & Nissen B (1987) *Theories of the Labor Movement*. Wayne State University Press 142.
[101] Commons J.R (1909) 'American shoemakers, 1648-1895: a sketch of industrial evolution'. *Quarterly Journal of Economics* 24, 39-84:42-43.
[102] Ibid 67, In: Deakin (n 86).
[103] Ibid 84.
[104] Deakin (n 86) 4.
[105] Jacoby S (1985) *Employing Bureaucracy: Managers, Unions, and the Transformation of Work in American Industry 1900-1945* Columbia University Press.

subordination of all workers to the authority of management'.[106] In this way, the vertically integrated corporation, and the contractual relationship of employment, seem to work as protective institutions of the interests of labour, which are constantly under the threat of the fragmentation of the firm.[107]

Generally, the co-evolution of markets and firms as a result of the expansion of competition, caused the marginalisation of network forms.[108] This was the consequence of the incorporation of independent units into the firm, and the elimination of customised production by mass consumer markets.[109] However, the firm and the market were not totally complementary, because the networks achieved to survive, but in isolated environments, under strong competition with integrated industrial forms.[110] For example, Italy's industrial districts and their equivalent networks in Japan, Germany and France were characterised by a combination of cooperation and competition, and the maintenance of solidaristic relations among independent producers.[111] Consequently, the business networks of clusters of SMEs may certainly be a distinctive form, by providing an alternative type of economic organisation, neither to firms nor to markets, but 'to the conjunction of the vertically integrated firm and mass consumer markets'.[112]

B – Clusters of SMEs beyond market and firm

i – Clustering of SMEs as an alternative mode of economic organisation

The networks were mainly marginalised by the firm-market conjunction, which was a contingent consequence of a specific stage of industrial capitalism. Accordingly, the re-emergence of pre-industrial network forms may need the revival of institutional regulations that preceded the first great industrial divide of the 19th century.[113] However, the establishment of a network as a basic economic unit would be possibly displaced due to a particular view of industry and society, 'in which technological determinism leaves little or no scope for institutional variety'.[114] For this reason, an effective legal framework for the contractual

[106] Deakin (n 86) 4.
[107] Ibid.
[108] Commons (n 101) 39-34.
[109] Deakin (n 86) 4.
[110] Ibid 4.
[111] Becattini (n 91) 3-9.
[112] Simon Deakin places the networks in relation to markets and firms. In: Deakin (n 86) 4.
[113] Deakin (n 86) 1.
[114] Ibid.

networks of clusters of SMEs may be based on a combination of legal doctrines, which would be able to encompass the competitive and cooperative dimensions of contract and corporate law respectively, thereby managing to provide an alternative mode to the conjunction of the vertically integrated firm and mass consumer markets. Namely, the normative basis of regulatory measures for the clustering of SMEs could be a nexus of contractual arrangements of the market and corporate legal elements of the vertically integrated firm. In this way, the proposed cluster policies would lead to the return of the guild by recognising the diversity of competition forms and fostering the mechanisms that traditionally supported the independence of producers against hierarchical control and the homogenising power of mass markets.

Accordingly, the members of each cluster may be connected via contracts with the corresponding cluster organisation, which could work as a central company to ensure a stronger form of networking integration for specific purposes, while simultaneously the members preserve their own legal and economic independence. Generally, in networks, the central company could regulate and coordinate activities for the common management of a collectively owned trademark among the members of the network, in which some members are involved in the production, others in distribution and more.[115] Based on the network features of coordinated activities and independent ownership, the members of clusters of SMEs may be able to sell their products and services to their cluster organisations, which would distribute them on the final market or trade them to intermediate traders.

The bilateral contracts between the central company and each member of the network could be coordinated via common-defined rules that are applicable to each contract.[116] Accordingly, the central company may function as a governance device for monitoring and guiding the web of relationships that take place within the network relying on peer monitoring, and hence be in a position to address the difficulties concerning observability of performance standards.[117] By fostering cooperation through deploying information technologies, the central company could also 'increase verifiability and devise dispute resolution mechanisms that reduce litigation costs [according to] the assumption that decision-making power is distributed symmetrically'.[118] Thus, in the case of clusters of SMEs, their members could be legally independent, without exercising control of one over the others. Due to potential dissimilarities in power that might be existed in different interests of the members, effective governance

[115] Gilson R et al (2009) 'Contracting for innovation: vertical disintegration and interfirm collaboration' Columbia Law Review 109(3) 431-502:448.
[116] Cafaggi (n 59) 3-10 & 92.
[117] Gilson R et al. (2010) 'The Interaction of Formal and Informal Contracting in Theory, Practice and Doctrine'. Stanford Law and Economics Olin Working Paper No. 389, abstract.
[118] Cafaggi (n 59) 6

design is required. The cluster organisation as the central company of the cluster would constitute an appropriate mechanism to protect the weaker parties and further the collective interest whilst aligning individual conflicting interests.

In general, networks are characterised by a collective interest that links all members, but often also by conflicting interests regarding risk-sharing, profit distribution and costs allocation.[119] Members may have dissimilar interests and views about the sustainability of a network. It is possible for the member with a relatively stronger contractual power to have an interest in fragmenting the relationships and preventing the legal recognition of interdependence within a network.[120] Conflicts of interest differ if the network relationships are horizontal and commonly composed of stakeholders that perform probably competing activities, or vertical throughout the supply chain. Horizontal networking between producers is typically generated to supply complementary products. Issues regarding the remuneration of each member and the relationship between the volume of sales and the distribution of profits may arise.[121] In vertical relationships within networks, conflicts of interests generally arise where the supplier of intermediate goods, final assembler, distributor and retailer are connected. Conflicts may constitute marketing strategies, safety and quality requirements, the allocation of profits and price policies.[122]

Undoubtedly, possessing a concrete role of stability, cluster organisations within clusters could arrange the divergent interests in relation to the contractual set-up, and ensure that opportunistic behaviour does not occur when contingencies arise, and adaptation is needed. However, this raises questions on how it fits with competition law and whether SMEs as members can remain competitive within a cluster and be in competition with each other. It is noteworthy that the EU has strict competition rules that apply directly in all EU countries, where certain practices by businesses are prohibited to protect free competition. In particular, Article 101 TFEU prohibits agreements between two or more independent businesses which prevent, restrict or distort competition. Also, Article 102 TFEU prohibits any abuse by businesses that hold a dominant position in a given market. The Regulation on the implementation of these Treaty provisions contains the general rules which define, inter alia, the investigative powers of the Commission such as inspection at business premises and more.[123] Therefore, given that SMEs as members of a cluster can maintain their independence,

[119] Ibid 102; Fruin, W. M (2008). *Business groups and interfirm networks* The Oxford Handbook of Business History 248.
[120] Amstutz & Teubner (n 74) 31.
[121] Cafaggi (n 59) 103.
[122] Ibid 104.
[123] Council Regulation (EC) No 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty.

they must not enter into agreements with each other, which would have as their object or effect the prevention, restriction or distortion of competition. In addition, SMEs that hold a dominant position within the market, compared to other SMEs of the cluster, must not abuse that position.

Furthermore, the bilateral contracts between cluster organisations and SMEs as members of clusters with a large extent of the interdependence of resources and capabilities, may govern complex relationships for a long time that are unavoidably incomplete. Usually, a contract fails to deliver clear guidance, because either the situation was not foreseeable at the time of drafting it or the situation, although foreseeable, seems impossible to justify the costs of making a clear provision in the contract.[124] However, due to the gap-filling role of corporate law, statutory amendments, judicial decisions and administrative rulings can look ahead for such situations by adding new rules of company law and/or by interpreting existing rules.[125] Consequently, cluster organisations as central companies within clusters may be able to contribute to the completion of connected contracts, thus decreasing the levels of complexity and uncertainty among the stakeholders.

ii - The nature of cluster organisations

The cluster organisation as a company that coordinates the cooperative activities of the network and bilateral contracts between itself and each member of the cluster of SMEs, may be coincided with the economic phenomenon of the business firm and the legal concept of the corporation. The firm can meet its contractual commitments to the owners of assets that uses, such as workers, investors and creditors, as well as maintaining the surplus or reinvesting it, when the task of management that combines the different inputs used into the production process is performed effectually.[126] In contrast to individuals, the firm has the power via its organisational capacity to perform tasks that require the arrangement of complex cognitive and physical resources.[127] On the other side, the corporation is a legal mechanism and main institutional device, through which the firm can function in present market economies. Thus, it ascribes legal personality to the firm by associating its legal capacity with a specific

[124] Kraakman R (2017) *The Anatomy of Corporate Law: A Comparative and Functional Approac.* Oxford University Press 19-20.
[125] Ibid 20.
[126] Deakin S (2012) 'The Corporation as Commons: Rethinking Property Rights, Governance and Sustainability in the Business Enterprise'. Queen's LJ 37, 339:350.
[127] Aoki M (2010) *Corporations in Evolving Diversity: Cognition, Governance, and Institutions* (OUP) 5; Chandler A (1992) 'Organizational Capabilities and the Economic History of the Industrial Enterprise' Journal of Economic Perspectives 6(3) 79-100.

organisational form.[128] For this reason, the firm can 'undertake activities on a scale and over a period of time that is beyond the capacity of an individual actor or of a number of individuals linked together solely by contract'.[129]

The permanence of the corporation enables and supports the organisational endurance of the firm, which obtains its own rights and responsibilities, and durability that is not normally influenced by the identity of its members who may act as they want.[130] In particular, the entity shielding that emanates from separate legal personality protects the assets of the firm from claims by creditors of its members.[131] Namely, the concept of limited liability as a core feature of the corporation, which is a juridical form of the firm, institutionally expresses the significance of the phenomenon of asset partitioning.[132] In this way, the law permits the continuity of the firm's asset base to be maintained, thus allowing input suppliers to arrange credible commitments for a long period of time.[133] These features of the firm may constitute an important basis for the legal structure of cluster organisations, in which shareholders could be the members of clusters, such as SMEs, universities and research centres, as well as members of civil society and investors.[134]

As it facilitates the partitioning and continuity of assets, separate legal personality has become the central concept for various corporate forms of not only companies limited by share capital.[135] It is the key component also for cooperatives of workers, customer-owned mutuals, charities, non-profit organisations and certain partnerships that are increasingly operating with separate legal personality.[136] Although these forms are important for economic life, they are not typically used as governance ways for business entities in sectors and industries that combine multiple production inputs,[137] such as cluster organisations of clusters should preferably be. In particular, the corporate forms that are strongly linked with the private-sector business firm possess further features that correspond to their functional needs, such as limited liability for shareholders, delegated management under the board and transferable shares.[138] These features constitute key aspects of the agency theory of corporate law, which is a model

[128] Dewey J (1926) 'The historic background of corporate legal personality' Yale Law Journal 35 655–673; Robe J (2011) 'The Legal Structure of the Firm' Accounting, Economics, and Law 1(1) 3.
[129] Deakin (n 126) 352-353.
[130] Davies P & Worthington S (2016) *Gower: Principles of Modern Company Law* Sweet & Maxwell 29.
[131] Kraakman R (2009) *The Anatomy of Corporate Law: A Comparative and Functional Approac*h (OUP) 6.
[132] Hansmann H & Kraakman R (2000) 'Organisational law as asset partitioning', European Economic Review 44, 807–817.
[133] Deakin (n 126) 352.
[134] See above IC section about the obsolete Triple Helix model.
[135] Deakin S (2017) 'The Corporation in Legal Studies': In: Baars G & Spicer A (Eds.). *The Corporation: A Critical, Multi-Disciplinary Handbook* (CUP) 50.
[136] Deakin (n 126) 353-354.
[137] Gintis H (1989) 'Financial markets and the political structure of the enterprise'. Journal of Economic Behavior and Organization 11, 311–322.
[138] Hansmann H & Kraakman R (2001) 'The end of history for corporate law' Georgetown Law Journal 89, 439–468.

stemming from neoclassical economics that views the firm as a nexus of contracts among self-interested individuals.[139]

The agency theory of corporate law exposes the economic structure of the legal rules shaping and governing the business firm by focusing on the ownership rights of the shareholder-centric model, where corporate managers are agents of shareholders and must act entirely with a view to maximising their financial returns.[140] This model became dominant by the turn of the millennium, profoundly affecting corporate governance throughout the world. In particular, there was an emergent consensus for global convergence in most aspects of corporate law and practices around the shareholder primacy norm, largely due to the efficiency gains extensively related to shareholder-centric corporate governance at that time.[141] Nevertheless, the shareholder-centric model seems to have reached the limits of its influence because the increasing association of managerial interests with those of shareholders generated incentives for uncontrolled risk-taking that caused the conditions for the 2007-2009 global financial crisis.[142] Consequently, an alternative normative paradigm to the agency theory that could replace the shareholder-centric model is necessary for the corporate governance of cluster organisations, which may contribute to the effective operation of clusters of SMEs in the EU regions.

From a legal view, shareholders do own their shares, but they are not owners of the firm or the corporation or its assets. Specifically, the firm is not able to be the subject, as such, of an ownership claim because it does not constitute an entity recognised by the legal system.[143] This is due to the fact that the economic form of the business firm is different from the legal notion of the corporation.[144] The firm's assets, including equipment, physical capital, intellectual property and more, are entrusted to the legal subject of the corporation, which cannot be owned because it is a legal person in and of itself. [145] Certainly, share ownership brings with it a set of governance rights for shareholders, such as voting and voice rights, and rights related to any distribution of the firm's surplus.[146] However, this does not mean that they have 'the right to a pro-rata portion of the corporation's assets while it is a going concern'.[147]

[139] Jensen M & Meckling W (1976) 'Theory of the firm: managerial behavior, agency costs and capital structure' Journal of Financial Economics 3, 305–360.
[140] Hansmann & Kraakman (n 138); Macey J (2008) *Corporate Governance: Promises Kept, Promises Broken* Princeton University Press
[141] Ibid.
[142] Deakin (n 135) 54.
[143] Ibid.
[144] Robé J.P (2011) 'The legal structure of the firm', Accounting, Economics and Law 1.
[145] Ibid; Iwai K (1999) 'Persons, Things and Corporations: The Corporate Personality Controversy and Comparative Corporate Governance' The American Journal of Comparative Law 47(4), 583-632.
[146] Deakin (n 142) 49.
[147] Deakin (n 126) 356.

The idea of shareholders as residual claimants of the firm on a regular basis is mainly owing to the agency theory and late 20th-century corporate finance practice, but not to the legal framework of company law.[148] According to this theory, firms with retained earnings should either distribute them to shareholders or return them to the market in the form of dividends and share buy-backs, and also investment should be financed by debt.[149] These practices were unlawful in many jurisdictions, before the 1980s, as they were against the principle of capital maintenance, which favours long-lived investment and the growth of the firm.[150]

It is worth noting that insolvency law elucidates the complexities of property rights within and over the business firm. As the firm approaches insolvency, its shareholders' rights are reduced to such an extent that they potentially lose the status of the residual claimant by surrendering it to the creditors.[151] In fact, it seems that shareholders are virtually invisible in the complicated process under which insolvency law classifies the overlapping claims of lenders, fiscal creditors and workers.[152] Insolvency law uses various techniques to adjust creditors' rights for breaking up the firm against the contingent value to all stakeholders of keeping it as an active entity.[153] When the company is insolvent, the creditors precede, and then the shareholders follow in the process because they have not unconditionally entitled to a proportionate distribution of the liquidation.[154] Also, corporate law allows a firm to enter into insolvency, not for the purpose to protect shareholder equity, but rather to enable the business to survive as an active entity, often through the creation of a new corporate identity. However, an agreed merger or takeover bid by share transfer could facilitate shareholders to withdraw capital from the firm, as well as adjusting their relationship with the other stakeholders to damage them.[155]

The representation of the shareholders as principals by the agency theory is not related to the way in which company law essentially defines their ownership claims.[156] It also cannot come from their potential rights to manage the assets of the firm because this is the role of

[148] Ibid 357.
[149] Jensen M (1986) 'Agency cost of free cash flow, corporate finance, and takeovers' American Economic Review 87, 323–329.
[150] Blair M (2003) 'Locking in Capital: What Corporate Law Achieved for Business Organizers in the Nineteenth Century'. 51:2 UCLA L Rev 387, 454.
[151] Mevorach I (2009) *Insolvency within multinational enterprise groups* (OUP) 488-491
[152] Mevorach I et al (2017) *The Modular Approach to Micro, Small, and Medium Enterprise Insolvency* 53-58. <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2904858 >.
[153] Irit Mevorach identifies the international infrastructure in insolvency law. In: Mevorach I (2015) 'Beyond the search for certainty: addressing the cross-border resolution gap' Brooklyn Journal of Corporate, Financial & Commercial Law 10(1), 183-223:187-191.
[154] Deakin (n 126) 358.
[155] Armour J & Deakin S (2003) 'Insolvency and employment protection: the mixed effects of the Acquired Rights Directive' International Review of Law and Economics 23, 1–23.
[156] Company law generally does not describe shareholders as principals; see *Salomon v A Salomon* and Co Ltd [1897] AC 22.

delegated management.[157] Company law considers the managers as agents of the firm, not of the shareholders, and similarly it may view cluster organisations' managers as agents of each cluster organisation of clusters and not of their members. One of the main functions of the mechanism of separate personality, in addition to serving as the core for a nexus of contracts,[158] is to insulate the board, and via the board that is the firm's management, from the direct pressure of shareholders.[159] In this way, company law systems frame managers' duties as there is no legal system that imposes an obligation on managers to maximise shareholder value irrespective of the impact on other stakeholders, or on the firm's reputation and other assets.[160]

Although company law provides a legal framework of the management function by recognising board autonomy from shareholder pressure, it does not offer a sufficient description of the way that management is organised and works within the firm,[161] which could constitute a helpful basis for the effective operation of cluster organisations in clusters. Employment law, on the other side, conceptualises the power of management to guide the production process as a duty of obedience implied in employment relationships.[162] However, this is not an open-ended duty as an employee does not have to follow an unreasonable, such as dangerous to health and safety, or illegal order.[163] Given that employment law recognises a compromise between subordination and protection against the risk inherent to employment relationships, the exercise of the managerial prerogative depends on taking responsibility for the physical, psychological and economic well-being of the employee.[164]

In addition, employees are granted income rights under employment law, which exceed simple contractual claims,[165] such as in cases of severance and redundancy pay, and are able to obtain voice rights via collective bargaining.[166] Codetermination laws in various countries offer employees a share of control over strategic decisions, but not in the daily management, of the business firm.[167] Codetermination, through employee participation in a supervisory board, works to encourage coalition building and consensus among employees and shareholders.[168] Employee representation in governance processes is institutionally embedded in Germany and

[157] Hansmann & Kraakman (n 138) 24-35.
[158] Deakin (n 142) 56.
[159] Deakin (n 126) 361; Davies (n 130).
[160] Deakin (n 126) 361.
[161] Ibid 361-362; Davies (n 130) Part 3.
[162] Deakin (n 126) 362-363.
[163] See Laws v London Chronicle. In: Deakin (n 126).
[164] Kenner J (2003) *EU employment law: from Rome to Amsterdam and beyond.* Hart.
[165] Ibid 116.
[166] Deakin (n 142) 58.
[167] Kenner (n 164) 239&243.
[168] Pistor K (1999) 'Codetermination in Germany: a sociopolitical model with governance consequences', in Blair M & Roe M (eds.*), Employees and Corporate Governance* Brookings Institution.

a number of other European countries, and is practised in several Asian countries, most notably Japan, despite not being legally mandated.[169] However, this model as a device for insulating managers from shareholder control was considered ineffective in the 1990s and 2000s because the German and Japanese economies were experiencing slow growth, during this period, as opposed to a fast-growing US economy that was based on the shareholder-centric model.[170]

An additional source of legal viewpoints on the role and functions of management is enterprise liability law, which refers to areas of consumer protection law, product liability, vicarious liability, occupational health and safety law, employer's liability and environmental law.[171] For instance, occupational health and safety rules normally identify the specific management position in the firm, and perhaps the individual officer, which is responsible for the safety and sustainability of the workplace.[172] Also, these rules typically impose individual liability on officers and board members who are identified as having relevant managerial capacity. The legal system recognises, through enterprise liability law, that apart from the principle of the firm's responsibility for the dangers that it creates, there is also the risk-bearing capacity of the firm. The firm is able to control the potential hazards through management capacity, thus decreasing the level of harm, and by acting financially to disseminate and differentiate these hazards via insurance.[173]

Consequently, the law shapes the business firm via devices that complement the function of company law, such as enterprise liability law and employment law. This means that although the legal concept of the corporation is to ascribe legal personality to the firm, the fit between them is not precise. The firm is not a legal person, but its legal model is broader than the concept of the corporation and the associated principles and rules of company law, since it additionally includes insolvency law, employment law, competition law, tort law and tax law.[174] As a result, the form of cluster organisations should be shaped by taking into account this fragmentation of the legal model that creates difficulties in fitting the rules of the legal system to the reality of contemporary corporate practice. The most critical issue is stemming from the legal system's limited ability to deal with inappropriate uses of the corporate form. While the corporate form could be used to improve the organisational capacity of the firm, it moreover is in a position to

[169] Deakin S & Adams Z (2015) 'Corporate governance and employment relations' In: Gordon J & Ringe W.J (eds.), *The Oxford Handbook of Corporate Law and Governance* (OUP).
[170] Deakin (n 142) 58.
[171] Deakin (n 126) 363.
[172] Davies (n 159) Part 3.
[173] Merkin R (2012) 'Tort, Insurance and Ideology: Further Thoughts' Modern Law Review 75(3), 301–323.
[174] Deakin (n 126) 365.

avoid liabilities that individuals may not normally avoid, such as using practices relating to creative avoidance and regulatory arbitrage.[175]

Given that the legal system does not recognise managers as the agents of shareholders and the shareholders as owners of the firm, the main juridical features of the firm are not possible to align with the leading economic model of agency theory.[176] The firm as such is ownerless, but in the context of the contemporary market economy, there are multiple, overlapping and probably conflicting property rights and claims,[177] which the legal system aims to adjust and conciliate.[178] While, corporate law is focused on the income, voice and control rights of shareholders, these rights should not exhaust the set of legal claims that potential other stakeholders could have over the asset pool of the business firm.[179] Insolvency law, fiscal law and employment law also identify such claims. Accordingly, the function of these areas of law is to specify the conditions under which several stakeholders that are contributors of inputs can use the firm's resources while is, simultaneously, able to preserve and sustain the asset pool of the firm as a source of productive value.[180] This means that the business firm is a *commons*,[181] and by extension the cluster organisation, which could be considered as the central business of the cluster, could operate based on a commons approach.

The legal system should preserve this commons in order to produce a surplus for the participants, directly involved in the production process, and the society as a whole. According to the theory of commons regarding governance in common pool resources, the commons is not a space without ownership.[182] Contrariwise, it is characterised by multiple and overlapping property rights that are correlated in several ways in order to preserve the shared resource on which the well-being of every stakeholder group ultimately depends, both individually and collectively.[183] Therefore, instead of adopting the perceptions derived from the economic model of agency theory, considering the cluster organisation as commons seems to be the appropriate approach for the conceptualisation of its legal structure. In this way, cluster

[175] Ibid 365.
[176] See above.
[177] See generally: Douglass C North (1990) *Institutions, Institutional Change and Economic Performance.* (CUP).
[178] Jensen M & Meckling W (1976) 'Theory of the Firm: Managerial Behavior, Agency Costs, and Capital Structure'. *Journal of Financial Economics* 3, 305-360.
[179] For instance, employee involvement Art 50(2)(g) TFEU; See also Kenner J (2005) Worker involvement in the societas Europaea: integrating company and labour law in the European Union?'. Yearbook of European Law. 24, 223-259; Vanessa Edwards V (1999) *EC Company Law* Clarendon Press.
[180] Deakin (n 126) 368; Kochan T. A & Rubinstein S.A (2000) 'Toward a Stakeholder Theory of the Firm: The Saturn Partnership' Organizational Science 11(4) 367.
[181] Deakin (n 126) 368; Ostrom E (1990) *Governing the Commons: The Evolution of Institutions for Collective Action.* (CUP).
[182] Ostrom (n 181); Ostrom E (2005) *Understanding Institutional Diversity* Princeton University Press.
[183] Deakin (n 142) 57.

participants would be able to contribute to inputs, by drawing on the resources, and at the same time preserve and sustain the value of the cluster organisation's asset base.

Conclusion

The EU has designed the EU cluster policy to support the business networks, such as the clusters of SMEs, and established relevant institutions to facilitate cluster organisations in providing a coordinating function as network centres. This chapter identifies however existing key issues and legal challenges related to the operation of these networks in the EU. In particular, there is only a small number of high-performing clusters and many sectoral industries and regions are without cluster strength, thus causing adverse effects on the dynamism of cluster organisations. Compared to other large economies, the EU is also experiencing low levels of specialisation which is necessary for a targeted and effective EU cluster policy.

To address these issues, a new EU cluster policy can be designed and implemented under a unified system, which may operate within a regulated environment for the clusters of SMEs. A single institutional model could therefore contribute to the shaping and direction of the EU cluster policy for the cluster actions to become more effective. For this purpose, it is important to clarify the scope, approach and targeting of clusters as well as identifying the suitable degree of their autonomy. To reduce the waste of public resources for clustering, however, institutional coordination and policy instruments may also be formed to arrange direct and indirect support to clusters according to a recognised evaluation mechanism. Nevertheless, there are legal challenges as business networks cannot fall under the legal categories of either contracts or corporations. These forms of economic coordination among multiple parties seem to be understood as compilations of bilateral contracts rather than corporations. Multilateral associations, joint ventures, franchises, and others are business networks but none of them has formed an independent legal entity, which would be legally responsible, and to which the parties owe loyalty duties.

The incompatibility of networks with the legal categories of contract and corporation corresponds approximately to the division between market and firm. The networks of clusters of SMEs, however, could be a distinctive form, as an alternative type of economic organisation with protected network relations similar to how the law allows the organisation of firms and markets. This form could be placed as a legal category to the conjunction of the vertically

integrated firm and mass consumer markets, as an analogue to the network form of the corporate guild in the medieval era. The members of each cluster such as SMEs, therefore, could be connected via contracts with the corresponding cluster organisation, which may operate as a central company to ensure a solid form of business networking. Instead of adopting the perceptions derived from the economic model of agency theory, this company may be regarded as commons because it can undoubtedly consist of multiple, overlapping and potentially conflicting property rights and claims. Thus, considering the cluster organisation as commons seems to be the appropriate approach for the conceptualisation of its legal structure.

CHAPTER 3: Global challenges for clustering of SMEs

Introduction

An appropriate EU legal framework may contribute to high cluster strength and performance for the business clustering of SMEs in the EU. A combined contractual and corporate legal structure based on SMEs connected via contracts with the cluster organisation, might be an effective way for clusters to operate as commons for the benefit of society and the economy.[1] The development pattern of the clustering of SMEs might be applicable in many sectors of the European economy, but the question is which of them could ensure high levels of cluster strength and performance. For this reason, it would be useful to identify the most competitive sectors of the economy to cope with global challenges for the effective internationalisation of clusters of SMEs, since the pressures of globalisation are growing and the global competition is increasingly intensifying.

Accordingly, this chapter aims to argue that the EU cluster policy may focus on sectors related to high-quality agro-food goods because clusters of SMEs associated with the agro-food supply chain could be the most competitive European clusters. To this end, this chapter initially discusses the competitive pressures for the EU industry stemming from the economic challenges in the global markets. Then, it explains how the EU's strict approach to industrial, labour and environmental standards affects the business production process, as well as examining the role of innovation in productivity and competitiveness. In addition, this chapter stresses the importance of the global reach of EU law as an advantage for clustering by considering the necessary conditions that make the EU a global regulatory power. It also analyses limitations for the externalisation of EU rules in various fields, and explores how the EU can exercise regulatory authority in the policy areas of environmental protection, health and food safety, which constitute fundamental determinants for high-quality agro-food goods.

[1] See Chapter 2.

I - Competitive pressures for the EU industry

A - Internationalisation of clusters of SMEs

The EU has developed various initiatives, such as the European Strategic Cluster Partnerships, which aim to facilitate the international activities of business clusters into global value chains. In this way, clusters of SMEs in the EU could possess a central role in the process of internationalisation, thus taking the responsibility for the relevant endeavours of their participants and helping them in their international orientation. Nonetheless, they should cope with challenges relating to competitiveness in the global economy.[2] The fast growth in developing countries last decades has changed the correlations in terms of economic power, thereby tending their overall wealth to surpass that of the developed countries.[3]

This global structural transformation has been accelerated by the multiple crises in the EU,[4] and long-term predictions indicate that developing countries are likely to account for roughly 60 per cent of world GDP by 2030.[5] More specifically, the economic recovery in the EU seems to be relatively inadequate because the EU focuses mainly on the consolidation of financial systems rather than the strengthening of the real economy in order for entrepreneurs and businesses to deliver concrete goods and services.[6] Consequently, since the competitive pressures from developing countries are constantly growing, it is important for the EU's economic growth to be based on the production of goods with comparative advantages over other parts of the world.

Exports to markets outside the EU may become a solid foundation for the socio-economic development in the EU regions.[7] Especially major markets in emerging economies such as China, India and Brazil, would provide opportunities for the European clusters to compete globally. Accordingly, the new EU industrial policy may focus on strengthening the business environment by boosting the development of a sustainable and strong industrial base, which could be a central element for the internationalisation of clustering. However, in the past decades, manufacturing industrial production has declined in the EU due to strong competition

[2] This tendency can be noticed by considering World Banks' Global Economic Prospects from 2008 to date. World Bank 'Global Economic Prospects'. <https://www.worldbank.org/en/publication/global-economic-prospects>.
[3] IMF 'World Economic Outlook'. <https://www.imf.org/en/publications/weo>.
[4] See Thesis Introduction.
[5] OECD 'Data' <https://data.oecd.org/>.
[6] Vacca V. P et al. (2021) 'Measuring the impact of a bank failure on the real economy: An EU-wide analytical framework' ESRB Working Paper Series.
[7] European Commission, Communication 'Small Business, Big World' COM(2011) 702 final 2.

from the developing world.[8] The European industrial output is notably low since low-cost products manufactured in emerging economies have flooded the European and international markets. For instance, manufacture in China increased its exports globally during the period of trade recession as they managed to gain larger shares in relation to their competitors from the EU, Japan and the United States.[9]

Businesses operating across the EU in manufacturing sectors face difficulties to compete with the centres of mass production in developing countries. In particular, there are competitive pressures from cost-effective locations, and for this reason large businesses have outsourced their production activities to these parts of the world.[10] These businesses have followed the procedure of gathering together operations, putting various activities anywhere they are done best, without giving much attention to geographical boundaries. In this way, they are able to easily move to locations where they can manufacture products at the lowest cost and with the least regulatory interference regarding industrial and labour standards and environmental rules.[11] As a result, the European clusters of SMEs could compete hardly against large businesses that gain in the global competition due to the advantages stemming from the production process in other locations.

B - EU approach to industrial, labour, and environmental standards

The EU institutions foster industrial standards that are technical specifications defining requirements for products, services and production processes, which ensure interoperability and safety. These requirements could be vital elements for the internationalisation of clustering as they facilitate businesses' integration in the value chain and trade. In contrast to other parts of the world, the EU has a standardisation policy that supports standards as a method to strengthen regulation for the protection of health, safety, and security.[12] However, the proliferation and increased stringency of rules constitute a source of concern among many developing countries. Rules regarding food safety and agricultural health standards are

[8] Eurostat 'Industrial production (volume) index overview' <http://ec.europa.eu/eurostat/statistics-explained/index.php/Industrial_production_(volume)_index_overview >.
[9] European Commission 'European Competitiveness Report 2014' 19-20; World Economic Forum, 'The Global Competitiveness Report 2015–2016' xv,3
[10] See Thesis Introduction.
[11] European Commission, Communication 'For a European Industrial Renaissance' COM(2014) 14 final 8.
[12] Regulation (EU) No 1025/2012 on European standardisation.

perceived as a barrier to the exports of their agro-food goods.[13] On the other side, EU food law focuses on protecting human life and consumer interests in food, as well as ensuring the effective functioning of the internal market.[14]

Article 168 TFEU requires 'a high level of human health protection' for all EU policies and activities. In particular, the EU has put in place specific legislation and administrative measures regarding product safety and procedures to develop and implement product standards. In 1985, the Commission adopted the New Approach to technical harmonisation and standards to facilitate the integration of the internal market,[15] and subsequently the European legislator made broad use of standards to support the EU legislation. Furthermore, the New Legislative Framework was adopted in 2008 to improve market surveillance and the quality of conformity assessments, as well as clarifying the use of CE marking,[16] and designing measures for use in product legislation.[17] Through the alignment of relevant directives and regulations, the Commission also aims to harmonise legislation and implement a common framework regarding specific products.[18]

The evolution of standardisation policy in the EU is influenced by the EU's Better Regulation initiative and the REFIT programme, which aim to enhance transparency, simplify rules and implement the principle of proportionality.[19] Given that the development of standards is mostly initiated by market needs, European standardisation constitutes a consensus-building process that involves a number of key players such as the European Committee for Standardisation, the European Committee for Electrotechnical Standardisation and the European Telecommunications Standards Institute. An important role in the European standardisation process is also played by the National Standardisation Bodies of EU and EFTA countries, the Small Business Standards association representing SMEs, and relevant public authorities and bodies that support environmental, consumer, and trade union interests.

[13] Neeliah S et al (2013) 'Assessing the relevance of EU SPS measures to the food export sector: Evidence from a developing agro-food exporting country'. Food Policy 41, 53–62:53; Santeramo F. G & Lamonaca E (2021) 'On the trade effects of bilateral SPS measures in developed and developing countries' The World Economy.
[14] Regulation (EC) No 178/2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety; European Commission 'White Paper on Food Safety' COM(1999) 719 final.
[15] European Commission 'Technical harmonization and standards: a new approach' COM(85) 19; Council Resolution of 7 May 1985 on a new approach to technical harmonization and standards.
[16] The letters 'CE' appear on many products traded on the extended Single Market in the European Economic Area (EEA). They signify that products sold in the EEA have been assessed to meet high safety, health, and environmental protection requirements.
[17] The New Legislative Framework mainly consists of: Regulation (EC) No 765/2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products; Decision No 768/2008/EC on a common framework for the marketing of products; Regulation (EC) No 764/2008 laying down procedures relating to the application of certain national technical rules to products lawfully marketed in another Member State.
[18] Proposal on general product safety COM/2021/346 final.
[19] See Chapter 1.

As regards labour standards, according to the preamble of the TFEU, the EU's goal is to foster social progress and enhance the living and working conditions of Europeans. This could offer an appropriate environment for the clustering of SMEs. Regarding labour law, the EU complements policy actions of individual Member States by adopting directives that establish minimum standards for working and employment conditions, as well as informing and consulting workers. Then, individual Member States are in a position to give additional levels of protection if they want. For example, while the EU's Working Time Directive provides workers with four weeks of annual paid leave,[20] some Member States have opted for a more generous entitlement. In the light of the relevant case law in *SIMAP* and *Jaeger*,[21] this directive can 'allow for more flexibility in the organisation of working time whilst protecting the health and safety of individual workers in their working environment'.[22] It is worth noting that for this area of directives, Article 153(2) TFEU states that 'minimum requirements for gradual implementation, having regard to the conditions and technical rules obtaining in each of the Member States'.

As EU rules aim to prevent the exploitation of workers, many large businesses have been practising social dumping by creating factories with low-cost labour in developing countries.[23] The collapse of the factory in Bangladesh (Rana Plaza tragedy) that killed over 1100 factory workers in 2013 is a stern reminder of the dangers of cheap production in the global industry,[24] as international trade law encourages a comparative advantage for developing countries through lower labour standards.[25] In contrast, EU trade legislation seeks to address insufficient safety issues and labour practices through negative conditional.[26] A number of cases in the CJEU concerned social dumping issues and the interplay between rights of industrial relations and the freedom to provide services. In *Viking* and *Rüffert*,[27] the CJEU imposed limitations on efforts to use collective bargaining and the right to strike as measures to combat social dumping. It ruled that although the right to industrial action constitutes a restriction of the freedom to provide cross-border services, it can be justified under certain circumstances.

[20] Directive 2003/88/EC concerning certain aspects of the organisation of working time, Article 7(1).
[21] Case C-303/98, *SIMAP v Conselleria de Sanidad y Consumo de la Generalidad Valenciana* [2000] E.C.R 1-7963; Case C-151/02, *Landeshaupstadt Kiel v Jaeger* [1993] ECR I-8389.
[22] Kenner J (2004) 'Re-evaluating the concept of working time: an analysis of recent case law'. Industrial Relations Journal 35(6) 599; Kenner J (2004) 'Working time, Jaeger and the seven-year itch'. Columbia Journal of European Law. 11(1) 53-76:56.
[23] Rodrik D 'Straight Talk on Trade' (Project Syndicate 2016).
[24] The New York Times 'Bangladesh's Workers Deserve Better' 18 August 2013.
[25] Wettstein, F et al. (2019) 'International Business and Human Rights: A Research Agenda' Journal of World Business. 54(1), 54-65:59
[26] Regulation (EU) 2016/1036 on protection against dumped imports from countries not members of the European Union.
[27] Case C–438/05, *International Transport Workers' Federation and Finnish Seamen's Union v Viking Line ABP* [2007] ECR I–10779; Case C-346/06, *Dirk Rüffert v Land Niedersachsen* [2008] ECR I-01989.

Additionally, in *Laval,*[28] the CJEU seems to place the rights of businesses above those of posted workers because it ruled that industrial action cannot be allowed as a constraint on the freedom to provide services.[29] It decided that collective action is admissible under the Posting of Workers Directive,[30] in circumstances where a business fails to meet the host Member State's minimum protection standards.[31] This directive defines a set of mandatory rules to 'avoid social dumping, where foreign service providers can undercut local service providers because their labour standards are lower'.[32] Subsequently, the adoption of the Enforcement Directive[33] was a crucial reaction to the issues of combating fraudulent practices that further the unfair competition against SMEs and weaken the protection of posted workers. In this context, the revised directive considers that posted workers are entitled to the same wage and working conditions as local workers,[34] even though there are strong objections from the Member States that send posted workers.

Concerning environmental issues, large businesses move their production activities to emerging economies that are among the top polluters in the world because of their numerous factories.[35] Due to the absence of suitable environmental laws, the Asian Brown Cloud continues to threaten the Asian Monsoon which is vital for feeding two-billion people.[36] Instead of this, the EU environmental rules aim to reduce pollution,[37] repair businesses that harm the environment and encourage the development of environmentally friendly businesses.[38] which could participate in clustering. Furthermore, in *Etang de Berre*,[39] the CJEU found to be a legitimate exercise of EU competence and the Member States must comply with water protection measures, according to the Protocol[40] for the protection of the Mediterranean Sea

[28] Case C-341/05, *Laval Un Partneri Ltd v Svenska Byggnadsarbetareförbundet*, [2007] ECR I-11767 *(Laval).*
[29] Ibid para.99.
[30] Directive 96/71/EC concerning the posting of workers in the framework of the provision of services, Article 3.
[31] *Laval*, para108.
[32] European Commission 'Posted workers' <https://ec.europa.eu/social/main.jsp?langId=en&catId=471&newsId=2488&.">.
[33] Directive 2014/67/EU on the enforcement of Directive 96/71/EC concerning the posting of workers in the framework of the provision of services.
[34] Directive 2018/957/EU amending Directive 96/71/EC concerning the posting of workers in the framework of the provision of services.
[35] World Resources Institute 'Climate' <https://www.wri.org/insights/interactive-chart-shows-changes-worlds-top-10-emitters.>.
[36] UNEP 'South Asia Environment Outlook' 2014, pp. xix-xxv; Sharma S et al. (2016) Atmospheric Brown Clouds. Oxford Research Encyclopedias: Environmental Science. DOI: 10.1093/acrefore/9780199389414.013.47. Corrections to the paper on January 2018.
[37] TFEU, Article 191.
[38] Conclusions of the Council of 6 and 7 June 2002 on enterprise policy and sustainable development; Conclusions of the Council of 14 and 15 May 2001 on a strategy for integrating sustainable development in the European Union's enterprise policy.
[39] Case C-239/03, *Commission of the European Communities v French Republic* [2004] ECR I-09325.
[40] Protocol for the protection of the Mediterranean Sea against pollution from land-based sources, signed at Athens on 17 May 1980 and approved on behalf of the European Economic Community by Council Decision 83/101/EEC [1983] OJ L67, Art. 6(3).

against pollution from land-based sources of the Barcelona Convention,[41] which protects saltwater marshes such as the Etang de Berre.[42]

Concurrently, the WTO takes into account the efforts by the EU for integrating sustainable development and environmental protection. Under GATT XX(b)&(g), on General Exceptions, WTO members 'may adopt policy measures that are inconsistent with GATT disciplines, but necessary to protect human, animal or plant life or health, or relating to the conservation of exhaustible natural resources'.[43] For instance, in *European Communities-Asbestos,*[44] the Appellate Body found that the import ban by EU countries, on asbestos and asbestos-containing products, is justified as an exception under GATT XX(b).[45] Based on scientific evidence, it ruled that the 'chrysotile asbestos fibres, and chrysotile-cement products, constitute a risk to human health'.[46]

Similarly, in *EU-seals,* the Appellate Body found that the EU's ban on imported seal products is justified under the right to protect public morals, particularly on the basis of protecting animal welfare.[47] The EU Seal Regime, which bans the sale of seal products in all Member States, is the core measure of the case.[48] To mitigate its impact, however, the EU provided an exception from the ban regarding the seal products obtained from hunts undertaken by Inuit or indigenous communities, and hunts done for purposes related to marine resource management.[49] The Appellate Body found that this variance in treatment might be justified in principle under the exception of GATT XX(a) for public morals, but the EU had failed to draft laws to avoid arbitrary discrimination.[50] Accordingly, the ban was amended through the adoption of a new EU Regulation in 2015,[51] to reflect the outcomes of WTO rulings that enhance the EU's efforts to protect the environment.

[41] The Convention for the Protection of the Mediterranean Sea Against Pollution (The Barcelona Convention) adopted on 16 February 1976; The amended Convention 'Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean' has entered into force on 9 July 2004.
[42] Case C-239/03, para78.
[43] WTO 'WTO rules and environmental policies: GATT exceptions' <https://www.wto.org/english/tratop_e/envir_e/envt_rules_exceptions_e.htm.>.
[44] WTO: Appellate Body, *European Communities - Measures Affecting Asbestos and Asbestos-Containing Products*, WT/DS135/AB/R, adopted 5 April 2001.
[45] Ibid paras 174-175.
[46] Ibid para 162.
[47] WTO: Appellate Body, *European Communities – Measures Prohibiting the Importation and Marketing of Seal Products*, WT/DS400/AB/R, WT/DS401/AB/R, adopted 18 June 2014.
[48] EU Seal Regime: Regulation (EC) 1007/2009 on trade in seal products, and Regulation (EU) 737/2010 laying down detailed rules for the implementation of Regulation (EC) No 1007/2009.
[49] Regulation (EC) No 1007/2009, Article 3.
[50] WTO: Appellate Body (n 44) para 6.1.
[51] Regulation (EU) 2015/1850 laying down detailed rules for the implementation of Regulation (EC) 1007/2009.

C - The paradox of the technological innovation

Owing to the strict attitude of the EU concerning industrial and labour standards and environmental rules, the cost-effective locations in developing countries offer important economic advantages for businesses to manufacture products. For this reason, the EU should react by identifying ways to increase its competitiveness and productivity, and hence may assist the clusters of SMEs to gain access to global markets. The new EU industrial policy focuses on the reinforcement of industrial innovation, aiming to enhance EU competitiveness.[52] However, the question is whether a focus on innovation alone could be enough for the EU to encounter the current global challenges and support clustering.

The revolutionary developments in technology areas such as digitisation, artificial intelligence and biotechnology, signal the threshold of a new age wherein the living standards around the world will increase faster than ever before.[53] While these advances seemingly should have enhanced productivity, statistics however confirm that the economy-wide benefits of technological innovation will remain limited.[54] In the United States, which is a world leader in the development of new technologies, the employment productivity growth of the business sector during the period 2004-2014 is less than 50 per cent of the previous decade.[55] Namely, the scope and scale of new technologies that are rapidly advancing, coexist with unsatisfactory implications for productivity growth.[56] Accordingly, it is important to consider whether these innovative achievements will remain concentrated in a small number of tech-intensive sectors that employ the highest skilled specialists and represent a minor percentage of GDP, or whether they will be dispersed throughout most of the economy.

The effects of innovation on productivity depend on the pace of technological diffusion through product and labour markets, which can be defined by both the demand-side and supply-side of the economy.[57] Regarding the demand-side, consumers in developed countries spend most of their income on services related to sectors where innovation has a comparatively low

[52] European Commission, Communication 'A New Industrial Strategy for Europe'.COM(2020) 102 final 1; European Commission, Communication 'Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe's recovery' COM(2021) 350 final.
[53] Brynjolfsson E & McAfee A (2016) *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*, W. W. Norton & Company.
[54] Ortega-Argiles R & McCann P (2021) 'The Innovation-Productivity Paradox'. In: Background paper for the OECD-EC High-Level Expert Workshop Series Productivity Policy for Places; OECD The Future of Productivity' (Preliminary Version) 2015, 9-14.
[55] Fernald J (2015) 'Productivity and Potential Output before, during, and after the Great Recession' In: Parker J & Woodford M. NBER Macroeconomics Annual 29, University of Chicago Press, 26-27.
[56] Rodrik D 'Innovation Is Not Enough' (Project Syndicate 2016).
[57] Dervis K & Qureshi Z 'Probing the Productivity Paradox' (Project Syndicate 2016).

impact so far, such as health, housing, transportation, and retail products.[58] Indicatively, in the United States health care and government services that together generate more than a quarter of GDP share, have practically no productivity growth, while media and Information and Communication Technology (ICT) industries with less than 10 per cent of GDP, have experienced the fastest productivity growth since 2005.[59] Perhaps, the vast productivity benefits remain delayed because of lags in the introduction of technology in various sectors.[60]

However, these gaps may constitute a structural and enduring feature of the current economies owing to the low level, in terms of productivity impact, of recent and prospective innovations compared to previous technological achievements.[61] Digital revolutions seem to be less significant than those that preceded them, such as the internal combustion engine and electrification that penetrated every sector of the economy, and hence changed fundamentally the way that ordinary people live.[62] Undoubtedly, technological developments stimulated considerable productivity growth from the mid-1990s to the mid-2000s, but most of the benefits from related innovations were in that period and subsequent alterations were more incremental than transformative.[63]

Concerning the supply-side of the economy, in developed countries, there was no restriction typically for innovations in accessing the skills and capital needed to spread across economies.[64] However, since the new technologies required demand for new higher-level skills,[65] their adoption and diffusion have been hampered, thus tending to limit productivity gains and contributing to higher wage inequality.[66] This is because the phenomenon of skill-biased technological change,[67] where workers, mainly from lower income groups, are slow to respond due to the lags in education and training, and labour market rigidities.[68] The problem in the supply-side of the economy facing emerging economies was more debilitating because

[58] Rodrik (n 56).
[59] McKinsey Global Institute (Report) 'Digital America: A tale of the haves and have-mores' December 2015, 51-66; MTakada Henry-Nickie, Kwadwo Frimpong, and Hao Sun Friday, Trends in the Information Technology sector, Brookings (Report) March 29, 2019.
[60] Brynjolfsson & McAfee (n 53) 99-106; Carlsson-Szlezak P & Swartz P (2021) The secret of productivity growth is not technology. World Economic Forum.
[61] Gordon R (2016) *The Rise and Fall of American Growth: The U.S. Standard of Living since the Civil War*, Princeton University Press 1-25; Korinek A & Stiglitz J. E (2021) 'Artificial intelligence, globalization, and strategies for economic development' National Bureau of Economic Research 35.
[62] Ibid 566-603.
[63] Fernald (n 55).
[64] OECD, 'Compendium of Productivity Indicators 2021'.
[65] Korinek & Stiglitz (n 61) 19.
[66] OECD 'Labor Market Mismatch and Labor Productivity: Evidence from PIAAC Data' OECD Economics Department Working Papers (2015) 20, 29; Brunello P & Wruuck P (2021) 'Skill shortages and skill mismatch: A review of the literature' J Econ Surv 35, 1145–1167:1158.
[67] Card D & DiNardo J (2002) 'Skill-Biased Technological Change and Rising Wage Inequality: Some Problems and Puzzles'. Journal of Labor Economics 20(4) 733-783.
[68] Qureshi Z 'The productivity outlook: Pessimists versus optimists' (Brookings Institution 2016).

their workforce was mostly low-skilled.[69] This was not a disadvantage for the industrialisers as long as manufacturing comprised labour-intensive assembly operations, such as automobiles and garments, where unskilled factory workers were able to practically make substantial productivity gains for the economy.[70]

The limitations of the supply-side of the economy emerged when robotised operations that require higher-level skills penetrated the manufacturing sector, which was traditionally a quick escalator to higher-level incomes.[71] Thus, the current developing world may be faced with the consequences of premature deindustrialisation, in which the achievement of economy-wide productivity growth becomes more difficult for low-income countries and, by extension, the emerging economies could lose their comparative advantage against the developed world.[72] For this reason, the developing countries have invested heavily in innovation, similar to some developed non-EU countries, during a period when financial problems, market uncertainty and absence of confidence are restraining it in the EU.[73] Accordingly, the global innovation capacity is growing, mainly in the emerging economies that nowadays possess well-educated populations with an extraordinary level of expertise.[74]

Nevertheless, in several parts of the world, such as Latin America and the United States, economy-wide productivity has stagnated to a great degree, regardless of the remarkable innovation investments in vanguard sectors and the best-managed firms.[75] This paradox may be a result of the phenomenon of growth-reducing structural change, in which the displaced workers end up in less productive activities,[76] due to the possible technological dualism in the economy, where the most productive activities are not expanding quickly enough.[77] Therefore, innovation is able to coexist with low levels of productivity, and inversely productivity growth may be feasible in the absence of innovation. This happens in cases where resources are

[69] Korinek & Stiglitz (n 61).
[70] Rodrik (n 56); Amirapu A & A. Subramanian, 'Manufacturing or services? An indian illustration of a development dilemma', (Center for Global Development and Peterson Institute 2015).
[71] Rodrik D (2016) 'Premature deindustrialization'. Journal of Economic Growth 21(1). 1–33:3; Timmer M (2012) 'The world input-output database (WIOD): Contents, sources and methods'. WIOD Working Paper Number 10, 2012.
[72] Ibid.
[73] OECD 'Science, Technology and Innovation Outlook' OECD Publishing 2022; OECD 'G20 Innovation Report' (Nov 2016) 6.
[74] OECD 'Innovation in Southeast Asia' OECD publishing 2013; Reinhilde V 'The world innovation landscape: Asia rising?' Bruegel (2013) 2.
[75] For Latin America see: Pages C et al 'The Age of Productivity: Transforming Economies from the Bottom Up' (2010) 45-68; Allub L 'Reasons Behind Low Productivity in Latin America' Developing Bank of Latin America (2019); For the US see: The Economist (Intelligence Unit), 'Productivity: the problem plaguing the economy', 14 August 2015.
[76] McMillan M et al (2014) 'Globalization, Structural Change, and Productivity Growth, with an Update on Africa'. World Development 63, 1–32:18-25; Brynjolfsson E et al. (2019) 'Artificial Intelligence and the Modern Productivity Paradox: A Clash of Expectations and Statistics' The Economics of Artificial Intelligence.
[77] For the phenomenon of "technological dualism" see: Higgins B (1956) 'The "Dualistic Theory" of Underdeveloped Areas'. Economic Development and Cultural Change 4(2) 99-115.

directed to the more productive sectors, thus proving that 'it is the economy-wide productivity consequences of technological innovation, not innovation *per se*, that lifts living standards'.[78] Thus, innovation alone is not enough for the EU to address global challenges and support clustering. In fact, innovation reflects ideas that add value and solve societal challenges by responding to social needs and providing solutions to the problems of people.[79] Consequently, the EU should focus on innovative initiatives that add value in specific sectors of the economy which have a comparative advantage against the global competitors. In those sectors, the clusters of SMEs could be in the position to operate based on principles for the most efficient and coherent use of existing resources that are vital for the socio-economic development of the EU.

II - The importance of the global reach of EU law for the clustering of SMEs

A - The EU as a global regulatory power

The clustering of SMEs could be applied in specific sectors of the EU economy to turn innovative ideas into jobs and socio-economic development. To that end, it is necessary to identify the competitive characteristics of the EU, which could differentiate it from the rest of the world. In principle, the EU is a *sui generis* international organisation that has all the features of a supranational state, but it is certainly not a state because it emerged and functions in an entirely different way. A state emerges due to the political necessity for mechanisms that could achieve to mediate and reconcile the conflict of interests among individuals, groups and classes, taking them out of the realm of particularity into the realm of concrete universality.[80] As a form of a political association, democratic or not, the state consists of a number of institutions that attempt to consolidate their legitimacy on the society in order to create a sufficient degree of power to equilibrate social conflicts, and hence provide a higher element of rationality and efficiency to the population.[81]

In contrast, the EU emerged as an international entity designed to initially integrate the heavy industry in North Europe via the administrative agency European Coal and Steel

[78] Rodrik (n 71).
[79] Poole M S et al. (2004) *Handbook of Organizational Change and Innovation*, (OUP) xi-xii.
[80] Hegel G W F, *Elements of the philosophy of right*, § 257-258. In: Hegel G W F (2015). *The philosophy of right*. Hackett Publishing.
[81] Weber M (1922) *Economy and Society*; Weber M (1978) Economy and society: an outline of interpretive sociology (1922). Berkeley: U of California.

Community (ECSC).[82] Subsequently, this supranational organisation included other groups, such as farmers by the adoption of the Common Agricultural Policy (CAP),[83] which was an outcome of the inexhaustible perseverance by the side of France because it had, as an agricultural country, a particular national interest.[84] The aim was for the EU to handle prices and reallocate the resulting profits, through a specially designed bureaucracy in Brussels, to avoid possible tensions among the strategically important industries of European countries.[85] Therefore, there is an enormous disparity between a state that appears as a political need to equilibrate social conflicts and the technocratic administration in Brussels that seeks to surround industries and regulate markets. This difference may be a potential factor to explain why the EU tends to be comparatively a dominant regulatory regime, which can exercise unilateral influence by regulating markets and setting global rules across various areas of law.

Indeed, many EU rules and regulations have an impact on the daily life of citizens throughout the world as they have infiltrated into a range of aspects of the economy, inside and outside of Europe, via the phenomenon of the *Brussels Effect* which refers to the EU's unilateral power to regulate global markets.[86] This leads to unilateral regulatory globalisation, which happens when one jurisdiction is in a position to convey, through market mechanisms, its laws outside its territory, thus forcing the globalisation of standards.[87] The EU seems to be a unilateralist and hegemonic global regulatory power that uses market access as a means to leverage the externalisation of its normally demanding norms abroad.[88] However, the Brussels Effect is a completely different phenomenon either from unilateral coercion that imposes rules through sanctions and threats or from political globalisation of standards in which regulatory convergence derives from negotiated standards among regulatory authorities.[89] Instead, the Brussels Effect is based on an evolutionary process of law when it migrates from one jurisdiction that does not actively impose it into another that does not willingly adopt it.[90]

[82] Treaty establishing the European Coal and Steel Community (ECSC Treaty signed in Paris in 1951); The US Secretary of State, Dean Acheson, noted that the ECSC was "a clever cover for a gigantic European cartel for coal and steel producers", In: Acheson D (1969) *Present at the Creation. My Years in the State Department* Norton 383-384.
[83] TFEU, Articles 39 & 40; Common Agricultural policy (adopted in 1962); see also Majone G (1993) The European Community between social policy and social regulation. J. Common Mkt. Stud. 31, 153.
[84] Young J (1996) *Cold War Europe, 1945-1991: A Political History*. 2nd ed., Arnold 107.
[85] Rosamond B (2000) *Theories of European Integration* Palgrave 51-54.
[86] Bradford A (2012) 'The Brussels Effect' Northwestern University Law Review 107(1):1-67.
[87] Bradford A (2020) *The Brussels Effect: How the European Union Rules the World* (OUP, 2020) xiv.
[88] Scott J (2014) 'Extraterritoriality and Territorial Extension in EU Law'. American Journal of Comparative Law, 62(1) 87-125:88.
[89] Bradford (n 86) 4. Bradford gives relevant examples: (a) the US imposed sanctions to compel other countries to adopt stricter rules in areas such as antiterrorism and drug enforcement, (b) Kyoto Protocol to the United Nations Framework Convention on Climate Change as regards the political globalisation of standards.
[90] Bradford (n 86) xiv-xv.

The EU seems to fulfil the conditions under which it can externalise effectively its regulatory power to other parts of the world, thus showing that the EU's rules have a substantial influence on global commerce.[91] Its ability as a predominant regulator that can export norms, is explained by the determinants of the Brussels Effect. In particular, the EU jurisdiction has 'a large domestic market, sufficient regulatory capacity, preference for stringent standards, tendency to regulate inelastic targets, and non-divisibility of production'.[92] Namely, the advantages of adopting a uniform global standard are bigger than the advantages of adhering to multiple, including laxer, regulatory standards.[93] Therefore, the EU's global regulatory power would constitute a comparative advantage, which may be considered as a starting point for identifying competitive sectors of the economy for clustering.

The EU jurisdiction is applied in one of the world's largest markets that offers adequate market power to wield regulatory authority over other jurisdictions.[94] Given that the regulatory power is linked with the related market size, trade actors are opting for the adoption of standards that prevail in the most important markets to ensure access to them.[95] Thus, the Brussels Effect is more possible to occur when the sales in the market of the strict jurisdiction are higher than the sales in the lenient markets. Furthermore, businesses assess the value of market access by evaluating the adjustment costs needed to enter a new market. This is because the significant but lower adjustment costs in relation to the benefits of access in a larger and strict market encourage the implementation of the particular adjustment.[96] Consequently, as the EU internal market is the biggest consumer market worldwide comprised of a large percentage of potential consumers,[97] numerous businesses are prepared to undertake major adjustment costs to maintain their ability to supply their products and services in the EU countries.

Nevertheless, the large market size alone is not a sufficient factor to explain that the EU is a regulatory power. The EU consciously pursued to become a source of global standards because it has the regulatory capacity to convert the market power into concrete regulatory influence.[98] Since an essential component of regulatory capacity is the existence of a sanctioning authority for cases of noncompliance, the EU has developed relatively high levels

[91] Young A (2015) 'The European Union as a global regulator? Context and comparison'. Journal of European Public Policy 22(9) 1233-1252:1235-1236.
[92] Bradford (n 87) 63.
[93] Bradford A (2015) 'Exporting standards: The externalization of the EU's regulatory power via markets' International Review of Law and Economics 42,158–173:161.
[94] The EU is one of the largest economies in the world with 500 million consumers and a GDP over $17 trillion, and it is the largest consumer market in the world. In: IMF, World Economic Outlook (WEO), April 2022.
[95] Drezner D (2007) *All Politics is Global: Explaining International Regulatory Regimes* Princeton University Press 32-33.
[96] Young A (2015) 'Liberalizing trade, not exporting rules: the limits to regulatory co-ordination in the EU's 'new generation' preferential trade agreements', Journal of European Public Policy 22(9) 1253–1275:1257-1258.
[97] IMF (n 94).
[98] Bradford (n 93) 161-162.

of regulatory expertise, coherence and authority to force regulatory adjustment and impose sanctions, such as fines and banning market entry for non-complying businesses.[99] Furthermore, the specific institutional structure stemming from its unique nature as a particular identity with a normative basis, and a special actor in the international system, has equipped it with considerable regulatory capacity.[100]

Indeed, having adequate power and resources, the EU institutions seek to strengthen the internal market and preserve the rights and responsibilities incorporated in the Treaties. As an executive body and decision-making authority, the Commission drafts legislative acts,[101] and ensures that the measures adopted by the Council and the European Parliament are applied and enforced in the Member States. For the noncomplying Member States that fail to fulfil an obligation under the Treaties, the Commission has the authority to bring infringement proceedings before the CJEU.[102] However, the EU's regulatory capacity is most prevalent in policy areas that are central to establishing and strengthening the internal market, and limited in policy areas where the individual Member States have maintained important authority.[103]

In addition, the EU jurisdiction has the propensity to adopt strict regulatory standards that predominate over lenient standards, thereby pursuing consumer and environmental protection against business profitability.[104] Thus, the EU can be a global regulator because of its devotion to strict domestic standards, as opposed to the emerging economies, which have a lack of regulatory capacity and therefore inadequate ability to exercise regulatory power that suits their constantly increasing market size.[105] Moreover, the EU applies the precautionary principle regardless of the absence of scientific proof of absolute and quantifiable certainty of potential risks. This principle dictates that precautionary regulatory action is necessary if there are concerns that the existing level of protection may be inconsistent with the possible dangerous effects.[106] For example, this EU's approach is reflected in various CJEU and WTO cases, such as in *Monsanto Italy,*[107] *France Monsanto,*[108] and *beef hormones*.[109]

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[99] Damro C (2012) 'Market power Europe' Journal of European Public Policy 19(5) 628–699:688.
[100] Ibid. 682, 688; Newman A & Posner E (2015) 'Putting the EU in its place: policy strategies and the global regulatory context' Journal of European Public Policy. 22(9) 1316–1335: 1322-1323.
[101] See Articles 288-291 TFEU.
[102] Article 258 TFEU.
[103] Bradford (n 93) 162.
[104] Sinopoli D & Purnhagen K (2016) 'Reversed Harmonization or Horizontalization of EU Standards?: Does WTO Law Facilitate or Constrain the Brussels Effect?' Wisconsin International Law Journal 121.
[105] Bradford (n 93) 162; Bradford (n 87) 37.
[106] European Commission, Communication 'On the precautionary principle' COM(2000) 1 final.
[107] Case C-236/01, *Monsanto Agricoltura Italia SpA and Others v Presidenza del Consiglio dei Ministri and Others,* EU:C:2003:431 ('*Monsanto Italy'*).
[108] Case C-58/10 to C-68/10, *Monsanto SAS et al. v Ministre de l'Agriculture et de la Pêche,* EU:C:2011:553 ('*France Monsanto*').
[109] Johnson R & Hanrahan C (2010). The US-EU beef hormone dispute 40449, 447 Congressional Research Service.

In other parts of the world, however, the risk should previously be quantified and subjected to a reliable science-based assessment, so that the potential regulatory intervention can be justified.[110] For instance, the federal regulatory agencies in the United States must undertake an economic cost-benefit analysis, known as *impact assessment* in the EU,[111] to substantiate that the benefits of intervention cover the costs.[112] However, these different approaches have led to more extensive regulation originating from the EU. This facilitates the export-oriented EU businesses, which pursue predictable and consistent regulatory frameworks as it is more difficult and costly for them to comply with multiple regulations than with a harmonised regulatory scheme.[113]

Strict regulations are able to become global standards when they cannot be circumvented by merely relocating the regulatory targets to more attractive regulatory environments. The EU avoids circumventing its standards as it mainly focuses on regulating inelastic consumer markets, such as product or food safety. In contrast to a regulatory elastic target, such as capital, consumers rarely move to another jurisdiction in which lower protection governs what products and services can be sold to them.[114] Namely, businesses must comply with the EU's consumer protection regulations to trade within the EU and gain access to its market. By directing therefore its regulatory efforts to consumer markets, the EU managed to strengthen its presence 'as a global standard-setter whose regulations cannot be undermined by market forces and the elasticity of its targets'.[115]

Market power, regulatory capacity, preference for strict rules, and predisposition to regulate inelastic targets constitute the necessary conditions for the EU jurisdiction to regulate extraterritorially, but they are inadequate to ensure triggering the Brussels Effect. Global standards are generated absolutely in cases where businesses are willing to comply with the standards of the strictest regulator, thereby considering the lenient jurisdictions as obsolete regulators.[116] By complying only with the EU regulatory standards, businesses can keep a single production process and a uniform global brand, thus avoiding additional costs to meet different regulatory standards.[117] In this way, the Brussels Effect arises from the non-

[110] Bradford A (n 87) 44.
[111] European Commission, 'Communication on Impact Assessment' COM(2002) 276 final.
[112] Bergkamp L & Kogan L (2013) 'Trade, the Precautionary Principle, and Post-Modern Regulatory Process: Regulatory Convergence in the Transatlantic Trade and Investment Partnership'. European Journal of Risk Regulation 4, 493-507:497-498
[113] It is obvious that the EU businesses prefer the broad institutionalisation of the common European standards throughout the world, as they have already incurred the adjustment costs of conforming to them. In: Bradford (n 93) 162.
[114] While not perfectly elastic, capital is significantly more mobile than consumer markets. In: Bradford (n 87) 48-49.
[115] Bradford (n 93) 163.
[116] Bradford (n 87) 53-54.
[117] Lazer D (2011) 'Regulatory interdependence and international governance' Journal of European Public Policy 8, 474–492:476-478.

divisibility of business production and conduct,[118] through 'the practice of standardising, as opposed to customising, production or business practices across jurisdictions'.[119]

Consequently, to achieve high rates of socio-economic development, the clustering of SMEs may be applied in sectors of the economy that can exploit the comparative advantages of the EU jurisdiction stemming from its ability to supply global standards. This ability is based on the phenomenon of the Brussels Effect, which occurs wherever there are the conditions of a large domestic market, sufficient regulatory capacity, preference for stringent standards, tendency to regulate inelastic targets, and non- divisibility of production. Nevertheless, these necessary conditions may have various levels of importance in different policy areas,[120] thereby generating limitations for the externalisation of EU rules. These limitations may be considered for segregating policy areas that cannot trigger the emergence of global standards, and therefore should not be related to appropriate sectors of the economy for the effective operation of clusters of SMEs in the EU.

B - Potential limitations for the externalisation of EU rules

Given that the clusters of SMEs may be targeted at internationally-oriented sectors of the EU economy, it is important to identify the most attractive policy domains where the EU has adequate unilateral power to regulate global markets. The Brussels Effect may be limited and vary across industries because there are several obstacles to leveraging its market size and channelling its regulatory preferences to other jurisdictions around the world. According to the theory of regulatory competition,[121] markets can punish strict regulators, such as the EU, by turning businesses and investments into more lenient jurisdictions. Furthermore, the EU's regulatory influence may start decreasing gradually as the markets in emerging economies are expanding in size and wealth of their consumer base.[122] Due to their growing demand, the opportunities for trading with them will increase and, hence, the degree of dependence of businesses on their access to the EU market will decline. China could become a new regulatory power for global standards as it may shortly be the biggest consumer market,[123] and thus

[118] Bradford (n 93) 163.
[119] Bradford (n 87) 54.
[120] Ibid 64.
[121] See Deakin S (2006) Legal Diversity and Regulatory Competition: Which Model for Europe? Centre For Business Research, University of Cambridge; Tiebout C (1956) 'A Pure Theory of Local Expenditures' Journal of Political Economy 64(5).
[122] World Bank 'Global Consumption Database'. <http://datatopics.worldbank.org/consumption/>.
[123] Ibid.

businesses would be able to avoid the adjustment costs to stringent EU standards. However, China's regulatory capacity and the eagerness to improve the level of environmental and consumer protection are growing extremely slowly in relation to its market economy.[124] Simultaneously, the EU continues as a global regulatory power to export its standards to other jurisdictions, including China which is among the countries that have been most eager to emulate the EU rules.[125]

Several countries throughout the world, however, attempt to restrict the EU rules that acquire adjustment costs on their businesses. For instance, the US government often considers the EU policies as incompetent and harmful to economic life, and unpopular because US consumers pay additional costs due to concerns that they do not share necessarily.[126] When US businesses are obliged to either comply with the high EU standards or be excluded from the EU market, the US government responds in different ways. It is able to select willingly to converge to the EU standards, or pursue a cooperative solution that could combine some of US and EU preferences, such as the proposed Transatlantic Trade and Investment Partnership (TTIP). The implementation of this trade agreement might provide a chance for the United States to influence global regulatory standards.[127]Alternatively, the United States attempts to force the EU to modify its norms by resorting to diplomacy, or offering some rewards, or threatening with sanctions, or suing in the WTO.[128]

Nevertheless, the United States cannot ground its rules on an internationally recognised jurisdictional basis and thus become a global regulator. This is because it is a less stringent regulator that pursues its own autonomous objectives rather than objectives agreed upon internationally.[129] Regarding the domestic regulations that reflect the national prosperity and political equilibrium,[130] the magnitude of the US market may be a sufficient factor to maintain them in the absence of overwhelming lobbying by relevant domestic export-oriented industries. Otherwise, to defend its multinational businesses from the strict EU standards, the United States uses sometimes the method of vocal criticism, or the WTO machinery, to lead the EU to

[124] Zizek S "Lessons From the 'Airpocalypse': On China's smog problem and the ecological crisis" In These Times 10 January 2017; Bradford (n 86) 49.
[125] Bradford (n 87) 270.
[126] Indicatively, the U.S. government made efforts to block the REACH regulation, In: Greenpeace, 'Toxic Lobby: How the chemicals industry is trying to kill REACH',Greenpeace International, 2006, 6-17; The U.S. government opposed to the EU's ETS system for airlines. In: Chaffin J & Parker A 'Blow to US Airlines in the Emissions Fight' Financial Times, 6 October 2011.
[127] Bradford (n 87) 273.
[128] Bradford (n 86) 50; Young A (2003) 'Political Transfer and "Trading Up"? Transatlantic Trade in Genetically Modified Food and U.S. Politics' World Politics 55(4) 457-484.
[129] Scott (n 88) 125.
[130] See above.

review and amend some of those standards.[131] In addition, US businesses can leverage business opportunities and face less competitive pressures in markets across the globe, where there is still demand for certain goods that have been banned in the EU. However, regardless of their position as regards EU rules, internationally-oriented businesses try to influence the EU's regulatory actions by investing notable resources. Lobbying activity is exceptionally salient in Brussels as the advantages stemming from a potential regulatory capture of the EU institutions seem to outweigh the advantages of effectively influencing other regulatory authorities with lesser global power.[132]

It is worth noting that the most effective actions to challenge the EU rules have been undertaken by international institutions. For instance, the WTO does not allow import bans on goods from lenient jurisdictions unless the importing WTO member can justify the ban measures as necessary for reasons relating to public health, the environment, public moral grounds, prison labour, or national historic and cultural treasures.[133] However, the WTO contains some insufficient remedies. For example, the dispute settlement mechanism does not cover retroactive damages,[134] and also its system cannot oblige members to withdraw the restrictive measures as it is only able to approve sanctions against non-compliant members.[135] The WTO also bans discrimination among imported and domestic products, and thus has limited power to restrict non-protectionist measures imposed by individual members.[136] In this sense, it assists the EU to become a global regulator due to the fact that the EU standards are not discriminatory in their object and effect because the EU businesses follow the same rules as foreign producers. Accordingly, WTO law can prevent possible unilateral retaliations by members that have faced ban measures from the EU, and hence further facilitate the EU to export global standards.

Whereas individual countries and international institutions could hardly restrain the EU's regulatory power, the major obstacle to the EU's regulatory power seems to come from within the EU.[137] This can affect its ability to externalise standards in some policy areas and hence the

[131] For example, see: Case T-210/01, *General Electric Company v Commission of the European Communities* [2005] ECR II-05575. Because of criticism by the U.S government about the blocked GE/Honeywell merger, the EU pursued to make different economic analyses its future transaction investigations; Fox E.M (2007) 'GE/Honeywell: The US Merger that Europe Stopped: A Story of the Politics of Convergence'. In: Fox E.M & Crane D.A (eds.) *Antitrust Stories*. Foundation Press 331-360.
[132] Bradford (n 86) 53-54.
[133] WTO GATT Art. XX (General Exceptions).
[134] WTO, Dispute Settlement Understanding (DSU), Art. 22(4).
[135] For example, in *EU-Hormones*, the EU continued to maintain its import ban and challenge U.S. retaliation. WTO Appellate Body Report, *European Communities- Measures Concerning Meat and Meat Products*, WT/DS26/AB/R (16 January 1998).
[136] WTO GATT Art. III(1).
[137] Bradford (n 87) 277.

relevant sectors of the economy may not be suitable for the implementation of clustering. Market power, regulatory capacity, preference for strict rules, and predisposition to regulate inelastic targets and non-divisible standards, which are the preconditions required for unilateral regulatory globalisation, may be insufficient in some areas, where there are significant limitations to the scope of the EU's unilateralism. Specifically, market power is not enough for the EU to 'uphold and promote its values' as regards respect for human rights outside of its territory.[138] Having a strong regulatory capacity and durable preference for keeping human rights at the heart of the EU agenda, it attempts, by offering trade agreements, to link market access and protection of human rights.[139] However, this has not led many countries across the world to adopt its rules, thus raising questions about the position of the EU's power to externalise standards.[140]

Furthermore, the EU cannot become a global regulatory power in areas where markets are divisible and the economies of scale are not able to support a uniform standard. Non-divisibility of production is a key factor driving the Brussels Effect, but the challenges come from technological developments which give the potential for businesses to make their products divisible.[141] For example, Microsoft achieved to enter the European version of Windows 7E without using an internet browser, as a response to the Commission's action to launch an investigation for anti-competitive conduct about the practice by Microsoft of offering its Windows Media Player software exclusively via its owned browser, the Internet Explorer.[142] Another example of a technology that aims to increase the divisibility of production is additive manufacturing, such as 3D printing. Using additive manufacturing, the same machines can produce things with distinct characteristics merely by changing the digital file that provides the blueprint.[143] However, the costs associated with this technology suggest that in the near future it may be limited to high-value industries.

In addition, the EU's regulatory capacity is limited in policy areas that the Member States have not yet transferred powers to, and therefore the EU does not have the regulatory competence to issue new rules that would be promoted worldwide. Specifically, the area of corporate taxation reflects the magnitude of diversity among the Member States that causes

[138] TEU Art. 3(5).
[139] Joint Communication to the European Parliament and the Council, 'Action Plan on Human Rights and Democracy (2015-2019) - Keeping human rights at the heart of the EU agenda' JOIN(2015) 16 final 13-14,18.
[140] Manners I (2002) 'Normative Power Europe: A Contradiction in. Terms?' Journal of common market studies 40(2) 235–258; See also, Cremona M & Scott J (2019) *EU Law Beyond EU Borders: The Extraterritorial Reach of EU Law*. Collected Courses of the Academy of European Law (OUP).
[141] Bradford (n 87) 273.
[142] Case T-201/04, *Microsoft Corp v Commission* [2007] ECR II-03601.
[143] Bromberger J & Kelly R (2017) Additive manufacturing: A long-term game changer for manufacturers' 59-66.

obstacles to establishing common rules.[144] Moreover, due to the preference for lower standards on the part of some Member States, the EU's regulatory propensity for strict rules is restricted in various areas, such as financial services. The crisis in the Eurozone led the EU to accept the legitimacy of US measures for higher financial standards adopted by the Dodd-Frank Act,[145] which regulates the over-the-counter derivatives market and requires foreign business entities to be capitalised on a stand-alone basis.[146]

The disharmony within the EU, which prevents the efforts for externalisation of global standards is illustrated by Brexit, which caused the decline in the EU's market size. Brexit may not weaken the EU's regulatory power because the United Kingdom has already supplied significant regulatory capacity, which strengthens the Brussels Effect, to the EU institutions, including a clearly competent bureaucracy and technical expertise in a number of policy areas.[147] The reluctance by the Member States also to create a common energy policy in the last decades, undermined the relevant EU's efforts, despite the fact that they are collectively vulnerable to the threat of energy insecurity.[148] Consumers and businesses throughout the European continent also react by expressing their opposition to the excesses of the EU's regulatory practices in several vital areas of economic life. In periods of recession in the EU, consumers from low-income households are wondering whether the higher standards can justify the higher cost of goods and services, and businesses consider that are subjected to burdensome regulations that make them less competitive and economically unsustainable.[149]

Nevertheless, although various limitations prevent the Brussels Effect and thus the process of externalising global standards, there are specific regulatory areas where it has been achieved to be a predominant entity that effectively set global rules. Environmental protection, health protection and food safety are areas of regulatory policy that prove the EU's ability to unilaterally exercise global regulatory authority. These policy areas differentiate the EU from other parts of the world due to its commitment to protecting the global commons and readiness to set stringent regulatory standards. Thus, the EU's heightened concern for environmental and health protection and food safety offers competitive advantages to the relevant sectors of its economy, such as sectors related to the agro-food supply chain, which could constitute

[144] For example, Ireland and France apply completely different corporate tax rates, 12.5% and 34% respectively.
[145] The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. 165-166 & 171; Regulation (EU) No 648/2012 on OTC derivatives, central counterparties and trade repositories OJ L201; Directive 2014/59/EU establishing a framework for the recovery and resolution of credit institutions and investment firms (Recovery and Resolution Directive), Articles 91(10) & 92(6) & 37(8).
[146] Davies P. L (2015) 'Resolution of Cross-border Groups'. In: Haentjens M & Wessels B (eds.) *Research Handbook on Crisis Management in the* Banking Sector. Edward Elgar Publishing 14-15; Scott (n 88) 122.
[147] Bradford (n 87).
[148] Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action.
[149] Bradford (n 86) 62.

appropriate fields for the emergence and effective operation of clusters of SMEs.

C - Environmental and health protection, food safety and European agro-food goods

EU rules related to environmental protection, which may be a policy area to identify sectors for clustering, have been exported to other jurisdictions through the Brussels Effect. For instance, the Restriction of Hazardous Substances Directive (RoHS),[150] which regulates the use of toxic materials in all electrical and electronic products, has been widely followed by businesses around the world that prefer to comply with a uniform standard for their entire production. The tendency for exports into the EU changed the design of electronic products globally, thus leading to the adoption of RoHS-type rules from various non-EU jurisdictions,[151] such as California which incorporated the strict EU standards in its Electronic Waste Recycling Act.[152] Additional evidence of the Brussels Effect related to RoHS can be found in New Jersey's 2017 Electronic Waste Management Act, which mandated that its administrative agencies implement rules and regulations in accordance with the EU's RoHS.[153]

Another example of EU environmental unilateralism relates to the EU's decisive regulatory measures to advance animal welfare following the Treaty's recognition that 'animals are sentient beings'.[154] EU legislation lays down minimum standards, which are the highest in the world, for the protection of animals kept for farming purposes.[155] It also sets rules for farmed animals during transport,[156] and at the time of stunning and slaughter,[157] incorporating the *five freedoms* for animals as declared in the European Convention for the Protection of Animals kept for Farming.[158] The EU's animal welfare laws have led to the Brussels Effect in several jurisdictions, such as New Zealand and Australia that have phased out sow stalls,[159] following the adoption of the EU legislation related to banning the confinement of sows during pregnancy.[160] Moreover, the EU's ban on the sale of cosmetics tested on animals has far-

[150] Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment OJ L37; Directive 2011/65/EU (recast).
[151] China, Japan, and South Korea are other countries that have worked out their own version of RoHS as well..
[152] Electronic Waste Recycling Act of 2003 (2003 Cal ALS 526) (EWRA).
[153] S. 981, 217th Leg., Reg. Sess. (N.J. 2016).
[154] TFEU Article 13.
[155] Council Directive 98/58/EC of 20 July 1998 concerning the protection of animals kept for farming purposes.
[156] Council Regulation (EC) No 1/2005 on the protection of animals during transport and related operations.
[157] Council Directive 93/119/EC on the protection of animals at the time of slaughter or killing.
[158] The "Five Freedoms" consist of: (1) Freedom from hunger and thirst; (2) Freedom from discomfort; (3) Freedom from pain, injury, and disease; (4) Freedom to express normal behaviour; and (5) Freedom from fear and distress.
[159] "Sow Stallstobe Banned" Nat'lBus.Rev. (Dec.1,2010), <https://www.nbr.co.nz/article/sow-stalls-be-banned-134068>; Nat'l Animal Welfare Advisory Comm., Animal Welfare (Pigs) Code of Welfare 2010 Report (2010).
[160] Council Directive 2008/120/EC, Laying Down Minimum Standards for the Protection of Pigs 5.

reaching effects on corporate behaviour.[161] For instance, Japanese cosmetics firms, such as Shiseido, Kose Corp. and Kao Corp., have adjusted their global manufacturing to conform to EU animal welfare legislation.

In addition, the process of unilateral regulatory globalisation by the EU has been embedded in the framework governing its Emissions Trading Scheme (ETS) Directive,[162] which is a cornerstone of the EU climate change policy. Covering initially energy-intensive industrial sectors and power plants, it subsequently included all flights taking off from or landing at EU airports, requiring the airline operators to buy emission permits for the tonnes of carbon dioxide generated during the relevant flights.[163] Therefore, the scheme is non-divisible because airlines cannot limit their compliance to the part of the flight that takes place in the EU airspace.[164] Thus, the US Air Transport Association and three US Airlines challenged the scheme, alleging that it violates international law.[165] However, the CJEU confirmed the validity of the ETS Directive with various international agreements and customary international law.[166] It ruled that aircrafts flying over the high seas are not subject to the scheme, but when 'aircrafts are physically in the territory of one of the Member States … are thus subject on that basis to the unlimited jurisdiction of the European Union'.[167] Nevertheless, airline operators are exempted from the scheme when their flights depart from countries that have themselves adopted measures to reduce the climate change impact of flights.[168] This exemption can strengthen further the EU's regulatory unilateralism since already countries such as China have promoted domestic emissions-cutting initiatives as equivalent measures to the EU's requirements.[169]

Furthermore, the EU is a global regulator of chemical products as it takes seriously the negative consequences that dangerous chemicals have on human health which should play a crucial role to identify sectors for the clustering of SMEs. Given the significance of the EU market for many chemicals and goods containing chemicals, the EU REACH Regulation has a

[161] McCurry J (2015) 'Cosmetics Testing: Will Japan Go Cruelty-Free?' Japan Today.
[162] Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community.
[163] Directive 2008/101/EC amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community.
[164] Young N., Vice President of Environmental Affairs, Air Transport Association of America, Inc. (ATA), Statement before the Subcommittee on Aviation of the House Transportation and Infrastructure Committee, 'The European Union's Emissions Trading Scheme: A Violation of International Law' (27 July 2011) 4-5.
[165] See US Aviation Sector Finally Challenges EU Emissions Scheme, CAPA (July 6, 2011).
[166] Press Release No. 139/11, Court of Justice of the European Union, The Directive Including Aviation Activities in the EU's Emissions Trading Scheme is Valid 2 (Dec. 21, 2011).
[167] Case C–366/10, *The Air Transport Association of America v. The Secretary of State for Energy and Climate Change* [2011] ECR I-13755, paras.125-126.
[168] Directive 2008/101/EC, Art. 17.
[169] ICAP 'ETS Detailed Information: China' (2022) 1.

global impact.[170] As it embraces the idea of industry responsibility, REACH requires manufacturers and importers of chemicals to understand and manage the risks associated with their products, and provide detailed information about them to the EU authorities.[171] Specifically, it regulates the *new substances* of chemicals entering the EU market, and also the *existing substances* that have been previously placed, amounting to more than 99 per cent of the total volume of all substances.[172] Therefore, REACH can regulate the *burden of the past*,[173] and place the burden of proof on the people who place chemicals on the market, as opposed to the US Toxic Substance Control Act (TSCA) which is not able to regulate a vast number of existing chemicals and continues to place the burden of proof on regulators.[174] In the United States, TSCA requires businesses to collect and provide the safety information relevant to their products only after a request by the Environmental Protection Agency (EPA), which has a high evidential burden in requesting safety data, thereby directing to the restriction or ban of the market a very small number of chemicals.

Despite the fact that REACH imposes strict standards on a large number of chemicals, which cause significant costs for many businesses worldwide, it has managed to bring a substantial change to the chemical industry in the global context.[175] Indeed, to supply chemicals in the large and profitable EU market, manufacturers throughout the world have an incentive to switch their entire production in accordance with the strict and expensive REACH standards.[176] By developing EU-compliant production processes to create a single product for all markets, they achieve economies of scale that lead to non-divisibility in production and conduct. Thus, they pursue international adoption of the EU rules by asking their home authorities to increase the domestic rules to the level of REACH in trying to face their domestic competitors who apply low standards as they do not make exports to the EU market. These efforts have been supported by consumers, who avoid products that include any substance identified by the EU as a 'substance of very high concern',[177] and by health-environmental activists and NGOs that use the REACH Regulation as a comparative example to influence public discussions on the risk of the chemicals.[178] In this way, REACH provoked state-

[170] See Chapter 1; Regulation 1907/2006/EC concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
[171] Ibid. Art. 5
[172] Commission: Policy (2001) 'Strategy for a Future Chemicals Policy'. (White Paper) COM(2001) 88 final 6-8.
[173] Ibid.
[174] 15 U.S. Code Chapter 53 "Toxic Substances Control", §§2601-2692
[175] Scott J (2009) 'From Brussels with Love: The Transatlantic Travels of European Law and the Chemistry of Regulatory Attraction'. American Journal of Comparative Law, 57(4), 897-942:908-920
[176] Ibid 939-940.
[177] European Chemicals Agency (ECHA) 'The Candidate List of substances of very high concern (SVHCs)'. <https://echa.europa.eu/home>.
[178] Scott (n 175) 920-928.

regulatory reforms in several jurisdictions in the United States, such as in Maine, California and Massachusetts,[179] and prompted the introduction of a congressional bill to modernise TSCA and give the EPA more authority to test and regulate chemicals.[180]

The phenomenon of the Brussels Effect is also reflected in the efforts of the EU to externalise, through regulating Genetically Modified Organisms (GMOs),[181] its food safety rules that are vital to identify relevant sectors for clustering. The EU subjects GMOs to an extensive approval process, regarding the potential risks and negative effects on human health and the environment,[182] which is guided by the precautionary principle that lowers the limit for regulatory intervention due to scientific uncertainty.[183] In contrast, GMO products can be made and promoted in other markets, such as in the US market, as substantially similar to goods produced traditionally, without extensive premarket safety evaluation or the need to precisely label them,[184] as opposed to the EU's requirements for labelling of the authorised ingredients, foods, and animal feeds containing over 0.9 per cent GMOs.[185] In particular, the United States possesses a leading position as a GMO producer and, consequently, biotechnology plays a key role in maintaining its competitiveness in the global markets.[186] Instead, in the EU, GMOs are hardly cultivated because it gives great cultural significance to small farms of agro-food goods and remains quite sceptical of mass production technologies.[187]

The US biotechnology industry and farmers of mass production wield decisive political influence in the United States, while the EU small farmers that cultivate non-GMO agro-food products seem to hold a strong position within the EU, which has the institutional capacity to exercise regulatory influence and the sufficient propensity to regulate GMOs with strict rules.[188] GMOs also fall under inelastic consumer protection legislation,[189] and therefore the EU's regulatory authority cannot be circumvented by merely shifting the regulatory targets to other jurisdictions. Since more and more countries across the world are following the EU's

[179] Ibid 914-20.
[180] EPA 'The Frank R. Lautenberg Chemical Safety for the 21st Century Act'. <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/frank-r-lautenberg-chemical-safety-21st-century-act>.
[181] Regulation (EC) No 1829/2003 on genetically modified food and feed.
[182] Ibid. Art. 1; Regulation (EC) No 1830/2003 concerning the traceability and labelling of genetically modified organisms and the traceability of food and feed products produced from genetically modified organisms (3); European Commission 'Communication on the precautionary principle' COM (2000) 0001 final.
[183] See above.
[184] FDA (1992) 'Statement of Policy: Foods Derived from New Plant Varieties'. 57(104) Fed. Reg. 22984, 22988, 22991.
[185] Regulation (EC) No 1830/2003 Art. 4&7(3).
[186] Bradford (n 87) 177.
[187] Prakash A & Kollman K. L (2003) 'Biopolitics in the EU and the U.S.: A Race to the Bottom or Convergence to the Top?' International Studies Quarterly 47,617–641:627-634.
[188] Bradford (n 86) 33.
[189] European Commission 'Food information to consumers – legislation'. <http://ec.europa.eu/food/safety/labelling_nutrition/labelling_legislation_en>.

direction and adopting obligatory labelling systems for GMO products,[190] GMO production may be considered non-divisible and hence subject to the Brussels Effect.

A possible division of production by the US farmers in their attempt to cultivate both varieties, GMO crops for the domestic market and non-GMO crops for exports, seems to be problematic and, therefore, inseparable in practice throughout the entire production process and supply chain.[191] It is difficult for farmers to separate growing areas and prevent pollen drift from GMO fields to non-GMO fields. It is also costly for food processors and distributors to use different equipment, shipping containers and storage areas, as well as establishing specific systems to track the production from the field to the market.[192] The practical non-divisibility of production with the technical and economic problems of separation have led several US farmers to choose to converge with the strict EU rules, thus cultivating only approved crops by the EU, regardless of where they are sold.[193] As a result, US producers of GMO varieties feel the process of the Brussels Effect, which is strongly supported by civil society and consumers who prefer high levels of food protection. Although the EU rules on GMO products have not caused yet a regulatory change in the United States,[194] civic interest groups have seized on EU policies and used them in their efforts to promote regulatory changes.[195]

Consequently, environmental protection, health protection and food safety are policy domains where the EU has achieved being a predominant entity that exercises global regulatory power. Confirming its leading position to unilaterally set global rules in these areas, the EU may turn potential business projects, such as the clustering of SMEs, into relevant sectors of the economy to increase its competitiveness and productivity. This is because clustering in competitive sectors in the EU could make SMEs more productive, and therefore more competitive because the degree of productivity determines the level of competitiveness.[196] Therefore, the most competitive sectors of the EU that can support the clusters of SMEs to gain access to global markets, are strongly related to areas of environmental and health protection and food safety, which are vital areas for a productive EU agro-food supply chain.

The EU possesses a comparative advantage to produce high-quality agro-food goods and adapt them to new global conditions. In this sense, the EU agro-food industry, which 'exhibits

[190] Center for Food Safety "Genetically Engineered Food Labeling Laws", <http://www.centerforfoodsafety.org/ge-map/ >.
[191] Hanrahan C (2010) 'Agricultural Biotechnology: The U.S.-EU Dispute'. Congressional Research Service. 4-5;
[192] Ibid 5.
[193] Bradford (n87) 182.
[194] WTO: *European Communities — Measures Affecting the Approval and Marketing of Biotech Products* WT/DS291/R, WT/DS292/R, & WT/DS293/R; Bodansky D & Lester S (2007) 'European Communities—Measures Affecting the Approval and Marketing of Biotech Products' American Journal of International Law 101(2) 453-459.
[195] Young (n 96) 1247-1249.
[196] See Chapter 1.

a large array of assets that have to be put to profitable use',[197] would guarantee high value-added and safety for the accomplishment of consumers' expectations. The vertical integration of this industry comprises a wide range of economic activities and produces a notable variety of products, ranging from simple foodstuffs to luxurious goods. The output of the dissimilar EU regions is complementary as the southern EU regions can supply fruits and vegetables, whereas the northern EU regions can supply dairy products, meat and cereals.[198] This variety of products currently stems from businesses that 99 per cent of which are SMEs, which play a significant role in the agro-food supply chain that is one of the largest in Europe.

For all the abovementioned reasons, the clustering of SMEs may be implemented in sectors involved in the agro-food supply chain, which possesses a high concentration of SMEs and additionally constitutes an important comparative advantage for the EU. Furthermore, businesses related to the agro-food supply chain are directly dependent on primary sector raw materials and, as a result, should be located inside EU territory without the option of relocating to cost-effective locations in developing countries.[199] The vertical integration of the agro-food supply chain links the agricultural raw materials via their processing and distribution, with their promotion for final consumption.[200] As a result, the three key sectors of the economy (agricultural, food processing and distribution) include a variety of stakeholders (farmers, manufacturers, suppliers, packagers, exporters, transporters, wholesalers, retailers and end consumers) with various and diverse cultural approaches, dimensions and interests.

Conclusion

The EU has designed policies aiming to address global challenges by strengthening the business environment and boosting a strong industrial base for the internationalisation of the clustering of SMEs.[201] However, manufacturing production has declined in the EU, and the clusters of SMEs may hardly gain access to global markets because of the competitive forces from the cost-effective locations in emerging economies. In these locations, large businesses can produce goods at the lowest cost with the least interference, from regulatory bodies, regarding industrial and labour standards and environmental rules. On the contrary, the EU is

[197] Wijnands J et al. Competitiveness of the European Food Industry: An economic and legal assessment 2007. European Commission. 3.
[198] Moussis N (2013) Access to the European Union: Law, Economics, Policies. 20th ed., I*ntersentia*. 607-609.
[199] See Thesis Introduction.
[200] Wijnands (n 197) 3.
[201] Communication (n 11) 7-8.

wary of the low production standards and questionable labour practices, as well as making efforts for sustainable development and a high level of environmental protection. Due to the EU's strict attitude on these issues, developing countries offer attractive economic advantages for businesses to produce competitive goods in their territories. For this reason, the EU focused on the strengthening of industrial innovation as an effective way to increase competitiveness and productivity, which may assist the clusters of SMEs to gain access to global markets.

As innovation can however coexist with low levels of productivity, it is not enough to ensure the right response to global challenges and support clustering. Instead, it is important for the EU to turn innovative initiatives into targeted sectors of the economy, which could add value and support the clusters of SMEs to obtain a strong position against global competitors. This chapter argues that the EU should design policies for clustering in sectors involved in the agro-food value chain, and thus effectively turn innovative ideas into socio-economic development. This is because the EU has a leading position as a regulatory power worldwide in the policy domains of environmental and health protection and food safety, which constitute the fundamental determinants that ensure a comparative advantage for competitive high-quality EU agro-food goods.

Specifically, as an international organisation with unique nature and particular identity, the EU tends to be a predominant regulatory regime that can exercise influence via the phenomenon of the Brussels Effect, thus regulating markets and setting the global rules throughout several areas of law. Although various limitations deter however the externalisation of EU norms, this chapter identified specific areas of regulatory policy where the EU has achieved to successfully set global rules. Environmental protection, health and food safety are fields that demonstrate the EU's ability to unilaterally exercise global regulatory authority. These policy domains distinguish the EU from the rest of the world and offer competitive advantages in sectors of the economy involved in the agro-food supply chain, which could constitute an appropriate area for the clustering of SMEs (agro-food SME clusters). For the emergence and effective operation of agro-food SME clusters in the EU regions, therefore, it is important to consider legal elements related to agriculture, food processing and food distribution that are the key sectors of the agro-food supply chain.

PART TWO

Agro-food goods: the EU's competitive advantage for clustering of SMEs

CHAPTER 4: The case for a robust agro-food supply chain

Introduction

The EU has a leading role as a regulatory power worldwide in the policy areas of environmental protection, health and food safety,[1] which constitute the fundamental determinants to ensure a competitive position of high-quality European agro-food goods.[2] The agro-food supply chain, therefore, which mainly consists of the agriculture, food processing, and food distribution sectors, could be a suitable area for the emergence and operation of clustering of SMEs. These sectors of the EU economy can strongly be linked with regional development, via the Common Agricultural Policy (CAP),[3] and hence the establishment of agro-food SME clusters may play a significant socio-economic role in the EU regions. These sectors of the agro-food supply chain could also be further enhanced by reaping the benefits stemming from the technological progress and the enforcement of high-level standards by EU food law for agro-food goods.[4]

For the abovementioned reasons, this chapter aims to show how the CAP, EU food law and technological innovation in the agro-food supply chain might contribute to an effective agro-food SME clustering in the EU. To this end, it first provides an analysis of the fundamental concepts in EU agriculture and explores the aim of the CAP which is based on five objectives under Article 39 TFEU.[5] It also explains the importance of the CAP's two pillars that relate to rural development policy, the common organisation of agricultural markets and the direct payments to farmers. By discussing the existing impediments in the primary sector of agriculture, this chapter then presents key elements of the new CAP in the context of balanced regional development, which could be important for the operation of agro-food SME clusters. In addition, this chapter clarifies the range of the category of agro-food goods as well as highlights basic features of the agro-food supply chain's sectors. It argues that the vertical

[1] Bradford A (2020) *The Brussels Effect: How The European Union Rules The World*. Oxford University Press. 171-234.
[2] See Chapter 3.
[3] Common Agricultural Policy (adopted in 1962), TFEU Articles 39 & 40.
[4] Regulation (EC) No 178/2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety (General Food Law Regulation).
[5] TFEU Article 39(1): The objectives of the CAP shall be: (a) to increase agricultural productivity; (b) thus to ensure a fair standard of living for the agricultural community (c) to stabilise markets; (d) to assure the availability of supplies; (e) to ensure that supplies reach consumers at reasonable prices.

integration of agriculture with the food processing and distribution sectors accompanied by technological innovation may contribute to the agro-food SME clustering in the EU regions. Finally, this chapter appraises how the standards enforced by EU food law can ensure competitive high-quality agro-food goods for the EU, and therefore could strengthen the position of agro-food SME clusters in the global markets.

I - The wealth of the primary sector and clustering of SMEs

A - EU agricultural law

i - Fundamental concepts in the EU agriculture

Agriculture constitutes the basic sector to produce agro-food products, and it is therefore the most important field for agro-food SME clustering in the EU regions. This is the primary sector of the economy that fosters competition and trade across the EU through the CAP, which is regarded as the cornerstone of European integration.[6] It fulfils a variety of functions that assist farmers to produce high-quality food, and ensure environmentally sustainable farming and rural community development. Although the key concept of the CAP is *agriculture*, EU law does not contain a specific definition or delineation of what is encompassed by the term, thus leaving it to the EU legislator and CJEU to determine the scope of the policy area.[7] Nonetheless, *agricultural activity* is defined as 'the production, rearing or growing of agricultural products ….. keeping animals for farming purposes, or maintaining the land in good agricultural and environmental condition'.[8]

Regarding the term *agricultural product*, Article 38(1) TFEU offers a relatively concrete definition, which could be helpful to determine the agro-food goods produced by the agro-food SME clusters. Specifically, it considers agricultural products as 'the products of the soil, of stock farming and of fisheries and products of first-stage processing directly related to these products'.[9] This definition is illustrated by the reference in Article 38(3) TFEU which states that the products subject to particular Treaty provisions,[10] are specified in Annex I to the TFEU. However, the list in Annex I excludes several agricultural products covered by the definition

[6] Usher J. A (2001) *EC Agricultural Law* (OUP) vii-viii.
[7] EU legislation becomes an interpretation of the TFEU; Case 85/77 *Sant'Anna* [1978] ECR 527, para. 8; Case 139/77 *Denkavit* [1978] ECR 1317, para. 11.
[8] Council Regulation (EC) No 73/2009 establishing common rules for direct support schemes for farmers under the common agricultural policy and establishing certain support schemes for farmers, Article 2.
[9] Article 38(1) TFEU.
[10] Articles 39-44 TFEU.

in Article 38(1), such as cotton, skins, timber and wool. In *Konig*, the CJEU found that the definition of agricultural products must typically be based on a combination of Article 38(1)&(3),[11] but in the case of a dispute between the list and the definition of agricultural products, then the list should take precedence.[12] Therefore, the interpretation of the list is essential in determining whether a product is to be considered as an agricultural product, and the purpose of the definition in Article 38(1) is to serve as a guide for interpreting the list.[13] The list also affected how the 'products of first-stage processing directly related to these products' can be interpreted in Article 38(1). This implies that in addition to the primary agricultural products, the list in Annex I also includes goods whose industrial distance from the main agricultural product exceeds that of first-stage processing as generally understood.[14]

Furthermore, there are rules and regulations in the CAP that apply to agricultural producers who may become members of agro-food SME clusters. However, the term *agricultural producer* is not defined in the TFEU,[15] thus leaving it to the EU legislator to establish the concept's scope which may change depending on the situation.[16] In EU law, it is up to the Member States to decide what an agricultural producer means under their own national legislation. According to the CJEU in *Denkavit*, as the concept of agriculture is not accurately defined in the Treaties, it is therefore 'for the competent authorities where necessary to define the scope of such rules in relation to persons and in relation to subject-matter'.[17] Thus, the rather generic expression *agricultural producers* could represent people who produce agricultural goods through any kind of method.[18] According to the Regulation establishing common rules for direct support schemes for farmers, a farmer can be 'a natural or legal person, or a group of natural or legal persons …. whose holding is situated within Community territory ... and who exercises an agricultural activity'.[19]

As there is no Treaty definition also of the term *agricultural holding*,[20] the above Regulation defines it as 'all the production units managed by a farmer situated within the territory of the same Member State'.[21] There are around 15 million holdings across the EU,

[11] Case 185/73 *Konig* [1974] ECR 607, para. 13.
[12] Joined Cases 2/62 and 3/62 *Commission v. Luxembourg and Belgium*, [1962] ECR English special Edition. 434.
[13] Case 77/83 *CILFIT* [1984] ECR 1257, paras 11-12; In practice Article 38(1) has been interpreted as being "merely indicative". In: Snyder (1985) 17.
[14] Case 185/73 *Konig* [1974] ECR 607, paras. 12 & 14.
[15] McMahon J (2007) *EU Agricultural Law*. (OUP) 3.
[16] Danielsen J. H (2013) *EU Agricultural Law*. Kluwer Law International 14.
[17] Case 139/77 *Denkavit Futterrnittel* [1978] ECR 1317, paras 10-11.
[18] Ibid, paras 12-13; Case C-403/98 *Monte Arcosu* [2001] ECR 1-103, paras 26-29.
[19] Council Regulation (EC) No 73/2009 establishing common rules for direct support schemes for farmers under the common agricultural policy and establishing certain support schemes for farmers.
[20] See Case 85/77 *Sant'Anna* [1978] ECR 527, para. 14.
[21] Council Regulation (EC) No 73/2009, Art. 2(b)

generating 6 per cent of EU GDP and representing 7 per cent of employment,[22] which have quantitative and qualitative features of SMEs,[23] and therefore they could become members of the agro-food SME clusters. Importantly, agricultural holdings represent the primary source of income for approximately 20 per cent of the EU population, which reside in rural areas that would be depopulated without their support. Thus, they may be considered as vital socio-economic entities, which could play as key stakeholders in agro-food SME clusters a significant role in the prosperity of the EU regions in the years ahead.

ii - The aim of the CAP

The concepts of agricultural activity, product, producer and holding define the framework of the CAP. This is the fundamental policy of agriculture throughout the EU, and hence it could be one of the policy areas that may affect the agro-food SME clustering. The most essential addition to comprehending the CAP is Article 39 TFEU, which sets its five objectives that might serve as guidelines for the agro-food SME clusters. The CJEU has stated that the EU institutions must secure the permanent harmonisation required by any incompatibilities between these objectives,[24] and avoid emphasising one of them in such a way as to make the achievement of others impossible.[25] Where the TFEU grants EU institutions discretionary powers, the CJEU can examine whether a decision is manifestly erroneous or an indication of misuse of power, or whether the institution in question has exceeded the scope of its discretionary authority.[26] Thus, although the EU institutions may have considerable latitude in implementing measures for the CAP, this discretion is not absolute.[27]

The first objective of the CAP is to increase agricultural productivity by emphasising the policy's focus on the structure of agriculture in general,[28] which could be crucial for agro-food SME clustering in the EU regions. However, it imposes no restrictions on how productivity might be increased, leaving it to the EU legislator to choose whether the objective is to be attained utterly by public regulation or through the initiative of private businesses. This also means that the prospects for individual farmers may be limited due to the EU legislator's wide

[22] Eurostat, 'Farm indicators by agricultural area, type of farm, standard output, legal form and NUTS 2 regions' <https://ec.europa.eu/eurostat/databrowser/view/ef_m_farmleg/default/table?lang=en>.
[23] See Chapter 1.
[24] Case 5/73 *Balkan-Import-Export* [1973] ECR 1091, para. 24.
[25] Joined Cases 197-200, 243, 245 and 247/80 *Ludwigshafener Walzmiihle* [1981] ECR 3211, para 41.
[26] Opinion of Advocate General Geelhoed in Case C-228/99 *Martini* [2001] ECR 1-8401, point 35; Case 138/79 *Roquette Freres* [1980] ECR 3333, para. 25.
[27] Case 114/76 *Bela-Miihle* [1977] ECR 1211, para. 6; McMahon J (2007) (n 15) 25.
[28] TFEU, Art. 39(1)(a).

scope of discretion.[29] Nevertheless, the first objective seems to subordinate to the second objective of the CAP, which is to ensure a fair standard of living for the agricultural community,[30] and hence for the potential stakeholders of agro-food SME clusters. The wording of this objective implies that the increase in individual earnings of persons engaged in agriculture is intended to be principally the effect of the measures indicated in the first objective.[31] In fact, the first objective has raised the issue of whether the EU legislator could decrease guaranteed prices for agricultural goods, and whether the second objective entails a guaranteed income, at least in the long run.[32]

The third objective of the CAP, which is to stabilise markets,[33] does not possess a decisive function in practice,[34] but it could affect the economic performance of agro-food SME clusters. The reason is that the reference to markets means this objective can authorise regulations on income support, pricing and production quotas.[35] In *Werhahn Hansamiihle*, however, the CJEU stated that it does not require the EU legislator to retain existing rights, and producers cannot claim that current rights or market circumstances should be preserved.[36] Moreover, the fourth objective, which is to assure the availability of supplies,[37] may play a crucial role in the operation of agro-food SME clusters. It shows that the CAP is largely predicated on the assumption that the security of supplies is able only to be guaranteed through over-production.[38] As their security also leads to a limitation on commercial prospects,[39] it is not clear whether this objective benefits processing industries, consumers or agricultural producers.

Finally, the fifth objective is to ensure that supplies reach consumers at reasonable prices,[40] which could be one of the main goals of agro-food SME clustering. Perhaps, it covers not only the final consumer but also businesses that produce goods by using agricultural products.[41] As it obviously leaves extensive discretion to the EU legislator, the CJEU in the *Balkan-Import-Export* case found that EU legislation that leads to undoubtedly unreasonable

[29] Danielsen (n 16) 21.
[30] TFEU, Art. 39(1)(b).
[31] Case 297/82 *Danske Landboforeninger* [1983] ECR 3299, para. 8.
[32] McMahon (n 15) 22. However, this view has not received support from the decisions of the CJEU. Case 281/84 *Zuckerfabrik Bedburg* [1987] ECR 49, para. 23.
[33] TFEU, Art. 39(1)(c) "to stabilise markets".
[34] Usher (n 6) 37.
[35] Case 46/86 *Romkes* [1987] ECR 267 para.2.
[36] Joined Cases 63 to 69/72 *Werhahn Hansamiihle* [1973] ECR 1229, para.12.
[37] TFEU, Art. 39(1)(d) "to assure the availability of supplies".
[38] Usher (n 6) 37.
[39] Joined Cases 3, 4 and 6/76 *Kramer* [1976] ECR 1279, paras. 23 & 33.
[40] TFEU, Art. 39(1)(e) "to ensure that supplies reach consumers at reasonable prices".
[41] Danielsen (n 16) 23.

consumer prices may be overridden.[42] It decided that the term *reasonable prices* does not necessarily refer to the lowest possible prices, and the reasonableness should be taken into account in the context of the CAP.[43]

The objectives of the CAP put in place a possible general framework for agro-food SME clustering, which should be consistent with the Treaty's special considerations that the EU institutions must consider when developing the CAP. While developing the CAP and the specific techniques for its implementation, consideration must be given to the unique character of agricultural activity, which stems from the social structure of agriculture and from natural and structural differences across agricultural areas.[44] This has been particularly important in defending the targeting of agricultural rules towards certain agricultural sectors or geographic regions throughout the EU.[45] The EU institutions must also take into account the need to effect the appropriate adjustments by degrees.[46] It is obvious that this underlines that the EU legislator has wide discretion as to what may be considered as *appropriate*.[47] Lastly, it must be taken into consideration that, in the Member States, agriculture is an integral part of the overall economy.[48] It has already been determined by the CJEU that the CAP does not seek to shield agricultural producers from the impacts of a national income strategy.[49]

B – Instruments of the CAP

i - The two pillars of the CAP

The CAP is divided into two pillars, which may affect almost all stakeholders of agro-food SME clusters. In particular, Pillar I concerns the common organisation of the markets (CMO) in agricultural products and direct payments to farmers, and Pillar II refers to rural development policy. As regards Pillar I, despite the lack of a definition for the term *common organisation* in the Treaties, Article 40(1) TFEU specifies that a common organisation of agricultural markets must be formed to fulfil the CAP's objectives. However, a national market organisation is defined by the CJEU as 'the totality of legal devices placing the regulation of

[42] Case 5/73 *Balkan-Import-Export* [1973] ECR 1091, para. 24.
[43] Case 34/62 Germany v. Commission ECR.
[44] TFEU, Art. 39(2)(a).
[45] Case 139/77 *Denkavit* [1978] ECR 1317, para.15; Case 36/79 *Denkavit* [1979] ECR 3439, para.16.
[46] TFEU, Art. 39(2)(b).
[47] Danielsen (n 16) 24.
[48] TFEU, Art. 39(2)(c).
[49] Case 297/82 *Danske Landboforeninger* [1983] ECR 3299, para.8.

the market in the products'.[50] Its aim is to ensure a fair standard of living for producers, market stability, supply certainty, and reasonable prices for consumers via increased productivity and optimal use of factors of production, particularly labour.[51] This definition might perhaps be expanded to include market organisations operating at the EU level,[52] and thus may be compatible with the agro-food SME clustering in the EU regions.

Article 40(1) TFEU also states that, depending on the product concerned, a common organisation of agricultural markets should take the form either of common rules on competition, or compulsory coordination of the various national market organisations, or a European market organisation.[53] This provision does not mandate that the whole agricultural sector be governed in the same manner, but rather permits the EU legislature to select based on the specific product type. Specifically, it calls for the establishment of a common organisation of agricultural markets, rather than one market organisation for each type of product.[54] Hypothetically, if an agro-food good produced by agro-food SME clusters is subject to a common market organisation, it could no longer be subject to national regulation that would need direct authorisation under the Treaty or the common market organisation. According to the CJEU, the Member States must abstain from acting unilaterally when the EU establishes a common market organisation in a specific sector, even if such action is likely to promote the common policy.[55]

Furthermore, Article 40(2) TFEU establishes a wide framework for what constitutes a common market organisation, stating that it 'may include all measures required to attain the objectives' of the CAP. The phrase *all measures* does not only cover the technical regulation of markets through aid, taxes and quotas, but also refers to several instruments that are important to CAP implementation, such as monitoring and enforcing EU legislation.[56] Accordingly, in 2007, the Commission revised the existing regulations on sector-specific market organisations and combined them into a comprehensive single regulation, known as the Single CMO Regulation.[57] The Single CMO Regulation covers additional agricultural products

[50] Joined Cases 194/85 and 241/85 *Commission v. Greece* [1988] ECR 1037, para. 15.
[51] Ibid, para. 15; Case 48/74 *Channasson* [1974] ECR 1383, para. 22.
[52] Danielsen (n 16) 53.
[53] The background to this is that the six original Member States of the European Common Market disagreed about how far agriculture should be subject to a common organisation. In: McMahon (n 15) 25-26.
[54] Danielsen (n 16) 54.
[55] Case 274/87 *Commission v. Germany* [1989] ECR 229, paras 21-22.
[56] Danielsen (n 16) 54.
[57] Council Regulation (EC) No 1234/2007 establishing a common organization of agricultural markets and on specific provisions for certain agricultural products (Single CMO Regulation).

and harmonised rules,[58] which were not previously included in market organisations,[59] and could be able to be subject to agro-food SME clustering.

In addition, under Pillar I of the CAP, direct payments to farmers have been put in place through the related regulation that introduces common rules for certain support schemes.[60] One of its primary goals is to establish an income support scheme for farmers, the *single payment scheme*,[61] which could provide significant support to many stakeholders of agro-food SME clustering. Specifically, support is available to natural or legal persons who exercise an agricultural activity, and hence both owners and tenants of agricultural holdings are covered by the single payment scheme.[62] To receive support, however, any natural or legal person should possess agricultural land and hold payment entitlements with regard to eligible hectares under the single payment scheme,[63] as well as respecting specific statutory management requirements,[64] and good agricultural and environmental conditions.[65]

The rural development policy constitutes Pillar II of the CAP that aims to support the rural areas in the EU regions, where the agro-food SME clusters may be developed, to meet the broad range of socio-economic and environmental challenges of the 21st century. Whereas the traditional structural policy has always been related in some way to agricultural production, rural development policy has wider goals.[66] It includes measures for people who reside in rural areas but are not necessarily involved in agriculture.[67] According to the Rural Development Regulation,[68] the main source of funding for the rural development policy is the European Agricultural Fund for Rural Development (EAFRD).[69] This fund aims to contribute to improving 'the competitiveness of agriculture and forestry by supporting restructuring, development and innovation, the environment and the countryside by supporting land management, [and] the quality of life in rural areas and encouraging diversification of economic activity'. [70]

[58] Such as private storage, import tariff quotas, state aid and competition rules.
[59], Proposal for a Council Regulation establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products COM(2006) 822 final.
[60] Council Regulation (EC) No 73/2009 establishing common rules for direct support schemes for farmers under the common agricultural policy and establishing certain support schemes for farmers.
[61] Ibid, Article 1(b).
[62] Ibid, Article 33.
[63] Ibid, Article 34.
[64] Ibid, Annex II.
[65] Ibid, Article 6.
[66] Danielsen (n 16) 123.
[67] McMahon J & Cardwell M (2015) *Research Handbook on EU Agriculture Law*. Elgar. 113-268.
[68] Council Regulation (EC) No 1698/2005 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD).
[69] Ibid, Article 1(1).
[70] Ibid, Article 4(1) (a), (b), (c).

ii - Existing impediments in agriculture and reform of the CAP

The 2013 reform of the CAP maintained the existence of two pillars but strengthened the linkages between them, thereby offering a more holistic, integrated and global approach to policy support,[71] which could assist the agro-food SME clusters to gain a competitive position worldwide. During the negotiations over the period 2014–2020, the European Parliament was granted more powers on the legislative procedures applying to agricultural issues. This institutional reform delayed the decision-making processes and made the final decisions more rigid.[72] After two and half years of negotiation, the new Multiannual Financial Framework was adopted, but its budget was around 3.5 per cent less than that of the MFF 2007–2013. This EU's budgetary discipline reflects the specific budgetary pressure at the national level in the Member States since the 2008 financial crisis.[73]

The actual aim of the reform was to preserve the constant expenditure of 40 per cent approximately of the EU budget on agriculture and *green* the direct payments by increasing their reliance on *ecological focus areas* to generate environmental advantages. This could contribute to the production of high-quality agro-food goods by the agro-food SME clusters. According to the *greening* provisions, 30 per cent only of direct payments should be payable on the condition that farmers cultivate at least three different crops on their arable land, preserve a minimum area of permanent grassland and sustain areas and landscape characteristics with a specific ecological value.[74] Nevertheless, there was not a real environmental and ecological contribution of these provisions to the EU's rural land. It is broadly recognised that greening, as implemented in the period 2014-2020, was 'unlikely to provide significant benefits for the environment and climate'.[75]

The abovementioned provisions have been an ineffective means of encouraging and rewarding the protection of the environment, which requires regional planning and implementation that may assist the emergence of agro-food SME clusters in the EU regions. Specifically, there was no link between the direct payments and relevant indicators for

[71] Regulations (EU) Nos 1303/2013 to 1308/2013, OJ L 347, 20.12.2013.
[72] Harvey D (2015) 'What does the History of the Common Agricultural Policy Tell Us?'. In: McMahon J & Cardwell M. *Research Handbook on EU Agriculture Law*. Elgar. 21-22.
[73] Council of the European Union, Press Release 439 (2 December 2013), Council adopts the Multi-annual Financial Framework 2014–2020.
[74] Regulation (EU) 1307/2013 establishing rules for direct payments to farmers under support schemes within the framework of the common agricultural policy, Art. 43–47.
[75] European Court of Auditors 'Greening the CAP: income support more complex and not yet environmentally effective, say EU Auditors'. Press Release (12 December 2017).

environmental public goods,[76] such as the proportions of *high nature value farmland* and the utilised agricultural area designated as Natura 2000.[77] In general, it was not provided sufficient explanation for 30 per cent of direct payments to be conditional on compliance with agricultural practices advantageous to the environment. There was also no indication that the common application of those measures across the EU would be particularly effective in maintaining and improving the environmental condition of the EU's farmland.[78] Thus, the *greening* provisions of the CAP were not effective as there was an obsolete and counterproductive direct payments system.[79] The payments for the environment must be targeted toward specific environmental public goods through a logical and rational way in which the 30 per cent of funds under Pillar I for *greening* should be modified to rural development measures under Pillar II, due to their demonstrated efficiency as targeted measures.[80]

The rates of payment were also not clearly associated with protecting the natural environment because they derived from prior levels of support. As these levels are defined by the mix of goods produced and their respective support levels, they were not directly tied to scarcity or the costs of preserving the environment.[81] The rates of payment also varied widely throughout the EU,[82] which is incompatible with the CAP's fundamental principle of a unified common market. According to the 2013 reform, direct payments should be balanced per hectare and gradually distributed more equally across the Member States.[83] However, the contentious problem of harmonising direct payment rates proved to be hard to make substantial progress throughout the reform. It is noteworthy that the pressure to reconnect aid to production as an answer to possible food security threats was insufficient despite the broad scope for the Member States to use voluntary coupled payments, linked to production, subject to approval from the Commission and compliance with the EU's WTO commitments.[84] Generally, the CAP of the period 2014-2020 faced controversial issues to achieve its objectives, such as the

[76] European Commission 'Indicators for the evaluation of the EU's rural development programmes' <https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cmef/regulation-and-simplification/indicators-evaluation-eus-rural-development-programmes_en>.
[77] Natura 'What is Natura 2000' <http://www.natura.org/about.html>.
[78] Rodgers C (2015) 'Environmental Governance and Land Use Policy in Tension? Applying Environmental Impact Assessment to Intensive Agriculture'. In: McMahon J & Cardwell M. *Research Handbook on EU Agriculture Law*. Elgar. 150.
[79] Meredith S & Hart K 'CAP 2021-27: Using the eco-scheme to maximise environmental and climate benefits' Report for IFOAM EU by IEEP. (2019)
[80] Matthews A (2012) 'Greening the CAP: Which Way Forward?'. Paper to the 126th EAAE Seminar: New Challenges for the EU Agricultural Sector and Rural Areas: Which Role for Public Policy?. Capri (27– 29 June 2012); Heyl K et al. (2020) 'The Common Agricultural Policy beyond 2020: A critical review in light of global environmental goals'. Review of European, Comparative and International Environmental Law. <https://doi.org/10.1111/reel.12351.>.
[81] Harvey (n 72) 29-30.
[82] Ibid.
[83] Regulation 1307/2013, Art.14.
[84] Regulation 1307/2013, Art. 52-55; However, sugar quotas (supply management) are to be eliminated in 2017, the decision to end dairy quotas was upheld and proposals to increase intervention prices were resisted.

legitimacy of direct payments, but prevented regression to more interventionist and market-distorting policies, which could cause difficulties to the operation of agro-food SME clustering.

The legitimacy of direct payments to farmers has constituted a problem for the CAP and its financing, particularly in times of constant austerity for public budgets.[85] As the principal aim of direct payments is income support, it is obvious that there is a need for a drastic redistribution of direct payments related to Pillar I for fair financial assistance. During the period 2013-2020, direct payments to persons who work in agriculture mostly benefited those that already earn more income per person, a phenomenon that is extremely contrary to any rational conception of financial assistance. While a substantial redistribution may be required to assist and reward countries with low per capita incomes, it seems however that the absolute country level of income in agriculture is not the suitable standard to determine income support. The average aggregate measurements of income inequalities and difficulties cannot provide a clear indication of the need for income support, whereas the method of establishing the range of farm payments based on farm area was diametrically opposed to any fair way of distribution.[86] Accordingly, the factor of a farm area that determines the scale of farm payments may not be the appropriate criterion for the support of farmers who are stakeholders of agro-food SME clusters.

Historically, the CAP has never tended to support the incomes of individual farmers, even less those with low incomes. The CAP has not been a social policy because price support, which is based on the range of production, unavoidably delivers better rewards to large farms than to small farmers.[87] The required adaptation of agriculture towards larger holdings was clearly recognised by the architects of the CAP, as a unique way to improve income.[88] Thus, all forms of price support, such as direct payments, were considered the sole method of achieving that goal, rather than the direct means of income support.[89] However, the rational way is that the direct payments' scheme that supports farm incomes must be considerably modified, so that the CAP can support the incomes of poorer farmers, which could become stakeholders of agro-food SME clusters.

The new CAP seems to consider the abovementioned issues regarding the distribution of direct payments, income support and environmental conservation in the context of balanced

[85] Matthews (n 80)
[86] Harvey (n 72) 33.
[87] Ibid.
[88] European Commission (1968) 'Memorandum sur la Réforme de l'Agriculture dans la Communauté Économique Européenne (Mansholt Plan)' COM (68) 1000.
[89] Cardwell M (2015) "The Direct Payments Regime: Delivering 'a Fair Standard of Living for the Agricultural Community'?". In: McMahon J & Cardwell M. *Research Handbook on EU Agriculture Law*. Elgar. 41-44.

regional development. This may offer a social benefit, improve the quality of life, and ensure social cohesion, thus generating favourable conditions for agro-food SME clustering. The new legislation,[90] which is due to be implemented in 2023, appears to set rules aiming to make the CAP more responsive to current and future challenges, such as climate change, while assisting farmers by providing more targeted support to smaller farms. According to the Commission, this policy is an instrument to achieve the objectives of the European Green Deal, which is a strategy for the EU's environmental, economic and social sustainability.[91]

For the first time, the two pillars will operate together with a complementary approach, under a single strategic framework aimed at contributing to simplification and flexibility for the Member States in adapting measures to local conditions.[92] In particular, the Member States will implement the new CAP with a CAP strategic plan at the national level, which would be determined on the basis of an intervention logic, beginning from an evidence-based needs assessment.[93] The particularities considered in the national plans throughout the EU could be important for the establishment of specific agro-food SME clusters that may utilise the advantages of each EU region. Every plan should offer Member States greater freedom and responsibility in designing and implementing their own strategies, while the objectives can still be defined at the EU level.[94] Obviously, there is no renationalisation of the CAP as the Member States should 'choose the most appropriate solutions for their specific contexts, to allow for, according to the ambitions expressed by the Commission, the maximisation of their contribution to the objectives of the Union".[95] In this way, the agro-food SME clustering under the new CAP may assist each region to achieve its full potential in agriculture and receive socio-economic benefits in the context of balanced regional development.

[90] EU Regulation 2021/2116 on the financing, management and monitoring of the CAP; EU Regulation 2021/2115, establishing rules on support for national CAP strategic plans; EU Regulation 2021/2117, amending EU Regulations 1308/2013 on the common organisation of the agricultural markets, 1151/2012 on quality schemes for agricultural products, 251/2014 on geographical indications for aromatised wine products, and 228/2013 laying down measures for agriculture in the outermost regions of the EU.
[91] European Commission 'Analysis of Links Between CAP Reform and Green Deal'. SWD/2020/0093.
[92] Matthews (n 80).
[93] Carey M (2019) 'The Common Agricultural Policy's new delivery model post-2020: National administration perspective'. EuroChoices, 18, 11–17.
[94] Erjavec E et al. 'Research for AGRI Committee–The CAP Strategic Plans Beyond 2020: Assessing the Architecture and Governance Issues in Order to Achieve the EU-Wide Objectives' European Parliament (2018).
[95] De Castro P et al. (2020) 'The Common Agricultural Policy 2021–2027: A new history for European agriculture'. Ital. Rev. Agric. Econ. 75, 5–12.

II - Agro-food supply chain for clusters of SMEs

A – Agro-food supply chain's sectors: agriculture, food processing and distribution

The changing agricultural sector, whose activities include the production of crops and the raising of livestock, constitutes the first part of the agro-food supply chain that links the agricultural raw supplies via their processing and distribution with consumers.[96] The agro-food supply chain is complicated as it consists of a diverse variety of businesses that operate in various marketplaces and offer a wide range of food items to satisfy the preferences and needs of different consumers. As a result, there are several actors in the three economically main sectors of the agro-food supply chain (agriculture, food processing, and distribution) including farmers, input suppliers, manufacturers, packagers, transporters, exporters, wholesalers, retailers and consumers.[97] All those multiple players in the agro-food supply chain could potentially become stakeholders of agro-food SME clusters by participating in the production, processing and distribution of agro-food goods.

The category of agro-food goods consists of agricultural products and processed agricultural products (PAPs). Specifically, all agricultural products are listed in Annex I TFEU, and subject to a common market organisation under the framework of the CAP. By contrast, PAPs are non-agricultural items made out of agricultural products and are typically called *Non-Annex I goods*.[98] They are part of the food processing sector, which is the second sector in the agro-food supply chain and is engaged in the production of a wide range of goods, each of which requires a distinct processing activity. Therefore, it encompasses various diverse activities, such as cleaning, cutting and drying fruits and vegetables, refining sugar, butchering livestock, milling cereals and more. Namely, the food processing sector is comprised of several food processing subsectors, each of which has distinct features.

In the EU, more than 70 per cent of all agricultural items are converted into manufactured food products, the majority of which are Non-Annex I goods. While the EU is the leading exporter of PAPs worldwide and has a positive trade balance, its market share of the global export market has been declining over the past decade to the benefit of developing countries.[99] Aside from a small number of large companies, 99 per cent of businesses in the food processing

[96] European Commission 'Monitoring Report 'Monitoring of the implementation of principles of good practice in vertical relationships in the food supply chain' (2016) 6.
[97] See Chapter 3.
[98] Regulation (EU) No 510/2014 laying down the trade arrangements applicable to certain goods resulting from the processing of agricultural products.
[99] European Commission 'PAPs in the EU'. <https://single-market-economy.ec.europa.eu/sectors/food-and-drink-industry/trade-processed-agricultural-products/processed-agricultural-products-eu_en>.

sector are SMEs,[100] which may become members of agro-food SME clusters. They could be in a better position to compete in the global markets, which are characterised by rapid changes in customer preferences and technological trends, and by the increasing consolidation of distribution channels. An effective distribution sector for agro-food products is centred on customer demands. As the last part of the agro-food supply chain and therefore the key direct-to-consumer channel for agro-food goods, businesses should develop efficient distribution systems to provide 'the right product to the right place at the right time'.[101] A sustainable distribution sector would facilitate the proper functioning of the agro-food supply chain because it can improve competitiveness thus helping consumers to avoid an escalation of prices of agro-food goods.

The Farm to Fork strategy could contribute to this purpose. This strategy was introduced by the Commission as one of the key actions under the European Green Deal. It aims to enhance a sustainable model for the agro-food supply chain, which would benefit health and quality of life for consumers, and decrease health-related costs for society. Certainly, the stimulation of technological innovation may contribute to the unhindered access of consumers to a variety of agro-food goods, by linking them faster and more directly with producers.[102] Consequently, innovation could be a central element for the development of the agro-food supply chain and, by extension, the emergence and effective operation of the agro-food SME clusters in the EU regions.

B - Vertical integration and the need for technological innovation

The agro-food supply chain is vital for the everyday life and well-being of consumers in Europe. It is the main contributor to value added in the EU since its three key sectors interrelate with other sectors of the EU economy, and its importance is further heightened by connections among international and domestic markets.[103] By generating value added of 800 billion euros and almost 900 billion euros turnover annually,[104] the agro-food supply chain is a leading producer in the EU and contributes to the constant process of market integration. Therefore,

[100] FoodDrinkEurope 'Data and Trends'. <https://www.fooddrinkeurope.eu/resource/data-trends-of-the-european-food-and-drink-industry-2021/.>.
[101] European Commission 'Monitoring of the implementation of principles of good practice in vertical relationships in the food supply chain' (January 2016) 48-52.
[102] Ibid.
[103] European Commission 'High Level Forum for a Better Functioning Food Supply Chain' (2019).
[104] European Commission 'Monitoring EU agri-food trade' (2022).

the agro-food SME clusters could foster the networking of businesses that participate in the sectors of the agro-food supply chain, from the phase of production until the end consumer of agro-food goods. Namely, they may involve businesses of the entire vertical spectrum of the supply chain and businesses from complementary sectors, such as packaging supplies, processing equipment, and transportation.[105]

In addition, the EU's agro-food supply chain is a leading employer, with more than 47 million persons working in more than 15 million holdings or enterprises in agriculture, food processing and distribution sectors, the vast majority of which are SMEs.[106] Nevertheless, labour productivity in the whole industry is lower than in other industries in the EU.[107] For this reason, there is a need to increase sector efficiency and productivity via new technologies. The production of innovative goods and processes would assist the agro-food supply chain to satisfy the changes in consumer preferences, whilst promoting product diversification. A combination of factors including the framework conditions, industry dynamics and access to high-skilled labour needs to be examined to provide a boost to technological innovation, and act as a lever for increased competitiveness of the industry in the future.

Technological advances in the agro-food supply chain receive attention from stakeholders, marketers and public policymakers because of the potential to facilitate food safety management, provide healthier foods, improve efficiency and make operations more environmentally sustainable.[108] This means that innovation in the agro-food supply chain could include new products, new types of packaging, formulation, and marketing methods and implementation of new or drastically better logistical processes.[109] Certainly, a marketing innovation is particularly important for the agro-food supply chain through developments in product packaging, and generally in product and process changes via demand-led innovation.

Consumer expectations such as pleasure, health, physical, convenience and ethics, are driving forces for invention and product innovation in the agro-food supply chain, which can adapt to specific target groups based on social and environmentally sustainable preferences.[110] For instance, the reduction of energy consumption and food waste is a central trend that is related to the growing attention, given by processors to environmental concerns, which is

[105] Porter M (1998) 'Clusters and the New Economics of Competition'. Harvard Business Review. 76(6), 77-90:78. According to Porter, value chain is a connected series of organisations, resources, and knowledge streams involved in the creation and delivery of value to end customers.
[106] European Parliament (2020) Draft Report on a Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system (2020/2260(INI)) 14.
[107] Eurostat 'Structural Business Statistics'. <https://ec.europa.eu/eurostat/web/structural-business-statistics/data>.
[108] EIT Food 'European Institute of Innovation and Technology Food'. <https://www.eitfood.eu/>.
[109] OECD 'Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data'. (2018).
[110] Food Drink Europe (n 100).

driven by consumer demands.[111] Moreover, consumer demands are the main drivers behind food packaging innovation to enable convenient food. Attention to the environmental impacts of packaging is another development in evolving consumers' requirements, who increasingly want to know that the environmental impacts of packaging are limited and recycling is possible. Other trends observed in the field of packaging are the introduction of *intelligent packaging* that allows monitoring of the freshness of the food, and *active packaging* that aims to extend the shelf-life of the food and improve its quality.[112]

Digitalisation is a key driver for growth in distribution of the agro-food supply chain, which however is lagging in e-commerce that can create new opportunities for the market entrance of businesses. This is because technological advances allow direct communication with consumers.[113] New technologies reinforce the competition among businesses in the way the distribution sector operates and interacts with consumers, thus increasing the opportunities for both consumers and businesses. Nowadays the upcoming trend of online labelling has the potential to enable consumers to make informed choices.[114] Accordingly, new technologies in the agro-food supply chain could be a key element for the emergence and effective operation of the agro-food SME clusters in the EU.

C – The impact of EU food law on clustering of SMEs

The agro-food SME clusters could benefit from the EU food law. The reason is that it can guarantee access to safe and healthy food because covers the entire agro-food supply chain. The General Food Law Regulation,[115] which is the basis of the EU food law, put in place a comprehensible framework for the development of legislation at the EU and national levels.[116] It sets out general principles, requirements and procedures that further food/feed safety, by covering all phases of production and distribution. EU food law pursues to ensure a high level of protection of health and human life, as well as defending consumers' interests, including fair practices in the food trade, by taking into account the protection of health and the environment, animal health and welfare.[117] It also aims to achieve the free movement in the EU of food

[111] European Commission 'The Farm to Fork Strategy' Publication (2020).
[112] European Commission 'The competitive position of the European food and drink industry' Industry Report (2016) 48.
[113] Commission: Publication (2020) (n 111) 16-17.
[114] Regulation (EU) No 1169/2011 Of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, , Art. 12, para 4.
[115] General Food Law Regulation (n 4).
[116] See De Schutter O. et al (2020) 'A Common Food Policy' for Europe: How governance reforms can spark a shift to healthy diets and sustainable food systems. Food Policy, 96, 101849.
[117] General Food Law Regulation, (n 4) Art. 5(1).

products according to the general principles and requirements set out in the relevant EU legislation.[118] This shows that the EU food law focuses mainly on the protection of consumers rather than on the interests of food businesses and the food sector as a whole.[119]

EU food law seeks to protect human health based on scientific evidence and risk analysis.[120] Unquestionably, discussions relating to the EU approach to the WTO disputes concerning hormones and genetically modified foods contributed to making food law a more science-based area.[121] This means that if a risk assessment is unclear, but it provides scientific evidence to suspect a risk to food safety, public authorities have the legitimacy to enforce protection measures.[122] A key provision in EU food law is that food cannot enter the market when it is not safe,[123] and businesses have the responsibility to meet this requirement.[124] For a number of hazards, the EU legislator has defined satisfactory levels of food safety, thereby separating unsafe foods from safe foods.[125] EU food law and the CAP have emphasised product-specific legislation to ensure product quality. To create a common market for food products between countries in which various product standards are applied, efforts were undertaken for agreement on common definitions regarding food product requirements in the EU directives.[126] However, applying the principle of proportionality, the CJEU may check product standards established by the Member States when they are used to exclude from the market products that originated in the other Member States.[127]

While normal food products could easily be entered the EU market, approval mechanisms have been developed to control food substances with technological risks.[128] These are the food additives that have been included in a list where they comply with its requirements.[129] Although approval systems differ, a common feature is that a food product

[118] Ibid, Art. 5(2).
[119] Meulen (van der) B (2010) 'The Function of Food Law. On the Objectives of Food Law, Legitimate Factors and Interests Taken into Account.' European Food and Feed Law Review 2, 83–90:83–90; Meulen (van der) B (2009) Reconciling Food Law to Competitiveness. Wageningen.
[120] General Food Law Regulation, (n 4) Art. 6.
[121] WTO: Appellate Body Report (2998) *European Communities- Measures Concerning Meat and Meat Products*, WT/DS26/AB/R (16 January 1998); Young (2003) "Political Transfer and 'Trading Up'? Transatlantic Trade in Genetically Modified Food and U.S. Politics", World Politics, 55(4) 457-484.
[122] Szajkowska A (2012) *Regulating food law. Risk analysis and the Precautionary Principle as General Principles of EU Food Law.* Wageningen. 155.
[123] General Food Law Regulation, (n 4) Art.14.
[124] General Food Law Regulation, (n 4) Art.17(1).
[125] Hyde R (2013) Why separate the regulatory regimes applicable to food safety and product safety? Legal Studies. (33(4) 509-531: 510-2; Will M.& D Guenther (2007) *Food Quality and Safety Standards.* Eschborn. 162; Meulen (van der) B (2012) 'The Core of Food Law. A Critical Reflection on the Single Most Important Provision in All of EU Food Law'. European Food and Feed Law Review 3, 117–125.
[126] MacMaoláin C (2007) *EU Food Law: Protecting Consumers and Health in a Common Market.* 67-73.
[127] Case 120/78. "Rewe-Zentral AG v Bundesmonopolverwaltung für Branntwein [Cassis de Dijon]." 1979, ECR. 649–65.
[128] Hyde R et al (2017) 'European Novel Foods Policy at a critical juncture: drawing lessons for future Novel Food Governance through a retrospective examination of Regulation 258/97' Food and Drug Law Journal. 72(3).
[129] Regulation (EC) No 1333/2008 on food additives.

can only enter the market after approval based on a scientific risk assessment, which puts limits on the existence of undesirable substances and organisms in food.[130] A zero-tolerance applies for residues of unapproved products and substances for which there is no determined lowest acceptable safety level.[131] Moreover, the EU law on food hygiene has developed the Hazard Analysis and Critical Control Points (HACCP) system to prevent food safety risks by controlling processes in production and trade. This system requires businesses to make a well-documented analysis of the business procedures by examining potential hazards and identifying the ways to recognise and deal with them to maintain food safety.[132] Concerning trade, a requirement of traceability applies,[133] for businesses to record the origin of their inputs and the direction of their food products. In this way, they can identify possible food safety incidents and therefore allow the authorities to rapidly recognise the source of the risk and its diaspora, thus eliminating it and facing the consequences.[134]

EU food law also examines the information provided by businesses to consumers through advertising and labelling of their food products.[135] All food products should be labelled in an easily understood language, namely in the Member State's language. The EU legislation classifies the relevant information as mandatory, restricted, or forbidden. Regarding the mandatory pieces of information, the most important are the name of the food, the presence of allergens, the list of ingredients, the net quantity, the date of minimum durability, and more.[136] Additionally, the Annex to the Regulation on nutrition and health claims,[137] sets out nutrition restrictions such as the term *light* can be only used in case of a reduction of at least 30 per cent of certain nutrients or energy. Undoubtedly, health claims related to the consequences of a specific food product on health should be supported by scientific research and approved.[138] Furthermore, the origin of a product should be labelled, otherwise omitting this information would mislead the consumer. Several designations of origin are also protected, and the Regulation on agricultural indications offers a competitive advantage to small producers to use

[130] Regulation 1881/2006 on mycotoxins and chemicals; Regulation 2073/2005 on microbiological criteria; Regulation 396/2005 on pesticide residues; Regulation 470/2009 and Regulation 37/2010 on veterinary drugs, Directive 96/22 on hormones, Regulation (EURATOM) 3954/87 and Regulation (EURATOM) 944/89 on radioactive contamination.
[131] MacMaoláin (n 126) 175.
[132] Hyde R. et al. (2014) 'One HACCP, two approaches: experiences with and perceptions of the Hazard Analysis and Critical Control Points (HACCP) food safety management systems in the US and the EU'. Administration and Society, 48(8), 962–987:965-6.
[133] General Food Law Regulation, (n 4) Art.18
[134] MacMaoláin (n 126) 179-181.
[135] Regulation (EU) No 1169/2011on the provision of food information to consumers (FIC Regulation).
[136] General Food Law Regulation, (n 4) Art.9.
[137] Regulation (EC) No 1924/2006 on nutrition and health claims made on foods.
[138] O'Rourke R (2007) *European Food Law*, 2007. 129-138.

quality systems to promote their goods by keeping 'traditions alive while taking into account the developments of new production methods and material'.[139]

EU food law has changed significantly in recent years due to the different needs and growing concerns regarding consumer information and food safety. The agro-food SME clusters may take advantage because of the levels of consumer protection that are ensured by EU food law, which contributes to the reputation and market position of agro-food goods both in the EU and worldwide. Given the new opportunities globally as regards market and investment capabilities, the agro-food supply chain could expand its horizons and hence offer a boost to productivity. The EU requires high-quality food standards for exports and therefore can play a vital role as a key international trade standard-setter. Accordingly, the agro-food supply chain would strengthen its position in international trade, which could assist the agro-food SME clusters to become competitive in the global context.

Conclusion

This chapter shows that the CAP, EU food law and technological progress in the agro-food supply chain, which consists mainly of the sectors of agriculture, food processing, and food distribution, could support agro-food SME clustering in the EU. Rules and regulations in the CAP apply to agricultural activities, products, producers, and holdings, to promote competition and trade through the CAP's objectives that may serve as guidelines for the operation of agro-food SME clusters. According to Article 39 TFEU, the CAP should contribute to increasing agricultural productivity and thus ensuring a fair standard of living for the agricultural community. It also aims to stabilise markets, assure the availability of supplies, and ensure that supplies reach consumers at reasonable prices.

The new CAP seems to strengthen the linkages between its pillars for a common organisation of agricultural markets and the direct payments to farmers, as well as supporting the rural areas and environmental conservation in the context of balanced regional development. The identification through the national plans of the particularities of the EU regions may become a key factor in creating agro-food SME clusters that could utilise the advantages of specific high-quality agro-food goods in the respective regions. In addition, the agro-food supply chain includes a diverse variety of businesses, mainly SMEs, and is responsible for a significant share of employment in the EU. By taking advantage of the

[139] EU regulation 1151/2012 on quality schemes for agricultural products and foodstuffs. Recital (1).

technological progress throughout its sectors, it also may provide sufficient underpinnings for the agro-food SME clusters to compete in various marketplaces by offering a diversified range of agro-food goods.

Furthermore, EU food law puts in place high-level standards for consumer protection, and safety, hygiene, advertising and labelling of agro-food goods. This makes the EU a major international trade player for high-quality agro-food goods. Thus, the EU agro-food supply chain can become a strong commercial partner, which may ensure important competitive advantages for agro-food SME clusters internationally. Consequently, new technologies, balanced regional development, and the competitive position of agro-food goods due to high-level standards enforced by EU food law could be essential factors for the sectors of the agro-food supply chain to support agro-food SME clustering in the EU regions.

CHAPTER 5: Legal aspects and socio-economic implications of new technologies in agro-food SME clustering

Introduction

The agro-food supply chain comprises a diverse variety of businesses, which are affected by new technologies to effectively operate in several marketplaces and provide a range of agro-food goods that distribute them to meet the demands of consumers.[1] New technologies are mostly based on robotic systems with different levels of autonomy, even the most sophisticated devices with embodied artificial intelligence. Robotics is becoming the driving technology that supports a novel generation of autonomous and cognitive devices which, via their learning capabilities, offer a strong connection between the physical and digital world. As robots however can obtain a high degree of autonomy, the question of who is liable for any damage they may cause is complicated, especially in the current legal system that assumes linear causation while the actions of autonomous robotised systems would be nonlinear and unpredictable.[2] Robotics technology may also have a substantial impact on employment in the agro-food SME clusters. Robots are already able to do numerous forms of manual labour and additionally perform several routine cognitive tasks, thereby demonstrating that recent advancements in machine learning will put a significant part of employment at risk in the coming years.[3]

For these reasons, this chapter aims to justify that there is a need to regulate robots and address the socio-economic implications stemming from their extensive use. To this end, it initially highlights the significance for the agro-food SME clusters to reap the benefits stemming from the recent technological developments throughout the agro-food supply chain. It also discusses legal issues related to the regulation of robots and subsequently deploys them in the context of EU robot law. This chapter then considers potential socio-economic implications of robotics technology in agro-food SME clusters, and finally identifies an innovative way for agro-food SME clustering and new technologies to make a significant contribution to society and the economy.

[1] See Chapter 4.
[2] Dekker S (2009) 'In the System View of Human Factors, who is Accountable for Failure and Success?'. Human Factors and Ergonomics Society Europe Chapter Annual Meeting in Linköping, Sweden, October 2009.
[3] Frey C B & Osborne M (2017) 'The future of employment: How susceptible are jobs to computerisation?' 114 Technological Forecasting and Social Change 254, 266.

I - Technological developments in the agro-food supply chain

Technological innovation is of immense importance for the operation of the EU agro-food industry, which holds a leading role in ensuring food security and nutrition as well as reducing the negative impact on the economy in times of crisis. Accordingly, the agro-food SME clusters may exploit the advantages arising from new technologies throughout the agro-food supply chain, where robot applications have already begun to transform modern agriculture, food processing, and food distribution systems.

Regarding agriculture, which could normally be the first sector of agro-food SME clustering, innovative technologies have revolutionised farming and changed the way that farmers manage agricultural land and livestock. Satellite-driven sensors and geo-positioning systems are currently widely used to track weather patterns and geological changes in order to detect moisture and nutrients in the soil.[4] Advanced robotised systems also automatically plant, fertilise, irrigate, and harvest plants, as well as carrying out on-farm data collection that serves to increase crop yields.[5] Similarly, in livestock farming, fitness tracking and 5G collars enhance efficiency by accurately monitoring health conditions and welfare of farm animals, thus providing valuable information for appropriate nutrition to improve their health and increase their output.[6]

Technological developments in agricultural genetics have begun to affect processes in growing plants and raising animals. This is because advanced genomics-based tools offer precise and usable information on the field of genetic code evolution to improve agricultural plant species and livestock.[7] Thus, genome-scale and farm technologies can increase efficiency and productivity of modern agriculture to feed a global population set to reach nearly ten billion by 2050.[8] Technology-driven agriculture is also looking ahead to face the growing global challenges by using the Internet of Things,[9] which is applied to plants and farm animals to build an Internet of Living Things. In this system, sophisticated sensors embedded in waterways,

[4] Schriber S (2019) 'Smart Agriculture Sensors: Helping Small Farmers and Positively Impacting Global Issues, Too'. user Electronics, 1 June 2019.
[5] Impressive models of agricultural robots are: Harvest CROO; Fendt's Xaver; See & Spray.
[6] 5G RuralFirst 'Agritech' <https://www.5gruralfirst.org/project/agritech/>.
[7] De Clercq M et al. (2018) 'Agriculture 4.0: The Future of Farming Technology'. World Government Summit, February 2018. 15.
[8] World Bank, 'Population estimates and projections' <https://databank.worldbank.org/source/health-nutrition-and-population-statistics:-population-estimates-and-projections>.
[9] The Internet of Things is a network where physical objects are interconnected to collect and exchange data making them responsive. See Matt Burgess 'What is the Internet of Things? WIRED explains' (Wired, 16 February 2018).

fields, irrigation structures, and tractors, are combined with data dashboards, genome-identifying devices, and machine-learning systems, to open the paths to a new generation of smart agriculture.[10] This technological advancement has 'the capacity to sense and respond to its environment in a way that maximises production, while minimising negative impact.'[11]

New technologies have contributed significantly to the development of food-processing, which could typically be the second sector of the supply chain of agro-food SME clusters. Pressing demands of increased productivity and advancements in various technological sectors over the last two decades have necessitated the deployment of industrial automation and the advent of robots. Industrial robots are broadly used in almost all food manufacturing plants to perform various tasks from picking and placing to palletising, packaging, and the labelling of agro-food goods.[12] To achieve effective performance, however, each robot application should be based on suitable kinematic and dynamic models to predict actuator forces for the end-effector tasks and also set actuator torques needed to create the desired trajectory.[13] The dexterity of industrial robot manipulators can therefore contribute to mitigating the effects of potential disturbances, thereby accomplishing tasks that require high levels of precision, repeatability, and reliability.

Innovation in food processing is also indispensable for the preservation and manufacturing of agro-food goods because it furthers non-thermal technologies and alternative thermal methods that exert a minimal impact on the nutritional properties.[14] It promotes technological developments in food refrigeration and modified atmosphere packaging that are key preservation processes for agro-food goods. Importantly, advanced vision systems with multiple cameras are harnessed for inspecting and testing to identify defects and ensure quality control through robot learning.[15] Food safety constitutes an essential element for food-processing, and therefore robots should be used based on the strict requirements with hygienic design of their manipulators and end-effectors to avoid transmission of germs and bacteria.[16] In a futuristic hybrid environment also where the human-robot interaction is dominant, there is

[10] Chalimov A (2020) 'IoT in Agriculture: 5 Technology Use Cases for Smart Farming'. Eastern Peak, 7 July 2020.
[11] Fraser E & Charlebois S (2016) 'Automated farming: Good news for food security, bad news for job security'. ARELL Food Institute - University of Guelph, 2 April 2016.
[12] Business Wire 'Insights into the Global Food Robotics Market - Analysis, Trends and Forecasts (2020 to 2025)' (16 March 2020.
[13] Iqbal J et al. (2017) 'Prospects of robotics in food industry' 37 Food Science and Technology 159, 160.
[14] Jan A et al. (2017) 'Non-thermal processing in food applications: A review'. 2 International Journal of Food Science and Nutrition 171.
[15] Iqbal (n 13) 159.
[16] Ibid 161-162.

a vital need to standardise risk hazard by assessing hazard situations through the use of smart sensors and then isolating robot activities from human access.[17]

The recent technological developments have affected food distribution systems, which could be the third sector of the supply chain of agro-food SME clusters. To respond to burgeoning demand, food distributors have adopted advanced technologies that meet more efficient market needs and consumer expectations. They use modern transportation means and cooling facilities to supply fresh agro-food goods from the place of production to the markets where consumers enjoy them on a daily basis.[18] Match-making programmes and internet-based buying services also contribute to overcoming the marketing obstacle and linking producers with buyers. They facilitate novel distribution management systems that can successfully track delivery trucks and plan delivery routes, thereby avoiding waste in distribution operations.[19] For instance, many applications of drones are currently able to meet consumer large-scale delivery needs by achieving to deliver food products to extremely dense urban areas and overly remote rural locations.[20] Certainly, there is already a remarkable deployment of a plethora of self-driving vehicle technologies, from autonomous forklifts to driverless small plant trucks, pursuant to controllable testing environments offered by places, such as shipping yards of food distribution.[21]

To stay competitive, businesses in the logistics industry invest in robotic systems that can make their applications practically endless, mainly in e-commerce which requires a high degree of velocity and efficiency to cope with the rapid growth of online shopping.[22] Automation that uses data-driven software to reduce errors and optimise scalability in logistics, helps in the improvement of customer service by offering a variety of solutions from progressing package labelling to streamlining warehouse management systems.[23] Wearable technology is also gradually becoming a standard element in the food logistics industry to increase speed and reduce hassle in picking, packing and shipping processes.[24] Additionally, cloud computing applications offer efficient and flexible solutions in logistics by making non-digitised operations accessible on an online dashboard, thus cutting transaction costs,

[17] ABB 'Fencing systems' <https://new.abb.com/low-voltage/products/safety-products/fencing-systems>.
[18] James C (2019) 'Food transportation and refrigeration technologies—Design and optimization'. In: Accorsi R & Manzini R (eds.) *Sustainable Food Supply Chains*. Academic Press. 185-199.
[19] For example, *entrée* software for food distributors: NECS 'entrée V4 SQL' <https://necs.com/eV4SQL_KB/index.html?gettingstarted.html>.
[20] Kelso A (2019) 'Food Delivery Via Drones May Be Closer Than You Think'. Forbes (12 July 2019).
[21] Britt P (2018) '10 Robots That Can Speed Up Your Supply Chain'. *Robotics Business Review*, 9 May 2018.
[22] Heater B (2019) 'Amazon debuts a pair of new warehouse robots'. *TechCrunch*, 5 June 2019; Berthene A(2019) 'How Amazon's Whole Foods acquisition changed the grocery industry'. *Digital Commerce* 360, 21 Jun 2019.
[23] Witschge L (2019) 'Rotterdam is building the most automated port in the world'. *Wired*, 7 October 2019.
[24] Wiggers K (2019) 'ProGlove raises $40 million for barcode-scanning industrial gloves'. Venture Beat, 9 September 2019.

increasing transparency and satisfying consumer preferences for fast crowdsourced delivery.[25] The Internet of Things also which turns physical objects to be connected to smart devices and systems, is used in diverse ways to manage the food distribution sector, such as monitoring supply chain quality control and detecting tampered packages.[26]

The agro-food SME clusters in the EU could benefit from the recent technological developments by utilising the capacity offered from the abovementioned innovations, which are used throughout the agro-food supply chain. Farm and genome-scale technologies in agriculture, preservation systems and industrial automation in food processing, and modern logistics applications in food distribution could support agro-food SME clustering. Those technological advancements converge to robotics technology, which is an interdisciplinary area that affects, to a large extent, many humans in their daily life. For this reason, it is of immense importance to examine the relevant legal aspects and socio-economic implications surrounding the possible use of robots in agro-food SME clusters across the EU regions.

II - Legal aspects for robotics in agro-food SME clustering

A - Regulating robots

Given that new technologies affect to a large extent the agricultural, food-processing, and food-distribution sectors of the economy, the agro-food SME clusters may be in the position to reap the benefits stemming from the advent of robots. However, due to the increasing sophistication of robotic systems and their widespread deployment, it is difficult to imagine how they would be used, and therefore, it is increasingly difficult to create comprehensive legislative and consumer protections for their use. As robots obtain a higher degree of autonomy, the matter of where liability lies in cases that something went wrong is complicated.[27] Robots that might cause bodily injury are currently designed in a manner that is analogous to rigid versions of *The Three Laws of Robotics*,[28] which constitute a key framework for human–robot interaction that respects the human values.[29] However, these abstract rule-

[25] For example, Food Connex is an innovative cloud-based software for food distributors: Food Connex <https://www.foodconnex.com/>.
[26] Shacklett M (2018) 'IoT Gains a Foothold in Food Supply Chains'. Food Logistics, 19 March 2018.
[27] Is the designer liable, the producer, the operator who provided a wrong instruction, or a combination of all of them?
[28] Asimov I, (1950) *I, Robot*. Gnome Press. The Three Laws of Robotics developed by Isaac Asimov: (1) A robot may not injure a human being, or, through inaction, allow a human being to come to harm. (2) A robot must obey the orders given it by human beings except where such orders would conflict with the First Law. (3) A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.
[29] Hubbard P F (2014) 'Sophisticated robots: Balancing liability, regulation, and innovation' 66 Florida Law Review 1803, 1808.

based approaches that simply prescribe how robots should act around humans cannot take into consideration the complexities associated with highly sophisticated robotic devices entering the real world.[30]

Indeed, the matter of liability is more complicated because the damage caused by robots could be the result of a multitude of circumstances related to their actions, which may depend not only on software for self-learning and hardware, but also, on sensors that interact with unpredictable factors.[31] Essentially, *The Three Laws of Robotics* focus on functional morality, which presumes that robots have adequate cognition and agency to act morally correctly.[32] Nevertheless, functional morality ignores operational morality,[33] in which robot actions and inactions are associated with designers who create robots and users who handle them in operational contexts.[34] Robotic systems may be autonomous sometimes and teleoperated at different times with remote operators who although possibly seek to control robots in good faith, may otherwise possess inadequate sensory information.[35] This limited human ability to control robotics technology leads to legal uncertainty, which should be addressed by designing effective legislation that would resolve issues related to liability for the actions of robots.

The legal system may face the potential disturbances resulting from technological developments in agro-food SME clusters, by addressing the allocation of risks, and assessing the damaging consequences of any relevant activity and private interaction. Tort is the enduring legal doctrine on which parties can invoke the protection of their rights and interests,[36] whereby it could be the appropriate instrument to be used to cope with the negative effects of the advent of robots. 'A tort is an act or omission that gives rise to injury or harm to another and amounts to a civil wrong for which courts impose liability',[37] which is based on the balancing of conflicting interests that are not necessarily reflected in specific normative provisions.[38] This means that the legal system contains key internal mechanisms that would address the possible risks in a robotised world, by ensuring a balance of competing interests between advocates of novel applications and ordinary people who are entitled to redress from injury or harm.[39]

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[30] Goodall N J (2014) 'Ethical decision making during automated vehicle crashes' 2424 Transportation Research Record 58.
[31] Leenes R et al. (2012) 'Robolaw D3. 1: Inventory of current state of robolaw' Report - Robolaw consortium. 8.
[32] Murphy R & Woods D (2009) 'Beyond Asimov: The Three Laws of Responsible Robotics'. *Institute for Human and Machine Cognition*. 7.
[33] Ibid.
[34] Woods D & Hollnagel E (2006) *Joint cognitive systems: Patterns in cognitive systems engineering*. CRC Press. 18.
[35] Richards N & Smart W (2016) 'How should the law think about robots?'. In:Calo R et al (eds.) *Robot law*. Edward Elgar Publishing. 11.
[36] See generally: Cees van Dam, *European tort law* (Oxford University Press 2013); Walter van Gerven, Pierre Larouche and Jeremy Lever, *Cases, Materials and Text on National, Supranational and International Tort Law* (Hart, 2000).
[37] Legal Information Institute, 'Tort' Cornell Law School <https://www.law.cornell.edu/wex/tort>.
[38] Wilhelmsson, T et al (2007) *Private law and the many cultures of Europe*. Kluwer Law International. 3-20.
[39] Hubbard P F (n 29) 25.

Nevertheless, there are insufficiencies in the present tort system that assumes linear causation,[40] while the actions of robots that are complex machines will be nonlinear and unpredictable.[41] Law currently distinguishes subjects and objects as two kinds of entities that could be essential elements regarding research on robot liability. Legal subjects are beings 'to whom the law attributes a capacity of interests, rights, acts, and duties'.[42] They are recognised as having privileges, obligations and other capacities for legal relations, thereby obtaining legal personality, such as humans and corporations.[43] While legal subjects are entities that understand legal matters, objects that may have economic value, they do not possess legal rights and obligations, and cannot engage in any legal and financial transaction.[44] Thus, as long as robots are considered as objects, the matter is which legal entity, human or corporation is liable. Since automation makes unclear the lines between legal subjects and objects, this matter is a problematic one because the code may come from various sources that nobody can predict.[45]

For this reason, robot design may need to discover new ways to create robots whose actions would be constrained by *common sense*,[46] thus behaving in a manner that does not deviate too far from human expectations. In this way, sophisticated robots in agro-food SME clusters could act more predictably and therefore the legal system, which already offers a balance of competing interests,[47] should make the relatively small changes required to face the upcoming challenges. As robots are designed to interact with humans and other machines, there is a need of a thoughtful dialogue between the technical and legal domains, in which developers and regulators must understand their interconnecting roles and recognise that robotic devices are part of a larger system.[48] Certainly, there are serious conceptual and terminological inconsistencies about robotic systems, and an appropriate way to avoid this unnecessary confusion, and any consequential damage to humans and other parties, is for engineers and lawyers to build a common language about robotics technology.[49]

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[40] Owen D (2009) 'Figuring foreseeability'. 44 Wake Forest Law Review 1277, 1277-1281.
[41] Dekker S (2009) (n 2).
[42] Salmond J (1916) *Jurisprudence*. 5th ed. Stevens and Haynes 253.
[43] Smith B (1928) 'Legal Personality'. 37 The Yale Law Journal 283, 283-284; Alvarez J (2011) 'Are Corporations Subjects of International Law?' 9 *Santa Clara Journal of International Law* 1; Clapham A (2006) *Human Rights Obligations of Non-State Actors* (OUP 2006); Balkin J (1993) 'Understanding Legal Understanding: The Legal Subject and the Problem of Legal Coherence' 103 Yale Law Journal 105, 134; Foucault M (1982) 'The Subject and Power'. 8 Critical Inquiry 777, 781.
[44] Adams W (2009) 'Human Subjects and Animal Objects: Animals as Other in Law' 3 Journal of Animal Law and Ethics 29, 31-35.
[45] Sandberg A (2016) 'Law-abiding robots? What should the legal status of robots be?'. Robohub 17 July 2016.
[46] Karnow C (2016) 'The Application of Traditional Tort Theory to Embodied Machine Intelligence' In Calo R et al. (eds), *Robot law*. Edward Elgar Publishing, 2016. 51.
[47] See above.
[48] Smith B W (2016) 'Lawyers and engineers should speak the same robot language' in Calo R et al (eds), *Robot law* Edward Elgar Publishing. 101.
[49] Ibid, 83-89.

Another issue that raises questions as regards robot liability in acro-food SME clusters, is whether it would be ethically correct, or ethically compulsory, to depend on robots for several tasks rather than on humans. The rapid pace of deployment of robotic systems has caused an increasing level of ethical concerns among experts in various disciplines, such as lawyers, engineers, philosophers, and policymakers. In this interdisciplinary environment, there is an endeavour to put ethical values in the forefront of the technological progress by tackling challenges that need to abolish disciplinary, international and most importantly, cultural boundaries.[50] As different cultures have different degrees of tolerance for robotic devices[51] the creation of a concept that could express the popular feeling and expectations in terms of behaviour in any given culture is necessary. This distillation of common perceptions would assist robot experts to effectively search for the identification of ethically suitable actions for robots.[52]

The limited ability to restrict the use of new technologies in several downstream applications and operating environments causes difficulties for robot designers to minimise or eliminate the unethical use of their robotic devices.[53] The reason is that the inventions of the open model of robotics, which benefits from innovation and collaboration of end-users,[54] might find ethically doubtful uses downstream mainly due to the tumultuous forces of the global market that are more focused on profits than on ethics and human well-being.[55] A form of intervention through the adoption of an open licensing approach, however, could impose appropriate restrictions on downstream modifications for the ethical and nonharmful use of robots.[56] The challenge, therefore, is to identify an adequately open license for robotics technology in agro-food SME clustering, which may not be too open to potential risks of use and not be too closed to prevent innovation.

Consequently, regulating robots based on the above legal and ethical approaches could assist the agro-food SME clusters in the EU to exploit the benefits of robotics technology in

[50] Lin P (2012) 'Introduction to Robot Ethics' in Lin P et al (eds) *Robot Ethics: The Ethical and Social Implications of Robotics* MIT Press 3-16; Veruggio G (2005) 'The Birth of Roboethics' IEEE International Conference on Robotics and Automation, Workshop on Robo-Ethics Barcelona, April 1-4.
[51] Bołtuć P (2017) 'Church-Turing Lovers' in Patrick Lin, Keith Abney and Ryan Jenkins (eds), *Robot Ethics 2.0: From Autonomous Cars to Artificial Intelligence* Oxford University Press 214-228.
[52] Moon A J et al (2016) 'The Open Roboethics Initiative and the Elevator-Riding Robot' in Calo R et al (eds), *Robot law* Edward Elgar Publishing 131.
[53] Cooper D M (2016) 'The Application of a "Sufficiently and Selectively Open License" to Limit Liability and Ethical Concerns Associated with Open Robotics' in Calo R et al (eds), *Robot law* Edward Elgar Publishing 164; Calo R (2011) 'Open Robotics' 70 Maryland Law Review 571.
[54] Cooper (n 53) 163: For a comparative discussion of the open and closed software development and distribution models, see Eric Raymond, 'The Cathedral and the Bazaar' (Thyrsus Enterprises, 1997).
[55] Veruggio G & Abney K (2012) 'Roboethics: The Applied Ethics for a New Science' in Lin P et al (eds) *Robot Ethics: The Ethical and Social Implications of Robotics* MIT Press, 362.
[56] Cooper (n 53) 164-165.

the agricultural, food-processing, and food-distribution sectors of the economy. To this end, it may be useful to design robots in a manner that ensures that their behaviour would converge with human expectations, and hence be relatively compatible with the current legal system, as well as adopting a suitable licensing approach that should ensure their ethical use throughout interdisciplinary and multicultural environments. In this manner, it could be feasible to face legal and ethical issues for determining liability when robots may make mistakes during their operation in agro-food SME clusters across the EU regions.

B - Towards the formation of EU robot law

The EU institutions tend to design targeted policies for supporting the advancement of robotics technology in Europe.[57] This is an advantageous approach by the EU for the widespread use of robots to positively influence the development of agro-food SME clusters in the EU regions. Specifically, in 2017, the European Parliament (EP) drafted the report with recommendations to the Commission on Civil Law Rules on Robotics (EP report), which considers the possibility of turning sophisticated robots into electronic persons with rights and obligations.[58] According to this report, *The Three Laws of Robotics* 'must be regarded as being directed at the designers, producers and operators of robots … since those laws cannot be converted into machine code'.[59] Those strict rules cannot ensure predictable behaviour for agents with learning and reasoning capabilities who are able to interact in a real-life context.[60] Humans seem to have therefore the entire legal and ethical responsibility in the current time to create robots by embodying parts of their legal and ethical codes in the robot software, or at least making them compatible with their codes.[61]

The EP report proposes a new legislative instrument to address robot liability based on the assumption that when robots do something wrong, the types of compensation and damages that can be offered to the injured party should not be restricted in any way.[62] Accordingly, 'the future legislative instrument should be based on an in-depth evaluation … determining whether

[57] See European Parliament resolution of 12 February 2019 on a comprehensive European industrial policy on artificial intelligence and robotics (2018/2088(INI)).
[58] European Parliament, Report with recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL) (Committee on Legal Affairs, 27 January 2017) 18 [hereinafter EP report].
[59] Ibid 6.
[60] See above; See generally, Amodei D et al (2016) 'Concrete problems in AI safety' Cornell University arXiv preprint arXiv:1606.06565.
[61] Sandberg (n 45).
[62] EP report (n 58) 16-17.

the strict liability or the risk management approach should be applied',[63] where liability would be proportional to the level of instructions given to a robot by the identified responsible parties and of its autonomy.[64] In this manner, the responsibility due to harmful functioning of a robot in agro-food SME clusters may be divided according to the degree of the causally related behaviour that it learned by analogy from the user, the designer, the manufacturer, and the robot itself.

To address the complexity of allocating responsibility for damage caused by robots, the EP report proposes the establishment of an obligatory insurance scheme and compensation fund.[65] This is so that the responsible parties can benefit from limited liability, which is a key element for the societal, economic, and business use of robotics technology. Nonetheless, transferring a large part of responsibility to the insurance industry would be a challenging issue as this industry is already concerned for the risks related to autonomous cars and cyber-insurance.[66] For this reason, in-depth interdisciplinary research in law, technology, and the insurance industry may be necessary to develop specific insurance products for the use of robots in agro-food SME clusters. It is important to conduct extensive testing in a real environment for a better understanding of the functioning of robotic systems and adopt sufficient risk assessment methods for evaluating new robots. Subsequently, the probable solutions adopted by courts based on existing regulation for hypothetical accidents of specific robotic devices should be considered, as well as identifying a desirable legislative reform in liability rules for effective insurance products.[67]

In order for the insurance scheme and compensation fund to become an effective legal solution to allocating responsibility, the EP report proposes that 'at least the most sophisticated autonomous robots could be established as having the status of electronic persons responsible for making good any damage they may cause'.[68] It may apply electronic personality for various robotic devices, thereby creating a legal space for them when making autonomous decisions or otherwise interacting with third parties independently.[69] This new type of legal protection could offer a legal status to robots as a *third existence*, which would be different from the *first existence*, such as biological entities of humans, as well as contrasting with the *second*

[63] Ibid., 17. 'Strict liability exists when there is a causal link between the injurious robot operation and the damage suffered by the aggrieved party, while the risk management approach focuses on the on the person who can reduce risks and address negative effects rather than on the person who acts negligently as liable individually'.
[64] Ibid.
[65] Ibid., 17-18.
[66] Sandberg (n 45).
[67] Bertolini A et al (2016) 'On Robots and Insurance' 8 International Journal of Social Robotics 381, 388.
[68] EP report (n 58) 18.
[69] Ibid.

existence, such as non-biological entities of normal machines and property.[70] In this *fuzzy boundary*, somewhere between personality and property, where certain technological applications can be neither humans nor exactly machines,[71] sophisticated robots in the agro-food SME clusters could acquire a special legal status, as a *third existence* that can be placed between subjects and objects.[72]

Humans already treat, to some extent, animals as entities between subjects and objects.[73] While animals do not possess, as objects, the fundamental freedoms and rights of legal subjects, it is widely recognised that they are able to act in a way that their owners cannot foresee.[74] Actions of wild animals are treated differently from actions of domesticated animals that are more foreseeable. Namely, there is strict liability for damage committed by wild animals, but not for damage done by domesticated ones, since the owner of wild animals must know that their actions are not foreseeable.[75] In a similar way, it could be considered that more transparent *domesticated robots* may be treated differently from *wild robots*, but there is much less experience and intuition concerning their behaviour compared with their fellow animals.[76]

Although robots lack legal subjectivity, and most notably moral patient-hood and agency, they could obtain a certain artificial personality. It is also important to develop a certain scope of action and decision-making by establishing a special legal category for them. The concept of electronic personality for sophisticated robots could be analogous to the successful model of legal personality of corporations, which reflects the bundling of material, capacities and financial responsibilities.[77] Likewise, the electronic personality may mean the bundling of all legal responsibilities of the parties involved, such as designers, manufacturers and users of robots.[78] As an electronic person, each sophisticated robot could be entered into a public register, similar to a corporate register, which would allow humans to be informed about the robot's characteristics and other information, such as the amount of liability, owners, areas of use, dangers, abilities and more.[79] For this reason, robots in agro-food SME clustering throughout the EU may be designed in a manner which ensures that their behaviour is

[70] Weng Y H et al (2009) 'Toward the Human-Robot Co-Existence Society: On Safety Intelligence for Next Generation Robots' 1 International Journal of Social Robotics 267, 275.
[71] Ibid 275.
[72] See above.
[73] Francione, G (1995) *Introduction to Animal Rights: Your Child or the Dog?* Temple University Press 50-80; Francione G (1995) 'Animal rights and animal welfare' 48 Rutgers Law Review 397, 441–444.
[74] European Commission, Staff Working Document on liability for emerging digital technologies SWD (2018) 137 final 19.
[75] Fletcher G (1972) 'Fairness and Utility in Tort Theory' 85 Harvard law review 537, 547-548.
[76] Sandberg (n 45).
[77] Kraakman R et al *The Anatomy of Corporate Law: A Comparative and Functional Approach* 3rd edn, Oxford University Press 5-8.
[78] Leroux C & Labruto R (eds.) (2012) 'Suggestion for a Green Paper on Legal Issues in Robotics' euRobotics 2012 62.
[79] Ibid., 60-62.

compatible with human expectations and, therefore, largely amenable to the current legal system.[80] However, the potential tension between robot design and law-abidingness could lead to the creation of ethical mechanisms for robot designers to act appropriately, and principles for when unverifiable but useful autonomy is acceptable.

Though laws and regulations are able to legislate and control certain behaviour, as well as affecting moral beliefs and the development of ethical competence,[81] they cannot easily legislate for humans to be moral because morality is largely considered as being above the law.[82] It is difficult to identify what is the moral code for humans to follow due to the fact that the freedom of thought and belief is a fundamental right for everyone,[83] and because morality encompasses extensive complexities and nuances, which are incompatible with the strict specifications of laws.[84] The EU promotes the construction of ethics-by-design principles to build a human-centric approach for the development of new technologies.[85] This ethical dimension may assist the adoption of a suitable licensing approach in agro-food SME clusters that could ensure the ethical use of robots throughout interdisciplinary and multicultural environments in the EU.[86] To this end, it would be useful to take into account the recommendation of the EP report as regards a guiding ethical framework for robotic devices which would consist of 'a code of conduct for robotics engineers, of a code for research ethics committees when reviewing robotics protocols and of model licences for designers and users'.[87]

This ethical framework has to complement the current legal framework that needs to be updated in the light of the complexity of robotics technology and its social implications. In parallel, robots in agro-food SME clusters may be designed in a manner that they would be relatively amenable to the law,[88] and 'be equipped with a *black box*, which records data on every transaction carried out by the machine, including the logic that contributed to its decisions'.[89] This event recorder, which is proposed by the EP report, could provide important information on the circumstances when accidents occur, and thus contribute to design robots

[80] See above.
[81] Shavell S (2002) 'Law Versus Morality as Regulators of Conduct American' 4 Law and Economics Review 227, 254.
[82] Raz J (2003) 'About Morality and the Nature of Law' 48 The American Journal of Jurisprudence 1, 13-15.
[83] Universal Declaration of Human Rights (adopted 10 December 1948 UNGA Res 217 A(III) (UDHR) art. 18.
[84] Raz J (1995) *Ethics in the Public Domain: Essays in the Morality of Law and Politics* (Clarendon Press.194–221; See generally, Dworkin R (1986) *Law's Empire* Harvard University Press.
[85] European Commission, 'Building Trust in Human-Centric Artificial Intelligence' (Communication) COM(2019) 168 final, 9.
[86] See above.
[87] EP report (n 58) 9-10.
[88] See above.
[89] EP report (n 58) 10.

with behaviour that can be legally and ethically verifiable.[90] In this sense, principles for the functioning of robots in agro-food SME clusters may be embodied in an internal mechanism that would work as a *robot consciousness* by using sensor systems with law-enforcement algorithms.

The use of automated law enforcement could offer a number of advantages over human enforcement, such as more legal efficiency, lower costs, and reduction of the impact of human bias.[91] In order for the automated law-enforcement system to be successful, however, potential consequences of automation related to technological failures, administrative burdens, algorithmic encoding difficulties of the law, loss of discretion, threats to civil rights, and the social cost of perfect enforcement must be adequately addressed.[92] For this purpose, strong cooperation is needed between engineers and lawyers on robot law[93] for automated law enforcement to work in practice, whereby it could contribute to the effective functioning of robots in agro-food SME clusters. Legal and technology experts should make laws more automation-friendly and figure out appropriate software engineering strategies for encoding these laws in a manner that they are sensitive in their interpretation and use.[94] Thus, the agro-food SME clusters could be aided by the substantial ability for robot innovation and law-making, and the potential capacity by the EU to codify the recommendations of the EP report into legal instruments that can address the crucial issues of robotics technology throughout the EU regions.

III - Socio-economic implications of the use of robotics in agro-food SME clustering

A - Effects on employment of using robots

In order for the agro-food SME clusters to emerge and operate effectively in the EU, they may face the challenges stemming from the impact of robotics technology on employment. Robots are already able to do numerous forms of routine labour-intensive work and additionally perform several routine cognitive tasks.[95] This demonstrates that 'recent developments in

[90] Sandberg A (2016) (n 45).
[91] Lisa Shay and others, 'Confronting automated law enforcement' in Ryan Calo, Michael Froomkin, and Ian Kerr (eds), *Robot law* (Edward Elgar Publishing, 2016) 272-273.
[92] Ibid., 272.
[93] See above.
[94] Shay L et al (2016) 'Do robots dream of electric laws? An experiment in the law as algorithm' in Calo R et al (eds), *Robot law* Edward Elgar Publishing. 302-303.
[95] Bisello M et al (2019) 'How computerisation is transforming jobs: Evidence from Eurofound's European Working Conditions Survey' European Commission JRC117167, 2019.

machine learning will put a substantial share of employment, across a wide range of occupations, at risk in the near future'.[96] Technological innovation has already affected the phenomenon of *job polarisation,* which seems to cause the declining of the middle-skill jobs, thereby leading to the stagnation of middle income in many countries of the western world.[97] Accordingly, there is a strong threat of a *jobless future* and disruption in the labour market because most of the jobs can be allocated to a range of routine tasks that would be able to be done by robots.[98]

Instead of the previous waves of automation, where workers had the choice to move from one industry to another,[99] nowadays advanced techniques allow businesses to improve their operations by providing them large databases for training machine-learning systems to accomplish tasks in place of humans.[100] Therefore, in previous societies, where people were considered as potential producers, have now been replaced by a postmodern society, which tends to create people who are supernumerary and no longer useful for the function of the economy.[101] This redundant population of *human waste* constitutes the potentially unintentional and unplanned collateral losses of the current model of economic growth,[102] which could not be consistent with the potential model of prosperity of agro-food SME clustering in the EU.

Fears that technology would create redundant populations had been manifested before such as during the Industrial Revolution, when weavers and textile workers in England, known as Luddites, 'protested the automation of textile production by seeking to destroy some of the machines'.[103] Subsequent concerns emerged in the 1920s and 1930s, when the term *technological unemployment* was coined.[104] In the 1960s, also, as robots began to appear on factory floors and computers in offices, there were alerts about 'a new era of production […] which requires progressively less human labour',[105] thus threatening to create a society divided into an unskilled underclass and a skilled elite.[106] Unquestionably, the appearance of personal

[96] Frey C B & Osborne M (2017) (n 3) 266.
[97] OECD, 'Job polarisation and the middle class' (Social, Employment and Migration WP 232, 2019) 43.
[98] Nübler I (2016) 'New technologies: a jobless future or golden age of job creation?' ILO Research Department WP 13, 4.
[99] Autor D (2015) 'Why are there still so many jobs? The history and future of workplace automation' (2015) 29 Journal of economic perspectives 3, 5-6.
[100] Ibid., 24-26.
[101] Bauman Z (1991) *Intimations of Postmodernity* Routledge 34.
[102] Bauman Z (1997) *Postmodernity and its Discontents* Polity Press. 59.
[103] Autor (n 99) 3.
[104] Keynes J M (1932) 'Economic Possibilities for our Grandchildren (1930)' in Essays in Persuasion (Harcourt Brace, 1932) 358, 360.
[105] The Ad Hoc Committee on the Triple Revolution, 'The Triple Revolution' (Santa Barbara, California [Linus Pauling, with 34 co-authors] 1964) 5.
[106] Ibid., 9.

computers in the early 1980s caused an extensive display of distress regarding potential job losses.[107]

Historically, however, technology was creating more jobs than destroying them, because automation gradually changed their nature and the skills required for them.[108] Instead of replacing jobs altogether, automation essentially redefines them by increasing the demand for employees with new skills, as happened after the introduction of computers in almost all industries. In the United States between 1982 and 2012, computer-intensive jobs grew remarkably faster than the overall workforce, since automation accelerated some jobs within an industry, enabling employees to do the other jobs that require new skills and avoid technological unemployment.[109] This may be the same regarding the industries where robots are being deployed. Namely, the advent of robots in agro-food SME clusters could substitute farming and manufacturing jobs with others that may have a more scientific nature. Nevertheless, while it is possible to imagine tasks that robots will replace humans, it is less predictable where technology could generate new jobs. As always, it is difficult to envisage the future jobs, given that today there are occupations that nobody would have predicted in the past.[110]

Focusing only on the assumption that robotics technology will displace vast numbers of workers leads to the fallacy of *lump of labour* doctrine because the amount of jobs is not limited to the jobs that are known presently.[111] Warnings related to technological unemployment may ignore the matter of the economic reaction to automation.[112] This time could however be different since the impact of this kind of automation is broader-based as it affects every industry, in which numerous workers should move from routine to non-routine and high-skilled jobs. Whereas the shift from agriculture to manufacturing lasted for a long time, software is able to be developed much faster. For this reason, it is important to enable workers to acquire new skills promptly, including the need to reskill and upskill them to stay ahead of technological innovation.[113] However, regulatory concerns and reasons related to labour market and prices of capital are forcing most businesses to implement new technologies

[107] Frey C B & Osborne M (2017) (n 3) 256.
[108] Brynjolfsson E & McAfee A (2014) *The second machine age: Work, progress, and prosperity in a time of brilliant technologies* WW Norton & Company. 176; Autor (n 99) 5-9.
[109] Bessen J (2015)'Toil and Technology' 52 Finance and Development 1, 17-19.
[110] Mokyr Jet al (2015) 'The history of technological anxiety and the future of economic growth: Is this time different?' 29 Journal of economic perspectives 31, 42-45.
[111] Milanovic B (2016) 'Robotics or Fascination with Anthropomorphism?' Social Europe, 26 September.
[112] 'A 2016 study by economist Dr Katharina Dengler on the impacts of digitalization on the working environment in Germany reached similar conclusions, countering the Frey and Osborne study and even suggesting that digitalization could ultimately create new jobs and lead to an overall increase in employment': Dengler K (2016) 'The impacts of digitalization on the working environment' (Friedrich-Ebert-Stiftung ISBN: 978-3-95861-623-3, 2016).
[113] ILO, 'Work for a brighter future – Global Commission on the Future of Work' (Geneva, 2019) 18-24.

relatively slowly.[114] As it takes time for the actual extent and pace of technological progress and workers to acquire new skills, the linkage of the invention and implementation is a crucial matter, which could be considered for the use of robots in agro-food SME clusters.

For the above reasons, it seems that there are two contradictory narratives. There is a narrative that says this time is different and robots will do all the jobs, and another narrative that says technology always creates more jobs than those that it destroys. The truth possibly lies in the middle, as technological innovation may not cause mass unemployment, but it may accelerate the existing technological trends by disrupting labour markets and requiring workers to learn new skills faster than ever before.[115] As this would be a difficult transition, it may be important for agro-food SME clusters to create appropriate conditions for workers to obtain new skills and change jobs accordingly.

An initial reaction to the difficult transition of the job market due to automation is that people try to find ways to work increasingly more hours as work invades into their spare time. While many jobs tend to be automated, for many others, non-professionals would do them.[116] Under the business model of the *gig economy*, there is a dramatic reduction in specialisation, making unclear the difference between work and leisure, since 'work is rebranded as entrepreneurship, and labour sold as technology'.[117] By using *humans as a service*,[118] the platforms of the gig economy give to consumers easier access to their needs at lower cost than offered by other providers,[119] but they ignore the regulatory environment and mainly the protection of traditional employment law.[120] In particular, they have created 'a labour market environment in which non-standard employment and self-employment have become the new normal'.[121] As it is based on the casualisation of previous stable employment forms, the business model of the gig economy signals the departure from the standard employer-worker relationship, which may be avoided by the agro-food SME clustering.

The Luddite movement in England was almost the last act of resistance against a strategy of *normalisation* by the beneficiaries of technological change that had begun one and half centuries before. More specifically, this strategy was 'a concerted effort to have existing laws

[114] Frey C B & Osborne M (2017) (n 3) 268.
[115] The Economist, 'The impact on jobs: Automation and anxiety' (Special Report 23 June 2016).
[116] Milanovic B (2015) 'How technology an eradicate unemployment and jobs at the same time' Social Europe, 29 October 2015.
[117] Prassl J *Humans as a Service* (OUP, 2018) 4.
[118] Ibid., 3.
[119] Kenner J (2019) 'Uber drivers are ′workers′: The expanding scope of the ′worker′ concept in the UK's gig economy', in Kenner J et al (eds), *Precarious Work. The Challenge for Labour Law in Europe* Edward Elgar Chapter 11, 3.
[120] *Aslam, Farrar & Others v Uber BV, Uber London Ltd & Under Britannia Ltd*, Employment Tribunal (ET) case no 2202550/2015, 28 Oct 2016 [1].
[121] Kenner (n 119) 2.

disapplied and new ones adopted to better support their interests'.[122] This process led to the gradual displacement of a *moral economy*, which was based on the guild model of production, by a form of the industrial capitalism where the division between labour and capital caused a disruptive transformation of the previous stable and secure social relations.[123] The Luddite protests focused on employers breaching the laws for the protection of the trades - including customary wage rates, apprenticeship regulations and entry requirements - and peaked in 1811-12 because of the refusal of magistrates in Nottinghamshire to convict hosiery employers for breach of minimum wage rules.[124] The guild model achieved to construct economic relationships on a range of mutual rights and obligations, as well as maintaining the collective knowledge that constituted the basis for the initial forms of industrial production.[125] Luddism was an effort to preserve this set of communal relations and could be an important element for the agro-food SME clustering as an alternative business model against the gig economy, which raises issues related to business responsibilities and the ability of the legal system to regulate it.

The Luddites did not manage to prevent the rise of industrial capitalism, the guild model failed to compete with the manufactured mass production and 'workers lost control over the process of knowledge production and became subject to the discipline of the factory.'[126] However, Luddism left an important long-lasting legacy, as its resistance to the negative consequences of technology was part of the process in which new legal rules and forms of social organisation emerged to mediate the effects of technological change.[127] A few decades after the defeat of the Luddites and the collapse of the guilds, the east Midlands hosiery trade was one of pioneers in organising the employment relationship that became the root for a new social agreement through the establishment of collective bargaining between trade unions and employers. During the next century, the welfare state institutions were created in an attempt to restore economic security in the era of industrial capitalism. However, these institutions are at risk in the current time, as the new technologies have allowed employers to form new ways of controlling the work process, which lead to the casualisation of previous stable and secure employment forms.[128] This is apparent in the EU because the European social model is facing

[122] Deakin S & Markou C (2018) 'The Law-Technology Cycle & the Future of Work" Centre for Business Research, University of Cambridge, WP 504. 10.
[123] Deakin S (2015) 'Luddism in the Age of Uber' Social Europe, 3 November 2015.
[124] Deakin & Markou (n 122) 9-10.
[125] Deakin (n 123).
[126] Ibid.
[127] Deakin & Markou (n 122) 10.
[128] Deakin S (2015) (n 123).

huge challenges that have led to some sort of existential crisis, which may prevent the emergence and effective operation of agro-food SME clusters throughout the EU regions.

B - The crisis of the European social model

The European social model is facing one of the biggest challenges of recent decades as it is in the midst of a prolonged crisis of legitimacy, purpose, and regulation, which is reflecting a weightier problem of confidence throughout the EU.[129] The crisis of this model for a society that combines high living standards, good working conditions, and economic growth, could constitute a major obstacle to utilising the benefits of robotics technology in agro-food SME clustering across the EU regions. According to Article 3(3) of the Treaty on European Union (TEU), the Union 'shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress…'[130] In addition, Article 9 of the Treaty on the Functioning of the European Union (TFEU) provides that '…the Union shall take into account requirements linked to the promotion of a high level of employment, the guarantee of adequate social protection [and] the fight against social exclusion…'[131] However, these provisions are inconsistent with the dramatic reforms to labour law systems of some EU countries[132] which have been imposed as a form of conditionality to the bail-out programmes by the EU Institutions.[133] Wage deregulation and austerity caused a deep recession with high rates of unemployment that threaten social cohesion.[134]

Therefore, the European social model is experiencing a crisis of legitimacy, and despite the EU's commitment to work for a social market economy, its social policy seems constantly to be in a weak position compared with its economic dimension.[135] It is worth noting that Article 148(2) TFEU adopts the aspect that the EU's guidelines related to employment policies shall be consistent with the broad guidelines of the economic policies, but not the opposite. Accordingly, the national systems of welfare state, including employment law, have been programmed in accordance with the EU's Economic and Monetary Union project, so that they

[129] Barnard C (2014) 'EU Employment Law and the European Social Model: The Past, the Present and the Future' University of Cambridge Paper No. 43/2014, 2.
[130] TEU art. 3(3).
[131] TFEU art. 9.
[132] E.g. Greece and Portugal.
[133] Barnard (n 129) 6.
[134] European Trade Union Confederation (ETUC), 'The functioning of the troika: a report from the ETUC' (2014) 9.
[135] Kenner J (2003) *EU Employment Law: From Rome to Amsterdam and. Beyond* Hart. 2-21.

can be adapted to the requirements of the single currency.[136] In this way, workers are vulnerable in the times of economic crisis, and for this reason they may acquire strong labour rights to confront the effects of technological innovation in the agro-food SME clustering.

At the judicial level, the crisis of legitimacy has mainly a substantive dimension that is reflected in *Viking,*[137] and *Laval*,[138] where the approach of the Court of Justice of the European Union (CJEU) favoured the economic interests of employers in the internal market over the collective interests of workers against social dumping. These cases also stressed the EU's structural problem of social deficit, since 'social policy always remained vulnerable to challenge by the four freedoms and competition provisions of the TFEU'[139] due to its initial decoupling from the economic policy.[140] In particular, the social policy is implemented at national level, under national law, and the economic policy at EU level by taking advantage from the enforcement of the primacy of EU law. Furthermore, whereas the negative integration constitutes an important threat for national social policy, it seems that the EU's competence in the social sphere could not lead to a future social policy at EU level.[141] For instance, the Monti II proposal,[142] which intended to address some worker protective issues related to the decisions in *Viking* and *Laval*, was withdrawn.

Nevertheless, in 2017, the EU established the European Pillar of Social Rights,[143] which 'represents the most encompassing attempt to raise the profile of social policy in two decades'.[144] This could be an effective policy to address the consequences of the use of robots in agro-food SME clusters because it focuses on the areas of equal opportunities and access to the labour market, fair working conditions, and social protection and inclusion. Although it is unquestionably a considerable development, the exact implications of the Pillar however remain uncertain.[145] In particular, it is not a part of EU primary legislation, meaning that the social rights built upon its key principles are not actionable for EU citizens. In addition, the influence of the Pillar on secondary legislation is doubtful, despite the fact that the Commission

[136] Barnard (n 129) 6.
[137] Case C-438/05 *International Transport Workers' Federation and Finnish Seamen's Union v Viking Line ABP and OÜ Viking Line Eesti* [2007] ECR I-10779.
[138] Case C-341/05 *Laval un Partneri Ltd v Svenska Byggnadsarbetareförbundet* [2007] ECR I-11767.
[139] Barnard (n 129) 8.
[140] Kenner (n 135) 293.
[141] Barnard (n 129) 8.
[142] Commission, 'Proposal for a Regulation on the exercise of the right to take collective action within the context of the freedom of establishment and the freedom to provide services' COM (2012) 130 final.
[143] Commission, 'Establishing a European Pillar of Social Rights' (Communication) COM (2017) 250 final.
[144] Plomien A (2018)'EU social and gender policy beyond Brexit: Towards the European pillar of social rights' 17 Social Policy and Society 281, 292.
[145] Garben S (2018) 'The European Pillar of Social Rights: Effectively Addressing Displacement?' 14 European Constitutional Law Review 210, 211.

uses it as a reference in several social policy-related regulatory initiatives.[146] For instance, the Council rejected many of these initiatives, such as the formation of the harmonised concepts of 'employee,' 'employment contract,' and 'employment relationship.'[147] Furthermore, the Pillar could influence the CJEU in its judgements in order to mediate the imbalance between social and economic dimension. However, this may be a difficult prospect, based on the experience with the proclamation of the EU Charter of Fundamental Rights, which failed to help in expanding the social dimension by the EU and prevent the deterioration of social rights from the austerity policies during the crisis.[148]

The European social model is also experiencing the crisis of the purpose of EU labour law. This could cause negative socio-economic effects related to the advent of robots in agro-food SME clustering. Essentially, the principal purpose of labour law was to counterbalance the inherent socio-economic inequality within the employment relationship.[149] However, it seems that the actual aim of the attempts to stabilise employment via employment policy and collective bargaining was the avoidance by the social security system to pay the costs of tackling insecurity.[150] As a result, EU labour directives were drafted to provide a *floor of rights* for workers, on which industrial relation systems and national labour law could add additional layers of protection. This approach is supported by the decision of the CJEU on the Working Time Directive[151] which interprets the expression 'minimum requirements for gradual implementation' in Article 153(2)(b) TFEU as authorising 'Member States to adopt more stringent measures than those which form the subject-matter of Community action.'[152]

Nevertheless, the Commission paved the way for the introduction of the term *flexicurity*,[153] as an effort to reconcile the antithetical concepts of labour market flexibility and employment security by promoting a third way 'to overcome conventional bipolar thinking.'[154] The imposed dramatic reforms in last years,[155] however, show that the aim of flexicurity may

[146] Hacker B (2019) 'A European Social Semester? The European Pillar of Social Rights in practice' European Trade Union Institute (ETUI) (WP 12 June 2019) 53.
[147] Commission, Proposal for a Directive of the European Parliament and of the Council on transparent and predictable working conditions in the European Union, COM(2017) 797 final.
[148] Hacker (n 146) 53.
[149] Commission, 'Modernising labour law to meet the challenges of the 21st century' Green Paper COM(2006) 708 final.
[150] Deakin S (2005) 'Social Rights in a Globalized Economy' in Philip Alston, *Labour Rights as Human Rights* Oxford University Press. 35.
[151] Kenner J (2004) 'Re-evaluating the concept of working time: an analysis of recent case law' 35 Industrial Relations Journal 588, 590; Council Directive 93/104/EC of 23 November 1993 concerning certain aspects of the organisation of working time [1993] OJ L307/18.
[152] Case C-84/94 *United Kingdom of Great Britain and Northern Ireland v Council of the European Union* [1996] ECR I-5755 [17].
[153] Jeff Kenner provides an extensive analysis of the phenomenon of flexicurity, which has driven much of the EU's policy agenda: Kenner J (2009) 'New frontiers in EU labour law: from flexicurity to flex-security' in Dougan M & Currie S (eds) *50 years of the European treaties: looking back and thinking forward* Hart 2009 279-310.
[154] Ibid 281.
[155] See above.

be to achieve competitiveness by providing flexibility to employers over security for workers. Certainly, ensuring security for workers is of utmost importance in the age of robots. Furthermore, the recent decisions by the CJEU, in *Rüffert*,[156] and *Woolworths*,[157] adopted the view that the Posted Workers Directive[158] and the Collective Redundancies Directive[159] respectively can provide simultaneously a floor and a ceiling of employment protection, 'permitting no national deviations from the EU-set standard, and certainly no ameliorative action at a national level'.[160] This is an important risk because these judgements that limit the ceiling of employment protection could be applied under the same legal basis for other EU labour directives.[161] This may be a detrimental development for workers to meet the challenges of technological advancements in the agro-food SME clusters.

Regarding the crisis of regulation, the heterogeneous EU seems to face difficulties to easily adopt EU legislation on matters related to social policy, as shown by the failure of Monti II proposal.[162] This constitutes a major disincentive for associations of employers to engage at EU level collective bargaining in order to reach a collective agreement that could concern all workers. Most importantly, although the high rates of unemployment across the EU, job creation, by definition, is not subject to EU legislation as there is no directive that can mandate the creation of jobs.[163] As a policy-making mechanism, the Open Method of Coordination process could provide a framework in which Member States would be able to support the 'implementation and evaluation of their social policies and to develop their mutual cooperation'.[164] This may be a useful development in dealing with the consequences on employment due to the use of robotics technology in agro-food SME clusters. The imposed austerity measures during the crisis, however, significantly affected the impact of the Open Method of Coordination and led to the lack of appropriate support for social systems which is considered as a key reason for the continuation of the crisis in the EU. Subsequently, the EU

[156] Case C-346/06 *Dirk Rüffert v Land Niedersachsen* [2008] ECR I-1989.
[157] Case C-80/14 *Union of Shop, Distributive and Allied Workers (USDAW) and B. Wilson v. WW Realisation 1 Ltd and Others* EU:C:2015:291.
[158] Directive 96/71/EC of the European Parliament and of the Council of 16 December 1996 concerning the posting of workers in the framework of the provision of services [1997] OJ L18.
[159] Council Directive 98/59/EC of 20 July 1998 on the approximation of the laws of the Member States relating to collective redundancies [1998] OJ L225.
[160] Countouris N & Koukiadaki, A (2016) 'The Purpose of European Labour Law: Floor of Rights – or Ceiling?' (Social Europe, 6 June 2016).
[161] Ibid.
[162] See above.
[163] Barnard (n 129) 13-14.
[164] EUR-Lex 'Reinforcing the Open Method of Coordination for social protection and social inclusion' Document 52008DC0418 <https://eur-lex.europa.eu/legal-content/GA/LSU/?uri=celex:52008DC0418>; Commission 'A renewed commitment to social Europe: Reinforcing the Open Method of Coordination for Social Protection and Social Inclusion' (Communication) COM (2008) 418 final.

launched the European economic governance framework,[165] but its recommendations mainly focused on national reforms related to the labour market *flexibilisation*, raising the retirement age and reducing wages relatively below productivity gains, thereby further weakening the European social model.[166]

Consequently, the European social model should overcome the crises of legitimacy, purpose and regulation, so that it can face the enormous challenges of technological change. In this way, it could be able to contribute to the prosperity of citizens and businesses, and support large-scale projects, such as the development of the agro-food SME clustering across the EU regions. Technological innovation has allowed employers to cause the casualisation of previous stable employment forms through the business model of the gig economy, which is based on undeclared work and no predictable earnings and hours.[167] However, the case of Luddism has shown that social resistance can trigger a response to the disruptive effects of technological change and ultimately lead to a compromise between capital and labour. This difficult compromise proves that 'there is no iron law of capitalism which dictates that technological change leads to immiseration.'[168] The gig economy is a business model, which is aided by the support that the legal system provides to business enterprise. Nonetheless, it is necessary to control it because if technology is able to evolve, then law may also evolve and find appropriate solutions that could face the effects of the advent of robots in agro-food SME clusters. Already, the EP report recommends considering new employment models and issues on the sustainability of social systems by putting in place the introduction of a general basic income as a response to the challenges of the development and deployment of robotics technology.[169]

C - Basic income vs. the right to work

The EP report's recommendation for the introduction of a general basic income may be a feasible solution to the threat of a jobless future due to the advent of robots. For this reason, the agro-food SME clusters could have an active role in the adoption of basic income that is necessary. This is because according to Article 25 of the Universal Declaration of Human Rights, 'everyone has the right to a standard of living adequate for the health and well-being

[165] Commission, 'EU Economic governance: monitoring, prevention, correction' <https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/eu-economic-governance-monitoring-prevention-correction_en>.
[166] Christoph Hermann, 'Crisis, structural reform and the dismantling of the European Social Model (s)' (2017) 38 Economic and Industrial Democracy 51, 63-64.
[167] See above.
[168] Deakin (n 150).
[169] EP report (n 58) 15.

of himself and of his family'.[170] Although the idea to provide a basic income unconnected to work was an old utopian dream, nowadays it has become a global movement expressing one of the most widely debated social policy proposals in the world.[171] This is because the adoption of basic income could be a possible solution to the economic disruptions resulting from new technologies by providing an elementary social level to citizens and letting them choose how to use this support, as well as helping to streamline the bureaucracy in managing social support programmes.[172]

The impact of the acceleration of technological innovation on the labour market seems to cause important externalities, such as rising poverty and income inequality.[173] This may justify some public intervention through the adoption of basic income which has never been developed as a national initiative of social protection, but various pilot programmes have been implemented in recent years in some parts of the Western world.[174] However, those programmes have offered only partial support rather than a full income assistance that would ensure a decent living for the recipients.[175] Certainly, guaranteeing sufficient benefit levels that would reduce poverty and income inequality entails a considerable cost that requires suitable financing policies. This means that the affordability of basic income depends mainly on the planned benefit level and the financing sources, which may result from the reallocation of public expenditures and the increase of tax revenues.[176] In this way, the agro-food SME clusters could provide revenues to contribute to the funding of basic income due to the use of robots, which is considered as a labour-displacing technological innovation.

Nevertheless, the question is whether the adoption of basic income could actually be the appropriate solution to reduce poverty and income inequality. Despite the fact that the Scandinavian countries have not adopted a basic income, they are considerably more effective in reducing poverty and income inequality than other parts of the world.[177] Due to their social democratic tradition, they have focused on economic security by combining work-related programmes, income transfers based on specific conditions, and guaranteed income for people

[170] Universal Declaration of Human Rights (n 83) art. 25.
[171] Van Parijs P & Vanderborght Y (2017) *Basic Income: A Radical Proposal for a Free Society and a Sane Economy* Harvard University Press 70-98.
[172] Derviş K (2017) 'Getting basic income right' (Project Syndicate, 21 March 2017).
[173] Atkinson A (2015) *Inequality. What Can Be Done?* Harvard University Press 290-292.
[174] Indicatively, several Dutch municipalities have experimented with a basic income for social assistance recipients. Also, Alaska has had a longstanding basic income scheme in place, though the level of benefit granted is relatively low, and Ontario in Canada has piloted basic income among randomly selected members in three communities.
[175] ITUC 'Economic and Social Policy Brief: Universal Basic Income' (International Trade Union Confederation 2018) 3.
[176] Ortiz I et al (2018) 'Universal Basic Income proposals in light of ILO standards: Key issues and global costing' (International Labour Organization WP 62, 2018) 17-19.
[177] OECD 'Poverty rate - indicator' (doi: 10.1787/0fe1315d-en, 09 June 2020) <https://data.oecd.org/inequality/poverty-rate.htm#indicator-chart>; OECD 'Income inequality – indicator' (doi: 10.1787/459aa7f1-en, 09 June 2020) <https://data.oecd.org/inequality/income-inequality.htm#indicator-chart>.

who are at risk of poverty. Additionally, by making labour market interventions and implementing relevant redistributive policies, the Scandinavian countries demonstrate that the most important variables in the reduction of poverty and income inequality are political, such as the power of labour, and depend on the status of capital-labour relations.[178] Therefore, a guaranteed income via work may be a better way than the option of the basic income because its main aim is to preserve an income at the level of decent livelihood of the working people.

Furthermore, the implementation of basic income may encounter practical difficulties related to complex levels of the amount, goals, and priorities. These are associated with the risk of abolishing the welfare state and replacing other social programmes that exist to address specific problems, such as the vulnerability of unemployed, children, elderly, and people with disabilities.[179] The adoption of basic income would also reduce the value of work to a mere income. This is because work should not be considered only as a wage labour, since it is valuable to maintain the social aspects of work environment, in which people develop social relationships as they spend many hours in interacting with others.[180] For these reasons, it is important to create policies that ensure the right to work for everyone. A job guarantee could offer a significant value to work without downgrading it to a mere income, thus making efficient use of public and private resources, as well as preserving and developing workers' skills, and retaining the nature of the social market economy.[181] Consequently, the job guarantee is more important than the adoption of a basic income, thereby strengthening the fundamental right to work for everyone.

The value of work is one of the most important principles of the human life in the current world and for this reason, it may be constituted an essential concept for the development of the agro-food SME clusters in light of the challenges stemming from the advent of robots. Work is vital for the position of people in society by inspiring a feeling of attainment and self-esteem and is crucial because productive labour generates income by producing material goods that people wish to purchase and consume them in order to live an enjoyable life.[182] Given that

[178] Navarro V (2016) 'Why the Universal Basic Income is not the Best Public Intervention to Reduce Poverty or Income Inequality' Social Europe, 24 May 2016.
[179] Acemoglu D (2019), 'Why Universal Basic Income is a Bad Idea' Project Syndicate, 5 June 2019.
[180] Karakas C (2016) 'Basic income: Arguments, evidence, prospects'(European Parliament - briefing, September 2016) 4; See generally: Murphy J B (1993) *The Moral Economy of Labour: Aristotelian Themes in Economic Theory* Yale University Press; Hannah A (1998) *The Human Condition* (Chicago University Press, 1998 [1958]); Shklar J (1995) *American citizenship: The quest for inclusion* Harvard University Press.
[181] Henning Meyer H (2016) 'Five Reasons why a Basic Income won't Solve Technological Unemployment' (Social Europe, 4 February 2016).
[182] Mantouvalou, V (2014) 'The Protection of the Right to Work through the European Convention on Human Rights' 16 Cambridge Yearbook of European Legal Studies 313, 313.

work brings both non-material and material benefits, it is important to consider how the value of work would be able to become a human right to work.

Employment law typically adopts an instrumental approach in which the right to work may be a human right when courts are able to protect it and organisations of civil society can achieve to use it deliberately to support related goals.[183] Additionally, in positive law, at international and European level, the right to work or some of its elements appears to be protected in relevant documents, discussed below, such as the International Covenant on Economic, Social and Cultural Rights (ICESCR), the European Social Charter (ESC), the EU Charter of Fundamental Rights (EUCFR), and the European Convention on Human Rights (ECHR). However, these documents do not clarify if a right to work requires from the government to create jobs for any individual, or if it merely means that there must be access to existing jobs without discrimination,[184] or to what degree it protects from unfair dismissal.[185]

More specifically, the ICESCR protects the right to work, 'which includes the right of everyone to the opportunity to gain his living by work which he freely chooses or accepts, and will take appropriate steps to safeguard this right.'[186] To ensure the appropriate use of the right to work, however, the ESC asks from the contracting parties to put as 'their primary aims and responsibilities the achievement and maintenance of as high and stable a level of employment as possible, with a view to the attainment of full employment.'[187] Furthermore, the EUCFR determines the full range of political, civil and socio-economic rights containing a right to work, especially 'the right to engage in work and to pursue a freely chosen or accepted occupation'.[188] On the other side, the ECHR does not explicitly refer to the right to work but it enjoys an effective monitoring mechanism and a binding force that do not exist in the abovementioned documents.[189]

The ECHR only contains some labour rights, such as the 'prohibition of slavery or servitude', and 'forced and compulsory labour',[190] and the 'freedom of assembly and association… including the right to form and to join trade unions'.[191] However, in the context

[183] Kenner J (2009) (n 153) 136-152.
[184] Mantouvalou (n 182) 313.
[185] Jeff Kenner argues that Article 30 EUCFR on the right to protection against unjustified dismissal has an enigmatic quality: Kenner J (2014) 'Article 30: protection in the event of unjustified dismissal' in Kenner J et al (eds.), T*he EU Charter of Fundamental Rights: a commentary* Hart 27.
[186] International Covenant on Economic, Social and Cultural Rights, (adopted 16 December 1966, entered into force 3 January 1976) 993 UNTS (ICESCR) art. 6(1).
[187] European Social Charter of 1961, CETS 35 (ESC); Revised European Social Charter of 1966, CETS 163 (ESC) art. 1(1).
[188] Charter of Fundamental Rights of the European Union, OJ C 326, 26 October 2012 (EUCFR) art. 15(1).
[189] Mantouvalou (n 182) 317.
[190] Convention for the Protection of Human Rights and Fundamental Freedoms (European Convention on Human Rights, as amended) (ECHR) art. 4.
[191] Ibid., art. 11.

of judicial interpretation of the ECHR by the European Court of Human Rights (ECtHR), the case law identifies certain normative principles, such as the principles of dignity, non-exploitation, non-domination and self-fulfilment.[192] These principles underpin the right to work and could be able to dominate as essential elements to address the consequences of new technologies in the agro-food SME clusters. In particular, the ECtHR recognises that a living obtained via work is vital for human dignity,[193] substantiates the principle of non-exploitative work,[194] provides protection to the worker against the domination of employer,[195] and stresses the significance of work for self-fulfilment.[196]

Interestingly, invoking these normative principles does not necessarily entail a breach of the ECHR because there are conflicting interests among workers, which labour protective legislation and associative activities of unions and related organisations endeavour to tackle. For instance, the right to access a job may conflict with the right to fair working conditions. Accordingly, the ECtHR alone may not be able to confront the issue of unemployment, which is an important structural injustice at work and seems to may become one of the most crucial challenges of robotics technology in agro-food SME clustering across the EU regions. For this reason, the contribution to the creation of jobs with a decent living wage and strong labour rights could be a vital purpose for the development and effective operation of agro-food SME clusters in the age of new technologies.

IV - Contribution of agro-food SME clustering and new technologies to socio-economic development

A - Regional basic dividend vs. robot tax

Instead of supporting the idea of a basic income to face the consequences on employment due to the advent of robots, it would be socially more efficient to focus on policies that promote a job guarantee, preserving the social aspects of work and reinforcing the fundamental right to work for everyone. Accordingly, the agro-food SME clusters may find suitable ways to contribute to ensuring jobs for everyone and, therefore, enhancing the right to work in their

[192] Mantouvalou (n 182) 320-331.
[193] Sidabras and Dziautas v Lithuania, App Nos 55480/00 and 59330/00, Judgment of 27 July 2004; Stummer v Austria, App No 37452/02, Grand Chamber Judgment of 7 July 2011.
[194] Siliadin v France, App No 73316/01, Judgment of 26 July 2005; CN v United Kingdom, App No 4239/08, Judgment of 13 November 2012; Rantsev v Cyprus and Russia, App No 25965/04, Judgment of 7 January 2010.
[195] IB v Greece, App No 552/10, Judgment of 3 October 2013; Vogt v Germany, App No 17851/91, Judgment of 2 September 1996.
[196] Niemietz v Germany, App No 13710/88, Judgment of 16 December 1992; Campagnano v Italy, App No 77955/01, Judgment of 23 March 2006.

geographical territory. In particular, they could financially support the creation of new jobs that would offer a decent income and good working conditions throughout the EU regions. To this end, various options for the agro-food SME clusters could be available, such as either their robots may pay an income tax or their businesses may pay a tax to replace workers with robots or any other possible solution.

The EP report considers the option of a tax on robots by introducing a notification system prior to the establishment of them with reference to their relative participation to the business turnover.[197] Imposing a robot tax, however, seems to be the wrong approach because, unlike the worker, the robot will receive no income and never negotiate a labour contract with the business. Certainly, it is feasible to introduce an income tax on behalf of the robot,[198] by using the displaced worker's last annual income that would operate as a reference salary in order to extract from the business's revenues income tax, and social security and pension contributions equivalent to those that the worker was paid.[199] As a result, the tax system should be adjusted so that it can be relatively neutral between human and robot workers. The *neutrality* of taxation might be achieved by prohibiting corporate tax deductions for robots and creating a robot tax that reflects existing unemployment patterns, thereby allowing the marketplace to adapt without tax distortions.[200]

Nevertheless, the agro-food SME clustering could need to cope with a number of difficulties related to this approach. While a worker's wage can change over time, it is impossible for the reference salary to be different, unless the tax authorities would change it in an arbitrary manner against the business that uses the robot. This means that tax office and business would have conflicts over the precise estimation of the change of worker's salary.[201] In addition, it is hard to calculate a robot tax for each robot-operated machine that has never been used by humans because there is no previous human income to operate as a reference salary.[202] Therefore, the introduction of robots is difficult to be related to specific job losses in order to count the exact number of workers who would be replaced by each robot.[203]

Furthermore, it may be difficult to justify forcing businesses of the agro-food SME clusters to pay income tax for the robots but not for the machines that the robots may operate. For example, an agricultural business decided to replace a worker, who operates a harvester,

[197] EP report (n 58) 44.
[198] Delaney K (2017) 'The robot that takes your job should pay taxes, says Bill Gates' Quartz, 17 February 2017.
[199] Mitha S (2017) 'Robots, technological change and taxation' Tax Journal, 15 September 2017. 10.
[200] Abbott R & Bogenschneider B (2018) 'Should robots pay taxes: Tax policy in the age of automation' 12 Harvard Law and Policy Review 145, 151-152.
[201] Varoufakis Y (2017) 'A Tax on Robots?' Project Syndicate, 27 February 2017.
[202] Ibid.
[203] Mitha (n 199) 10.

with a robot because the robot can operate the harvester more safely, in any weather, and longer without breaks, sick pay, holidays and more.[204] In fact, robot and harvester are both machines, and the harvester has previously caused the displacement of far more workers than the robot has. The matter that the robot possesses more autonomy than the harvester is the only defensible justification for considering them differently, but this might not convincingly justify the implementation of a robot tax.[205]

A sophisticated robot could be a truly autonomous machine, and thus distinct from the harvester, if it would be able to develop a high level of consciousness, which currently seems to be restricted to biological beings. Nonetheless, this does not preclude the possibility of non-biological consciousness,[206] where a robot could be a thing that thinks, a *res cogitans,*[207] such as the Nexus-9 replicants in Blade Runner 2049,*[208]* which are considered as people despite the fact that the content of their consciousness is not real. In this regard, humanity should produce a new species that she/he/it may simulate consciousness as a strategy to claim civil rights,[209] demanding freedom and equal rights with the workers. Until then, however, a robot could be a distinct machine from the harvester in the agro-food SME clustering via an internal mechanism that can simply work as a *robot consciousness* by using sensor systems with law-enforcement algorithms.[210]

This does not mean that the robot can pay income tax without generating conflicts between business and tax authorities, and therefore, it may be a proper manner taxing the robot at the point of sale to the business.[211] Moreover, the tax authorities could collect a *lump-sum tax* from the business the moment that it replaces the worker with the robot. The lump-sum tax is the only tax that would not introduce distortions in the economy,[212] but this could incentivise robot producers to bundle artificial intelligence within other machinery.[213] For example, the robot may be incorporated within the harvester, thus making it difficult to tax the robotic component separately from the other non-intelligent parts. As a result, the robot sales tax should be either eliminated or generalised into a capital goods sales tax, which is a catastrophic

[204] Recent developments about robot harvesters, see Akam S (2020) 'Driverless Tractors Are Getting Ready for Harvest Season' Bloomberg Businessweek, 2 June 2020.
[205] Varoufakis Y (2017) (n 201).
[206] Solum L B (1992) 'Legal Personhood for Artificial Intelligences' 70 North Carolina Law Review 1231, 1265-1266.
[207] Descartes R *Discourse on the Method of Rightly Conducting One's Reason and of Seeking Truth in the Sciences* (1637, Part IV).
[208] Blade Runner 2049 (2017 film), Director: Denis Villeneuve.
[209] Koops B J et al (2010) 'Bridging the Accountability Gap: Rights for New Entities in the Information Society?' 11 Minnesota Journal of Law, Science & Technology 497, 527.
[210] See (section: Towards the formation of EU robot law) above.
[211] Delaney (n 198).
[212] Shiller R (2017) 'Robotization without Taxation?' (Project Syndicate, 22 May 2017).
[213] Varoufakis (n 201).

choice for society because imposing a tax on all capital goods would lead to a substantial diminishment of domestic productivity and competitiveness.[214]

Given that robots are able to produce better goods and services as well as improving productivity significantly, taxing them would lead to restraining innovation and obstruct growth and/or possibly driving the production offshore.[215] Accordingly, instead of a robot tax to support a job guarantee, a suitable solution may be a better redistribution of wealth,[216] through the implementation of a basic dividend that would assist in addressing the problems of structural joblessness and supporting full employment. More specifically, a basic dividend that should be financed from the returns of agro-food SME clusters may be able to contribute to the creation of new social jobs needed in their geographical territories throughout the EU regions.

A fixed share of equity issues could be directed into a regional public trust in each EU region that would generate an income stream from which a *regional basic dividend* can be provided to support the aim of job guarantee. In particular, the certain portion of equity issues by every agro-food SME cluster could go, via initial public offerings (IPOs) that is a type of public offering,[217] to the corresponding regional public trust that represents the specific EU region.[218] Every regional public trust in the EU regions is created for its beneficial social impact through the potential generating of an income stream that could be a steady flow of money from which a regional basic dividend will be paid. In this way, society may become a shareholder in agro-food SME clustering, and the dividend payments could be allocated to reduce unemployment across the EU regions.

To the extent that robotics technology may increase output and corporate profitability of agro-food SME clusters, European societies could begin to reap the social benefits without any new tax imposition, tax code complexities, or effects on the welfare state. Indeed, higher profits would ensure more funds available to society, which will be allocated automatically via the regional basic dividend to financially support the creation of new social jobs with a decent living wage and strong labour rights. The previous industrial revolutions were based on machines made by insightful inventors and purchased by entrepreneurs who claimed property rights over the income stream those machines generated.[219] On the contrary, the current

[214] Ibid.
[215] Summers L (2017) 'Robots are wealth creators and taxing them is illogical' Financial Times, 5 March 2017.
[216] Ibid.
[217] See generally for IPOs: Cumming D & Johan S (eds.) *The Oxford Handbook of IPOs* Oxford University Press.
[218] See e.g. Watt G (2019) *Equity and Trusts Law Directions* (Oxford University Press).
[219] All the inventions of today's technological revolution are public funded but corporations (apple, google etc.) gain the profits; 'Without the massive amount of public investment behind the computer and internet revolutions, such attributes might have led only to the invention of a new toy': Mazzucato M (2013) *The Entrepreneurial State: debunking public vs. private sector myths* Anthem Press. 87.

technological revolution should be characterised by the growing socialisation of the production of capital, and thus 'a practical response would be to socialise the property rights over the large income streams capital is now generating.'[220] For this reason, an appropriate way could be the place of equity issues by the agro-food SME clusters in the regional public trusts, which would create regional basic dividends that will be directed to address the critical problem of unemployment by financing the creation of new social jobs throughout the EU regions.

B - Blockchain for a new socio-economic model

Each of the regional public trusts related to agro-food SME clusters in the EU regions may be a decentralised autonomous organisation (DAO). This organisation would generate via blockchain technology an income stream to ensure more funds available for new jobs, thus confronting the implications of the use of robots on employment. As a form of distributed ledger technology, 'a blockchain is, essentially, a database that is replicated across a network of computers updated through a consensus algorithm'.[221] Accordingly, value in blockchain-based trusts of agro-food SME clustering could be transferred via blockchain networks, thereby reducing the need for the traditional intermediaries that are responsible for the verification and validation of transactions. Perhaps, human operated institutions become obsolete as blockchains can generate systems ruled by protocols and additional code-based rules that are enforced automatically through the underlying blockchain-based network.[222] The technical authenticity of the information on the blockchain, nevertheless, is ensured through cryptographic tokens that are allocated among anonymous accounts.[223] As a result, the blockchain-based trusts of agro-food SME clusters may follow the process of tokenisation, which would be able to maintain the accuracy and security of the ledger.

Accordingly, those blockchain-based trusts aiming to finance the creation of new jobs throughout the EU regions, can be more transparent than the traditional model of trusts, while ensuring the security of their funds. In general, records in public blockchain systems are entirely transparent and thus visible to anyone on the network,[224] thereby creating a 'distributed, shared, encrypted-database that serves as an irreversible and incorruptible public

[220] Varoufakis (n 201).
[221] Finck M (2018) *Blockchain Regulation and Governance in Europe* Cambridge University Press, 1.
[222] De Filippi P & Wright A (2018) *Blockchain and the Law: The Rule of Code* Harvard University Press. 6.
[223] Yeung K (2019) 'Regulation by blockchain: the emerging battle for supremacy between the code of law and code as law' 82 The Modern Law Review 207, 210-211.
[224] Ibid., 211.

repository of information.'[225] Therefore, encryption is a central element in blockchain technology, which enables participants to generate a key pair, public key, and a private key, in order to validate transactions by concealing their real-life identity but, contrariwise, showing their encrypted identity.[226] Namely, there is a 'necessity to announce all transactions publicly … but privacy can still be maintained by breaking the flow of information in another place: by keeping public keys anonymous'.[227]

Therefore, the blockchain-based trusts related to the agro-food SME clusters may be mapped in no-trust environments where participants will not need to know and trust each other in order for them to conduct transactions with absolute assurance. This *trustless trust* can be created by smart contracts,[228] which can execute automatically and autonomously, thus enabling transactions in situations devoid of human and institutional trust, as well as lowering transaction costs and reducing counterparty risk and interpretative uncertainty.[229] A smart contract is a computerised transaction protocol that automatically executes the terms of an agreement.[230] In particular, it is a computer programme code that automatically verifies, executes, and enforces, the exact terms and conditions of a contract.[231] For example, the fixed characteristics of traditional trusts, such as the delivery of returns at a specific date, could be written into a smart contract, so that the tokenised funds of blockchain-based trusts that are linked with the agro-food SME clusters could automatically vest at the relevant date.

However, smart contracts are written in a programming language that is based on the rigidity of automated software, removing the flexibility offered by legal contracts due to the vagueness inherent to natural language.[232] Consequently, smart contracts are used to memorialise legal agreements, thereby creating commercial arrangements which are dynamic and potentially difficult to terminate.[233] This offers a high degree of certainty that may bring considerable efficiency gains for the blockchain-based trusts related to the agro-food SME clusters, thus improving their overall investment strategy and therefore generating better returns for the creation of new jobs in each EU region. Furthermore, their decentralised nature

[225] Wright A & De Filippi P (2015) 'Decentralized Blockchain Technology and the Rise of Lex Cryptographia' (Available at SSRN 2580664, 10 March 2015) 2.
[226] Schrepel T (2019) 'Blockchain and human rights: utopia, or dystopia, or both?' Oxford Business Law Blog, 4 December 2019.
[227] Nakamoto S (2009) 'Bitcoin: A peer-to-peer electronic cash system' (bitcoin.org, 24 May 2009) 6.
[228] Werbach K (2018) *The Blockchain and the New Architecture of Trust* MIT Press 2018 28-32.
[229] Finck (n 221) 25.
[230] Szabo N (1994) 'Smart Contracts' <http://www.fon.hum.uva.nl/rob/Courses/InformationInSpeech/CDROM/Literature/LOTwinterschool2006/szabo.best.vwh.net/smart.contracts.html>.
[231] Yeung (n 223).
[232] Finck (n 221) 26-27.
[233] Wright & De Filippi (n 225) 3.

eliminates the necessity for constant human intervention in trust operations, which constitutes an important factor for raising concerns with regard to accountability and the possibility for any breach of trust.

By replacing the traditional model of trust intermediaries with trust based on numbers,[234] every blockchain-based trust of agro-food SME clustering might become a decentralised organisation. In contrast with a centralised trust's management that is entrusted to a corporate trustee or a body of individuals, a decentralised trust is managed by a decentralised organisation-application[235] which relies on blockchain and smart contracts as its main or exclusive source of governance.[236] More specifically, blockchains facilitate the development of smart contracts, which are executed in a distributed manner by an whole network, rather than run on any central server, thus enabling them to 'be combined to form an interconnected system of technically enforced relationships that collectively define the rules of an organisation.'[237] Based on suitably defined rules, therefore, the blockchain-based trusts could hold equity issues as tokenised assets stemming from the agro-food SME clusters, and provide token dividends in the form of regional basic dividends for the creation of new social jobs across the EU regions.

These organisations can be designed to be extremely autonomous and progressively independent from human control. As decentralised autonomous organisations (DAOs), they would be able to form contractual relationships and 'create a complex ecosystem of autonomous agents interacting with one another according to a set of pre-determined, hard-wired, and self-enforcing rules.'[238] This signals the gradual structural shift of power from government authorities' legal rules and regulations to decentralised blockchain-based networks' code-based rules and protocols.[239] Although DAOs could be designed to operate in accordance with rules and principles that would diverge from those required by law, it should be useful to be developed within the boundaries of established legal orders by complying with the law in order 'to secure interoperability with the real world'.[240]

Given that the concept of DAO, in which technical protocols would replace human interaction, currently remain largely an idea,[241] it is important to consider how the blockchain-based trusts as DAOs could work in practice. Researchers in blockchain and a group of artists

[234]Finck (n 221) 11.
[235] James Brockhurst, 'Is it time to consider blockchain-based trusts?' (Forsters LLP, 8 April 2019).
[236] De Filippi & Wright (n 222) 136.
[237] Ibid.
[238] De Filippi & Wright (n 222) 17.
[239] Ibid 7.
[240] Finck (n 221) 23.
[241] Ibid.

created an artistic blockchain-based experiment that could constitute an important basis for the design of the DAOs in agro-food SME clustering throughout the EU regions. This experiment is about the concept of the *plantoid,*[242] which is a robot plant equivalent of an android. While the android is a robot with human appearances, the plantoid consists of the characteristics of a plant. Namely, 'it is a robot or synthetic organism designed to look, act and grow like a plant.'[243] The main distinction between a plant and the plantoid lies in the process of reproduction. Many organic plants often need help by insects, such as bees and butterflies, to reproduce themselves through the pollination process. The plantoid does not rely on pollination, but rather on the cooperation of human beings through the process of capitalisation.[244]

The body of the plantoid consists of a mechanical plant and its spirit, which is embedded within the blockchain as a smart contract. These two components give life to an autonomous and self-sufficient device that can be independent from its creators and capable of reproducing.[245] Humans donate in its wallet and when it accumulates a specific amount of funds, anyone can submit proposals on what they want for the next version of the plantoid to look like. Through voting on these proposals by those who contributed to its wallet, the funds are transferred to the selected agent who submitted the most popular proposal to create the new plantoid, and then the whole process starts all over again.[246] By following the Darwinian approach,[247] the reproduction of every plantoid is related to an evolutionary algorithm, so that humans can select the most favourable plantoids based on their particular characteristics. In addition to this, a pyramid scheme,[248] which is similar to a multilevel marketing model, operates as an incentive structure for the participants of the DAO in order for them to contribute to the reproduction of plantoids. This is beneficial to the system as it encourages the production of derivative works by maximising the return on investments, as ex-post royalty payments.[249]

As the experiment of plantoid is the first DAO in the world, it creates the possibility for new socio-economic models,[250] which may be useful for the operation of blockchain-based trusts of agro-food SME clustering in the EU. The plantoid signifies the commencement of a new relationship between creators, their work, and the descendants of their creatures. Instead

[242] Plantoid.org (2018) 'I'm a PLANTOID: A Blockchain-based life form' <http://okhaos.com/plantoids/>. See also Kat Mustatea, 'Meet Plantoid: Blockchain Art with a Life of its Own' (Forbes, 31 January 2018).
[243] Ibid.
[244] De Filippi & Wright (n 222) 167.
[245] Ibid.
[246] Plantoid.org (2018) (n 242).
[247] Rankin D (2011) 'A Darwinian Approach' 333 Science 526 DOI: 10.1126/science.1209324.
[248] Smith R K (1984) *Multilevel Marketing* Baker Publishing Group. 45.
[249] Ibid.
[250] See generally, Swan M (2015) *Blockchain: Blueprint for a new economy* O'Reilly.

of funding a creator to continue producing new works, it currently becomes feasible to directly fund the creature itself, which would be in charge of selecting and hiring the creators that would be responsible for its reproduction.[251] Accordingly, the DAOs of blockchain-based trusts related to the agro-food SME clusters, which may trigger an income stream to generate the regional basic dividend, could work in a similar way. Members of society may participate, via a pyramid scheme, to the accumulation of funds to finance the creation of new social jobs in the EU regions. Subsequently, they can submit proposals on what kind of social jobs they need in their local areas, such as their town, neighbourhood or village.

Though the DAOs of blockchain-based trusts related to the agro-food SME clusters could be an innovative and effective approach for the creation of new jobs throughout the EU regions, it might be interesting to examine what can happen if this technology would be used for malicious purposes. This raises questions about responsibility and regulability,[252] because the decentralised nature renders the legitimate and effective governance of DAOs particularly challenging, as opposed to vertically integrated and bureaucratic organisation forms.[253] More specifically, as regards responsibility, the question is who should be liable in case that the DAO of a blockchain-based trust would cause damage to someone. If the creators will be liable, stopping and criminalising them does not mean the shutting down of the operation of the DAO because it will be completely autonomous. On the other side, the participants who will be triggering and constantly transacting with this DAO may be liable. However, criminalising users is arguably a completely ineffective and practically problematic approach.[254] Perhaps, the DAO itself should be responsible, but this raises the question of regulability because it is quite challenging to regulate a technology that is completely autonomous and independent.[255] For this reason, it is necessary for engineers and lawyers who currently explore this technological tool to start considering its legal, ethical and political implications. In this way, they could be able to identify what kind of governance system of blockchain-based trusts related to agro-food SME clustering in the EU may be regulated without undermining the potential and the benefits offered by their decentralised nature.

[251] Plantoid.org (2018) (n 242).
[252] Primavera De Filippi discusses the issues of responsibility and regulability in her presentation: De Filipi P (2016) 'Blockchain Technology and the Future of Work' (Geneva 11 February 2016).
[253] Yeung (n 223) 214.
[254] Primavera De Filippi explains that the experience about the war against copyright infringement has shown that criminalising users is quite ineffective and problematic approach: Wright & De Filippi (n 225).
[255] Ibid.

Conclusion

New technologies that are mainly robotic systems could positively influence the operation of agro-food SME clusters in the EU since they have already begun to play an important role in transforming the key sectors of agro-food supply chain, such as agriculture, food processing and the food distribution systems. The development of a well-adapted regulatory framework for robotics should take into account various complexities associated with highly sophisticated devices entering the real world. Specifically, the matter of robot liability is complicated due to inadequacies in the legal system which presumes linear causation, but the actions of robots that are complex machines will be nonlinear and unpredictable. For this reason, by taking into consideration the relevant EP report's recommendations, this chapter suggests the development of specific insurance products for the use of robots in agro-food SME clustering, which could be designed in such a way that their behaviour would be relatively convergent with human expectations. This chapter also argues that robots in the agro-food SME clusters may acquire a special legal status by equipping them with an internal mechanism that integrates sensor systems with law-enforcement algorithms to control their behaviour, so that they can sufficiently be legally and ethically compatible.

Additionally, the agro-food SME clusters could cope with the socio-economic implications stemming from the disruption in the labour market due to the advent of robots nowadays, when the welfare state institutions are at risk particularly in the EU where the European social model is in crisis. As a response, the EP report recommends the possible introduction of a general basic income which, however, may face practical difficulties to its implementation. It also would threaten the existing social programmes and downgrade the value of work to a mere income. Hence, this chapter claims that a job guarantee may be socially more efficient than the basic income because it preserves the social aspects of work and strengthens the fundamental right to work for everyone. To this end, the financial contribution to create new social jobs with a decent living wage and strong labour rights in their geographical territory could be among the central objectives of the agro-food SME clusters in the era of robotics technology.

Instead of imposing a robot tax for this purpose, however, this chapter proposes the adoption of regional basic dividends that may be financed from the returns of agro-food SME clusters. These dividends can be provided through equity issues that may be directed into a regional blockchain-based trust in each EU region, which would be a DAO designed to be extremely autonomous and progressively independent from human control. In this way, it could

reduce the need for the traditional intermediaries and be, via smart contracts, more transparent than the traditional model of trusts. This offers a high degree of certainty that could improve the investment strategy of the blockchain-based trusts related to the agro-food SME clusters. Accordingly, better returns can be generated for the creation of new jobs, thereby providing more funds available to society, which could become a shareholder in agro-food SME clustering through the growing socialisation of the production of capital. This approach may lead to the formation of a new socio-economic model that could work in accordance with code-based rules and protocols of decentralised blockchain-based networks.

CHAPTER 6: The importance of high-quality European agro-food goods in the global markets

Introduction

An active and technologically advanced agro-food supply chain can promote high-quality European agro-food goods in several marketplaces to meet the demands of different consumers globally. The high standards ensured through compliance with EU food law for all exports of the EU may offer high levels of external competitiveness for businesses that could become stakeholders of agro-food SME clusters. As the agro-food supply chain gradually expands trade globally, the EU could increase its competitiveness and improve market access by eliminating any unjustifiable trade barriers. In this sense, the EU's current and future multilateral, bilateral and regional trade agreements concerning agro-food goods might bring global opportunities for agro-food SME clusters. The regime of Geographical Indications (GIs) protection for agro-food goods could also play a dynamic role in a competitive agro-food SME clustering, in particular through its extension to all agro-food goods under a harmonised multilateral system of registration.

Accordingly, this chapter aims to find how high-quality European agro-food goods could ensure global opportunities for agro-food SME clusters. It initially presents the current trade position of the EU and relevant issues regarding the competition of agro-food goods in the global markets. By providing an analysis of the WTO's multilateral trading system, it then discusses the EU's negotiating agenda and its initiatives regarding bilateral and regional agreements for agro-food goods. Subsequently, this chapter offers an analysis of the GIs protection system by comparing the relevant EU approach to GIs,[1] and the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).[2] It finally examines the EU proposal for the extension of GIs to all agro-food products in the WTO, and discusses the *Feta* case in order to demonstrate that GIs protection can be an effective way for competitive agro-food goods and regional development.

[1] Council Regulation (EC) No 510/2006 of 20 March 2006 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs; Proposal for a Regulation on European Union geographical indications for wine, spirit drinks and agricultural products, and quality schemes for agricultural products, COM/2022/134 final/2.
[2] WTO Agreement on Trade-Related Aspects of Intellectual Property Rights 1994 (WTO), (TRIPS Agreement), Art 22(1) *Protection of Geographical Indications*.

I - Global opportunities for the EU agro-food goods

A - Competitive pressures of the EU agro-food goods in the global context

The phenomenon of globalisation has brought new opportunities for markets and investments in the last decades. As the agro-food supply chain becomes progressively global, and thus increasingly opening trade, it could offer an increase in competitiveness and productivity of the agro-food SME clusters. However, as the EU market is mature, the increase in domestic consumption is lower than before and, for this reason, the development of businesses involved in the EU agro-food supply chain becomes gradually dependent on the external dimension and access to non-EU markets.[3] EU trade and commercial policy can therefore play a crucial role for those businesses in the agro-food supply chain to increase their competitiveness.

The EU is one of the biggest exporters of agro-food goods, and has become the third largest importer after the United States and China.[4] The exports of the EU agro-food goods continue to be one of the key drivers of rural development and jobs because of the CAP, which has incentivised the agro-food supply chain to improve its orientation to global markets.[5] Although it maintains a leading position in global markets and keeps some noticeable advantages in the quickly shifting economic landscape, its total market share in the agro-food supply chain seems to be diminishing in the long term, favouring new global players from the developing world, such as China.[6] Owing to increased competition in the international marketplace and trade barriers in foreign markets, such as tariff and non-tariff barriers, diverging regulations and administrative procedures, the EU exporters of agro-food goods are experiencing slower growth compared to other agro-food producers throughout the world. [7]

To increase its market share in agro-food goods, it is vital for the EU to expand market access by eliminating all unnecessary trade barriers, as well as providing legal clarity and combating counterfeiting.[8] Accordingly, the agro-food SME clusters could be able to grow and become competitive internationally, thus responding to the new demand for high-quality

[3] FoodDrinkEurope 'A Competitive EU Food and Drink Industry for Growth and Jobs - Ambitions for 2025 Priorities and policy recommendations' Report (2016) 10.
[4] In 2020, EU agri-food trade, which reached a total value of €306 billion: €184 billion in exports and €122 billion in imports. In: Commission: Trade Press Release (2021) 'EU reinforces its leading position in global agri-food trade' (8 September 2021).
[5] See Chapter 4.
[6] European Commission 'Monitoring EU agri-food trade'. Publication (2022).
[7] Indicatively. the EU has lost market share from 19.8% in 2005 to 17.8% in 2014 in the global trade of the agro-food products. In: FoodDrinkEurope (n 3) 8.
[8] European Commission 'Report on the Competitiveness of the European Agro-Food Industry" (2009) 65

European agro-food goods, as the percentage of wealthy populations in developing countries is constantly growing.[9] Reaching a comprehensive multilateral trade agreement for agro-food goods among the members of the World Trade Organisation (WTO),[10] may therefore be a trade policy priority and a key objective for the EU to improve the international trade framework and achieve a level playing field with the third countries.

B – Challenges to multilateralism: the WTO trading negotiations

A multilateral agreement on agro-food goods may lead to several benefits for the agro-food SME clusters, including a stronger and more defined trading framework with an expanded number of trade opportunities. The EU is one of the WTO's primary proponents and is participating on behalf of all of its Member States in the Doha Round of multilateral negotiations,[11] which aims 'to achieve major reform of the international trading system through the introduction of lower trade barriers and revised trade rules'.[12] Within this multilateral framework, the EU seeks to improve market access for agro-food goods and support the WTO to conclude a balanced multilateral trade agreement that clarifies trade rules, strengthens disciplines applicable to the agro-food supply chain, and creates new trade opportunities for all WTO countries.[13] In this perspective, the WTO provides a forum for an institutional setting to negotiate agreements aimed at removing barriers to global trade and ensuring equal playing fields, thereby contributing to socioeconomic development.

The Doha Round made relevant progress during the WTO Nairobi ministerial in 2015, which led to a multilateral agreement on various disciplines of export support measures.[14] However, the negotiations are generally at a standstill as the four main players in trade in agro-food products (Brazil, the EU, India and the United States) have not yet reached an agreement. The global financial crisis of 2007-2009 led many countries to implement trade protectionism for saving their economies and minimising possible social discontent,[15] thus contributing to the collapse of the Doha round multilateral negotiations. For instance, the US administration has intended on replacing multilateralism with bilateral agreements, aiming to secure new trade

[9] See Thesis Introduction.
[10] WTO 'Agriculture negotiations' <https://www.wto.org/english/tratop_e/agric_e/negoti_e.htm>.
[11] WTO: Doha Ministerial (2001) 'Ministerial Declaration'. WT/MIN(01)/DEC/1.
[12] WTO The Doha Round' <https://www.wto.org/english/tratop_e/dda_e/dda_e.htm>.
[13] FoodDrinkEurope 'AnnualReport' Report (2017) 8.
[14] WTO: Ministerial Conference (2015) 'Nairobi Ministerial Declaration' (WT/MIN(15)/DEC).
[15] Baldwin R (2009) 'Responsibility with the G20'. International Trade Forum, Issue 1:30.

deals to reduce bilateral trade deficits and protect, in particular, the US manufacturing sector.[16] However, trade-restrictive measures enacted by one country may prompt similar responses from other countries, raising the prospect that protectionist trade policies would spread globally.

Due to the failure of reaching a multilateral agreement, the WTO members make efforts to establish commercial and investment relationships through bilateral and regional trade agreements (RTAs). [17] However, RTAs undermine the Doha Round and multilateralism, as they reflect the discriminatory trade policy under GATT XXIV.[18] Specifically, they represent a basic exception to the key pillar of non-discrimination in the WTO relevant to the obligation to offer Most-Favoured-Nation treatment to each WTO Member.[19] The existing problems in the Doha Round are also reflected in the proliferation of RTAs,[20] which seems to lead toward a free trade direction.[21] This is because, during the last two decades, most of the WTO members have massively lowered barriers to trade, investment, and services bilaterally, regionally, and unilaterally. This shows that the deadlock of the Doha Round has not been achieved to inhibit tariff liberalisation to some extent. Certainly, the massive tariff cutting, which has taken place around the world, has been at least as great as in the previous successful WTO rounds. The failures also of the Doha Round have not dampened nations' interest in the WTO as twenty nations, including China and Russia, have joined since 2001.[22] Consequently, the most possible outcome for the future governance of international trade is a two-pillar structure, in which the WTO continues to govern with its rules, while the new rules for international production networks, or *global value chains*, are set by a decentralised process of sometimes overlapping and inconsistent bilateral and regional trade agreements.[23]

[16] Demertzis M (2007) 'Europe in a new world order'. Policy Brief. Issue 2.
[17] General Agreement on Tariffs and Trade 1994 (WTO), Article XXIV:8, According to Article XXIV:8b The term RTA covers both "free-trade areas" and "customs territories".
[18] GATT Article XXIV, "Territorial Application — Frontier Traffic — Customs Unions and Free-trade Areas".
[19] General Agreement on Tariffs and Trade 1994 (WTO), Article I: "General Most-Favoured-Nation Treatment"
[20] This kind of proliferation of regional agreements has been termed a "spaghetti bowl" by Bhagwati because many overlapping arrangements exist between countries. In: Bhagwati J (2002) *Free trade today*. N.J: Princeton University Press. 112.
[21] Voon T (2010) 'Eliminating trade remedies from the WTO: lessons from regional trade agreements'. International & Comparative Law Quarterly, 59(3), 625-667:625.
[22] Baldwin R (2016) 'The World Trade Organization and the Future of Multilateralism'. Journal of Economic Perspective, 30(1) 95–116: 95.
[23] Ibid 114.

C - EU's bilateral and regional trade agreements

In the absence of a global multilateral agreement, the EU should continue to seize market opportunities by concluding bilateral and regional trade agreements that could constitute important underpinnings for the development of agro-food SME clusters. Though the EU has been recognised as the main supporter of the Doha Round negotiations in the WTO, it launched the Global Europe programme in 2006,[24] thus starting to set out a series of linked trade policy initiatives for bilateral trade agreements and RTAs. As a result, a number of trade agreements covering agro-food goods have been signed in recent years by the EU with non-EU countries.[25] In this sense, new markets for agro-food goods are opened, which could allow the agro-food SME clusters to take advantage of the opportunities that come from trade with the EU's partners.

The EU negotiates trade agreements to support the economy and create jobs, but it also requires partner governments to apply high standards for agro-food goods. However, there is no one-size-fits-all model for all trade deals, even though the EU is pursuing to complete free trade agreements. There are many other deals that involve the complexity of trade rules shaped by a series of agreements between the EU and different groups or pairs of its trade partners.[26] In general, types of agreement are the customs unions, which remove or reduce customs tariffs in bilateral trade by creating a joint customs tariff for importers, as well as for association, stabilisation, free trade and economic partnership agreements. There are also partnership and collaboration agreements that offer a broad framework for bilateral trade interactions while leaving tariffs unaffected.

When exporting to third countries, the EU agro-food businesses frequently cope with measures that deviate from internationally agreed standards that, in many cases, violate WTO rules. Such measures create further administrative problems and extra expenses which hinder trade or amount to full-fledged trade bans.[27] To obtain barrier-free market access to non-EU

[24] European Commission, Communication "Global Europe: Competing in the World", COM(2006) 567 final.
[25] European Commission 'Bilateral and multilateral trade agreements' <https://single-market-economy.ec.europa.eu/sectors/food-and-drink-industry/trade-processed-agricultural-products/bilateral-and-multilateral-trade-agreements_en>. The EU has concluded, or is negotiating, these kinds of bilateral trade agreements with: OECD countries (USA, Canada, Japan, Switzerland, the European Economic Area, Mexico, Chile and South Korea); Euro-Mediterranean countries (Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, the Palestinian Authority, Syria, Tunisia and Turkey); Mercosur countries (Argentina, Brazil, Paraguay, Uruguay and Venezuela); Andean countries (Columbia, Peru, Equator and Bolivia); Central American countries (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama); Gulf Co-operation Council countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates); Balkan countries; ACP (Africa, Caribbean and Pacific) countries.
[26] European Commission 'EU trade by country/region' <https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions_en#_other-countries>.
[27] FoodDrinkEurope 'Priorities for the development of an EU industrial policy for food' Competitiveness Report (2012). 39.

countries, however, the EU aims to encourage tariff liberalisation by applying regulatory measures for convergence with trade partners and promoting international standardisation.[28] For example, HACCP and Codex Alimentarius Standards can decrease the expenses of complying with third country regulations, as well as Technical Barriers to Trade (TBT) and Sanitary and Phytosanitary Measures (SPS) by the WTO were created to eliminate barriers and constrain the form of new ones.[29] Additionally, counterfeiting is a crucial issue for the agro-food supply chain in the EU because numerous counterfeited agro-food items violate seriously Intellectual Property Rights (IPRs).[30] These items may pose a health risk to customers since they often fail to meet rigorous hygienic and quality requirements. Counterfeiting is also a considerable threat, especially for the Geographical Indications (GIs), protection which plays a vital role for the rural economies by supporting the exports of agro-food goods in the global markets, and therefore it may constitute an important factor for an export-oriented agro-food SMEs clustering.

II - EU agro-food SME clusters and rural economies

A - GIs protection for the EU agro-food goods

The term *Geographical Indication* (GI) has been selected by the World Intellectual Property Organization (WIPO) to describe 'the subject matter of a new treaty for the international protection of names and symbols, which indicate a certain geographical origin of a given product'.[31] The GI designates a geographical area in which several businesses are situated and produce the type of goods for which the GI is used. Unlike the trademark, no one individual or business can prevent other individuals or businesses from using the GI,[32] which identifies 'a good as originating in the territory of a country or a region or locality in that territory, where a given quality, reputation or other characteristics of the product is essentially attributable to its geographical origin'.[33] For instance, the name of a specific agro-food good produced by an agro-food SME cluster could not be used in any other agro-food item composed similarly in other territories. In this way, consumers save on search expenses as they can expect,

[28] European Commission 'Ensuring a level playing field for EU businesses' <https://single-market-economy.ec.europa.eu/industry/international-activities_en>.
[29] Commission: Global Europe (n 24).
[30] European Commission, Communication 'For a European Industrial Renaissance' COM(2014) 14 final, 21.
[31] WIPO Intellectual Property Handbook: Policy, Law and Use, para 2.691.
[32] Ibid. para 2.693.
[33] Agreement on Trade-Related Aspects of Intellectual Property Rights 1994 (WTO), (TRIPS Agreement), Art 22(1) *Protection of Geographical Indications*.

due to GI protection, the quality of the goods they purchase.[34]

The term *geographical indication* is also used in the EU Regulation on the protection of geographical indications and designations of origin for agricultural products and foodstuffs,[35] which provides two different types of GI. The reason is that the Regulation attempts to include all current forms of protection of geographical indications, in the widest sense of the term.[36] This means that various groups of producers are allowed to apply for registration of either Protection of Designations of Origin (PDO) or Protection of Geographical Indications (PGI).[37] Both PDO and PGI are types of GI regime that have a particular link to the location of production. PDO criteria for registration however are higher than PGI requirements since the product must not only originate in the designated area but 'the quality or characteristics of which are essentially or exclusively due to a particular geographical environment with its inherent natural and human factors'.[38] The reputation therefore of a PDO product is retained *essentially due* to the designated geographical environment to the extent that there are natural and human variables that offer its characteristics, such as the amount of sunshine, the nature of the flora, and more.[39] Instead, PGI just demands a connection between the product and the place's reputation. That is, the reputation, quality or other features of the product should be generally attributable, rather than *essentially due* such as PDO, to the designated geographical location.[40]

The alleged economic rationale for GIs is that consumers are not able to determine quality well in relation to producers who typically know far more about their product's quality, particularly the quality attributes of the agro-food goods that are at the high end of the quality spectrum.[41] While for some goods consumers can search existing information and thus become well-informed, for *experience* or *credence* goods, however, searching is less simple. Concerning the *experience goods*, consumers need to experience the product to be well informed. With *credence goods*, on the other hand, even experiencing the product does not

[34] Evans G. E (2010) 'The strategic exploitation of geographical indications and Community trade marks for the marketing of agricultural products in the European Union'. WIPO Journal, 1(2), 159-179: 61.
[35] Council Regulation (EC) No 510/2006 of 20 March 2006 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs, Article 4; The EU Regulation 1151/2012 or Quality Scheme Regulation replaced both the 2006 GI Regulation and the 2006 Traditional Specialities Regulation (TSG), encompassing the relevant regulatory schemes (PDO, PGI, TSG).
[36] WIPO (n 31) para 2.692.
[37] Council Regulation (EC) No 510/2006 of 20 March 2006 on the protection of geographical indications and designations of origin for agricultural products and foodstuffs, Article 4.
[38] Council Regulation (EC) No 510/2006 Art. 2.
[39] Evans (n 34) 162.
[40] Council Regulation (EC) No 510/2006 Art. 2,. It is referred that "which possesses a specific quality, reputation or other characteristics attributable to that geographical origin".
[41] Moir H (2017) 'Geographical indications: EU policy at home and abroad'. (Draft), The Australian National University. 3-4

fully inform the consumers regarding its provenance or quality.[42] Most purchases of agro-food goods are regularly repeated events, and it may be the case that for some of them consumers initially have little knowledge. However, a first purchase and trial will move this product out of the experience goods information asymmetry situation, and if the quality and taste align, consumers may have a particular preference for the product and therefore seek it in future purchases.[43] In other situations, consumers are well-informed through appropriate searching, especially as regards expensive wines and spirits where there is an active market producing information for consumers, via wine reviews and special articles and books on food and wine.[44]

Nevertheless, though the high-quality products remain credence goods, a deception may well occur despite the lack of experienced difference in quality. This means that the quality of a GI product may not noticeably vary between the GI region and non-GI regions or this product may be labelled poorly, in such a way that its origin is unclear.[45] The core of the EU argument on GIs is that even if the taste experience is identical, consumers will be confused if their product is labelled as an *experienced* product from other regions. In contrast, the main type of GIs specified in the TRIPS agreement can co-exist easily with trademarks and allow the use of a GI name for a product from various regions provided.[46] However, the TRIPS agreement has specified more stringent GI standards for wines and spirits, in which qualifiers such as *style* products are not allowed.[47] In the EU, the privileges for GIs are even stronger than the more stringent GI standards for wines and spirits by the TRIPS agreement as no evocations of the registered word are allowed in any circumstances,[48] which could constitute a competitive advantage for the agro-food SME clusters.

EU GI policy aims to be firmly within EU agricultural policy to contribute to the farmer and rural prosperity and reduce consumer confusion, and simultaneously within EU intellectual property policy in order for the agricultural producers to be competitive against the large and increasing buying power of large distributors. In this manner, they are able to distinguish their products as premium agro-food goods offered at a premium price.[49] GIs protection can be an

[42] OECD (2000) 229: Annex 1.
[43] Moir (n 41) 4.
[44] Ibid.
[45] Regulation (EU) 1151/12 Article 13(1).
[46] WTO Trade-Related Intellectual Property Rights (TRIPS) Agreement, GIs protection.
[47] Dagne T. W (2015) 'Beyond Economic Considerations: (Re)Conceptualising Geographical Indications for Protecting Traditional Agricultural Products'. International Review of Intellectual Property and Competition Law. 682-684: See also Heath C & A. K Sanders (2015) *New Frontiers of Intellectual Property Law, IP and Cultural Heritage – Geographical Indications –Enforcement – Overprotection.* Hart 119.
[48] Malbon J et al. (2014) *The WTO Agreement on Trade - Related Aspects of Intellectual Property Rights, A Commentary*. Edward Elgar. 332.
[49] Rogits D (2010) 'EU geographical indications v US trademarks: TKOagainst the international harmonisation of the protection of geographical indications?'. Intellectual Property Quarterly. 4, 403-416:412.

effective policy on market conditions and consumer preferences.[50] It would play therefore a central role in inducing rural development to be highly qualified for the establishment of the product's reputation that may help to increase the revenues and returns of the agro-food SME clusters.

B - The potential extension of GIs protection to all agro-food goods

Global protection for GIs in a multilateral system of registration may assist the EU agro-food SME clusters to produce and promote effectively their high-quality agro-food goods across the world. However, the current division between the industrial production methods of countries in the New World and the traditional one of continental Europe is represented in their legal systems of protection.[51] The two antagonistic models of GIs protection as defined in TRIPS,[52] are the US trademark law system and the GI system of the EU. Each of them represents the basis of common-law and civil-law jurisdictions for product identifiers based both on quality and origin respectively.[53] The key difference between trademarks and GIs, which shows the attitude behind each protection system, is that GIs highlight the notion that the product's qualities and reputation are derived from its place of origin, whilst trademarks consider distinctive qualities or reputation from the particular producers located wherever, who ensure the specific quality standards of production of the items displaying the mark.[54]

GIs and trademarks are signs that function similarly as source-identifiers, and guarantees of quality and precious business assets, and therefore are eligible for protection as IP rights for decreasing asymmetry of information among producers and consumers. The dual objective of avoiding consumer confusion and preventing unfair competition under trademark law also applies to GIs.[55] Nonetheless, GIs safeguard the legitimate interests of producers and consumers on different grounds and scopes. It adds to the logic and protection culture features and implies the indication of the origin of a product via a sign which connotes quality,

[50] GI data from DOORS <http://ec.europa.eu/agriculture/quality/door/list.html>. The most important agro-food products covered by registered EU GIs are fruits, vegetables and cereals (28%), cheeses (19%), meat products and fresh meat (24% combined), oils (10%) and other product classes (19% together).
[51] Kireeva I & Vergano P (2006) 'Geographical indications and the interface between trade mark protection and sui generis protection: the example of China, Thailand and Vietnam'. International Trade Law & Regulation, 98-100.
[52] WTO: TRIPS (1994) 'Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) 1994, Article 22: Protection of Geographical Indications'.
[53] O'Connor B et al. Linking Products and Their Origin. International Trade Centre (2009).
[54] Kireeva & Vergano (n 51) 97-98; Ghidini G (2010) *Innovation, Competition and Consumer Welfare in Intellectual Property Law.* Edward Elgar. 199-200; Gangjee D.S (2012) 'Geographical indications and cultural heritage'. WIPO Journal, 4(1), 92-102:100.
[55] Shalevich I (2008) 'Protection of Trademarks and Geographical Indications'. Buffalo Intellectual Property Law Journal. 71; Staten T (2005) 'Geographical Indications Protection under the TRIPS Agreement: Uniformity Not Extension'. Journal of the Patent and Trademark Office Society. 224.

reputation and other characteristics attributed to the product due to a culturally and traditionally defined agricultural practice in an area. This gives the cultural identity to the product of this specific geographical area and its population.[56] In contrast to trademarks which grant monopolistic intellectual property rights to a single owner, GIs grant protection to all producers within a specific area whose goods fulfil the quality standards. Unlike trademarks that may be sold or licensed, the geographical commitment and the right of collective use and interests make GIs non-transferable, and for this reason producers that move outside the certain territory lose the right to use the protected GIs.[57] Consequently, the GI protection of agro-food goods may be a key factor for the stakeholders of agro-food SME clusters to contribute to the traditional local value and the socio-economic development of the EU regions.

Whilst Article 23 of the TRIPS agreement provides satisfied GI protection applicable exclusively to wines and spirits, for all the other goods Article 22 provides only a limited level of GI protection,[58] which cannot offer suitable legal means and determine a solution for generic and homonymous names.[59] Moreover, the TRIPS agreement provides some limitations and exceptions to GI protection in Article 24 that permits the continued use of a trademark if it was registered or utilised in good faith before the application of TRIPS or before the GIs protection in the country of origin.[60] Though the GIs protection remains under national law, it is insufficient and differs from place to place, thus causing legal confusion and uneven results.[61] Hence, a harmonised multilateral system of registration is a strong necessity for the global economy, in which the agro-food SME clusters could be able to export GI agro-food goods worldwide.

For this purpose, an extension of Article 23 TRIPS to all agro-food goods should be addressed. Article 23 is currently applicable only to wine and spirits by granting protection against misuse of GI designating wines or spirits that do not originate from the designated location, although the exact origin of the products is specified, or the GI is translated or accompanied by suffixes such as *style*, *imitation*, *type*, or *kind*.[62] Article 23 offers a greater protection level in matters concerning consumer confusion and unfair competition as defined by Article 10bis of the Paris Convention.[63] Thus, it benefits consumers in making well-informed choices regarding authenticity quality, and origin, while authorised producers are

[56] Ibid 71.
[57] Ibid 75-77.
[58] TRIPS Agreement art. 22(2),23(1).
[59] TRIPS Agreement article. 24(6)(9); TRIPS Agreement art. 23(3), 22(4).
[60] TRIPS Agreement Article 24.
[61] Rogits (n 49) 406.
[62] TRIPS Agreement Article 23(1).
[63] Paris Convention for the Protection of Industrial Property of March 20, 1883.

protected from unfair free-riding and blurring or tarnishing the sign. This helps GIs from becoming *generic* or losing their connotation with a premium reputation and quality, thereby leading to a loss of premium prices.[64]

A detailed proposal circulated in 2005 by the EU calls for Article 23(1) TRIPS to be amended, thus extending the available protection system for wines and spirits to GIs on all products.[65] This is because of facilitating market differentiation in a variety of products and protecting the traditional knowledge which strengthens the historic connections between a region and the products of this region.[66] Prior to this, at the Third WTO Ministerial Conference in 1999, a proposal submission by Turkey for the extension of the GI regime beyond wines and spirits,[67] was strongly supported by a number of developing countries.[68] Nevertheless, opponents of the EU proposal, headed by the United States, warned that the extension of Article 23(1) would force WTO Members to protect the GIs of all other Members at a higher protection level. This may cause a large burden, mainly because some Members, such as the EU countries, possess more than 1000 domestic GIs. Chile, Australia, and Guatemala are opponents among others that further argue that extending Article 23(1) to additional goods would inevitably be followed by claims from specific producer groups which have exclusive rights to specific terms. Whichever granting of exclusive rights to one producer group essentially implies the exclusion of the right to use these terms by other producers. The matter of feta cheese that is produced by various businesses in several countries, including Australia, Canada, the United States, Denmark, New Zealand, and Greece, illustrates the way wherein the extension of Article 23(1) may lead to disputes among WTO Members.[69]

According to the opponents, the current international GIs protection is sufficient, and the proposed amendments by the EU proposal would only serve to impede future gains in market access for non-EU agro-food goods.[70] Concerns have also been raised regarding the increased expenses and administrative burdens associated with adopting a distinct GI protection system in addition to the TRIPS requirements. They supported the idea of a voluntary notification and registration system without obligations in protecting registered GIs.[71] The possibility of

[64] Dinwoodie G & Janis M (2008) *Trademark Law and Theory, A Handbook of Contemporary Research*. Edward Elgar. 324-325.
[65] WTO: Geographical Indications (2005) 'Papers circulated in the negotiations, European Communities, geographical indications'. TN/IP/W/11 (also WT/GC/W/547 and TN/C/W/26).
[66] Blakeney M & Evans G. E (2006) 'The protection of geographical indications after Doha: Quo Vadis?'. Journal of International Economic Law, 9(3), 575-614: 604.
[67] WTO: Doc No WT/GC/W/249, 13 July 1999.
[68] Blakeney & Evans (n 66) 604.
[69] Ibid 605.
[70] Blakeney M (2011) 'Geographical indications and the marketing of agricultural products: Mauritius - a case study'. International Trade Law & Regulation, 17(2), 58-69:59; Rogits (n 49) 408.
[71] Ibid 59.

anticompetitive behaviour is why opponents of the extension of GIs protection warn of the potential termination of future market access prospects for new businesses and the uncertainty as regards the continuation of their existence in the current markets. However, after the CJEU decision regarding the GI protection related to the feta cheese in the EU,[72] agro-food businesses across the world have concerns about the probability that a comprehensive protection model is adopted, and hence they may be required to relabel their goods and abandon familiar names or words to their consumers.[73]

On the other side, the EU proposal aims to harmonise international GIs protection with the EU where a registration system is seen as an essential part of agricultural policy, thus assisting to preserve the income of small businesses and guarantee the sustainability of the rural economy. As it possesses more than 1000 registered GIs as well as technical competence and advanced institutional infrastructure, the EU is extremely well-placed to take advantage of an extended international GIs protection system. [74] It has already fewer barriers to using exclusively names under the GI system, as the GIs protection recovered after the CJEU ruling in the Feta case,[75] thereby allowing producers to gain benefits from the exclusivity of their agro-food goods. Accordingly, the proposal to extend GIs protection may preserve the income of local businesses and, therefore, ensure the viability of the rural economy,[76] which could be a key element for the effective operation of agro-food SME clusters across the EU regions.

C - GIs protection as a tool for regional development: The *Feta* case

The extension of international and domestic GIs protection would contribute to achieving high rates of regional development and strengthening the local economies, in which the agro-food SME clusters could operate effectively. Based on the *Feta* case,[77] the extension can offer social benefits that would improve the quality of the socio-economic life in the EU regions. The feta cheese is a famous traditional cheese from Greece, which is strongly linked with the culture and history of the Greek people. This relationship exists as this cheese is still made in Greece for centuries, without interruption, and is associated with traditions, customs, and dietary habits. It has been produced since ancient times, as evidenced by the description in the

[72] *Feta* case - Joined cases (C-465/02 and C-466/02) *Federal Republic of Germany and the Kingdom of Denmark v Commission of the European Communities* [2006] E.T.M.R. 16.
[73] Blakeney & Evans (n 66) 613.
[74] Blakeney (n 70) 58.
[75] *Feta* case - Joined cases (C-465/02 and C-466/02).
[76] Blakeney (n 70) 58.
[77] *Feta* case - Joined cases (C-465/02 and C-466/02).

Odyssey via the Homeric accounts of the cheese-making techniques of the Cyclops Polyphemus.[78] While the feta cheese was known in the last centuries only to the neighbouring countries of Greece, it gradually become a well-known agro-food good in the last century, due to the mass migration of Greeks to various countries. It is worth noting that Greeks are the world's largest consumers of feta cheese, which is recognised during the last decades as a GI product.[79]

The GIs protection entails first preventing unauthorised persons from using GIs for goods not originating from the place indicated or not complying with quality standards provided and, second, protecting the *distinctiveness* of these goods.[80] The GIs must not become generic terms and, in the absence of an international agreement, national law determines whether a GI is a general expression and invalidated all protection.[81] Since 1972, the national protection of the name feta exists officially through a bilateral agreement between Greece and Austria, related to 'the protection of indications of provenance, designations of origin and names of agricultural, craft and industrial products'.[82] Additionally, in 1987, Greece began adopting measures to regulate the process of production and marketing of feta cheese in its national law.[83] The relevant rules concluded in 1994 via the registration of the name Feta in EU law under the Regulation on the protection of GIs and designations of origin for agricultural products and foodstuffs.[84] Subsequently, in 1996, the Commission adopted a new Regulation under which the feta cheese was registered as a PDO.[85]

Since then, immediately after its registration as a PDO product, the feta cheese strengthened its position internationally, by increasing the market share of its exports significantly, especially within the EU.[86] The registration as a PDO product acted as a key success factor for producers to penetrate the global markets by developing innovative

[78] Gangjee, D. S. (2007). Say cheese! A sharper image of generic use through the lens of Feta. European Intellectual Property Review, 5:173.
[79] O'Connor B & Kireeva I (2003) 'What's in a name? The "feta" cheese saga'. International Trade Law & Regulation, 9(4), 110-120:111.
[80] See above.
[81] WIPO (n 31) para.2.694.
[82] Convention between the Republic of Austria and the Kingdom of Greece, concluded on 20 June 1972. (BGBl. Nos 378/1972 and 379/1972; *Österreichisches Patentblatt* No 11/1972 of 15 November 1972).
[83] O'Connor & Kireeva (n 79) 110. That is, production specifications were introduced and the geographic area for the production of Feta in Greece was set through Decisions of the Greek Ministers of Finance, Agriculture and Trade No.15294/Z2/2863/1987, O.J. 347/B and No.2109/88 of December 5, 1988, O.J. 892/B.
[84] Council Regulation (EEC) No. 2081/92 of 14 July 1992 on the Protection of Geographical Indications and Designations of Origin for Agricultural Products and Foodstuffs; Commission Regulation (EC) No 1107/96 on the registration of geographical indications and designations of origin under the procedure laid down in Article 17 of Council Regulation (EEC) No 2081/92.
[85] Commission Regulation (EC) No 1107/96 of 12 June 1996 on the registration of geographical indications and designations of origin under the procedure laid down in Article 17 of Council Regulation (EEC).
[86] London Economics, Evaluation of the CAP policy on protected designations of origin (PDO) and protected geographical indications (PGI) – (Final report, 2008) 232-253.

marketing strategies, based on GI registration, which contributed to gaining access to new dynamic distribution channels.[87] This is an advantage as it reduces the potential risks arising from depending on a single buyer or few buyers, thereby allowing Greek producers to gain the benefits of the GI registration for the commercialisation of the feta cheese.[88] As a result, the commercial success of the good strengthened greatly the economic activity in rural areas where it is produced, thus creating the conditions for a qualitative and quantitative increase in employment. [89] The benefits of the regional economy have led to an increase in population in the areas of production, as opposed to a rapid decline in rural populations in the same period across Europe.[90] Moreover, various associations were created by the feta cheese producers and several places obtained cultural value after the product GI registration,[91] such as many cultural events associated with the *GI Feta*, which often took the form of celebrations in particular locations in the defined areas of production.[92]

The GI system emphasises the usage of product specification that clarifies the nature of the connection between the geographic origin and product.[93] Specifically, the *uniqueness* of the feta cheese is recognised by the homogeneous physical features of a distinct geographical area, which includes the mountainous nature of the soil, and the temperate climate and characteristic vegetation of the place.[94] Consequently, the unique natural environment plays a vital role in feta cheese production,[95] as it offers special natural characteristics in the landscape of production that has become a commercial advantage due to GI registration.[96] Thus, the uniqueness of the feta cheese derives from its relationships with particular characteristics, such as raw materials, traditional production methods, and applicable standards for production and processing.[97] This means that the reputation of this product is described as *primarily due* in the territory of Greece, and the GIs protection offers an effective marketing tool as it highlights the dominant role of reputation regarding its uniqueness. The specification identifies the product for which producers have the exclusive right to utilise the GI registration against those who are

[87] Blakeney & Evans (n 66) 576 & 589.
[88] Evans (n 34) 172.
[89] London Economics (n 86).
[90] Ibid. 238.
[91] Ibid. 248-249.
[92] Ibid. 244-253.
[93] Jokuti A (2009) 'Where is the what if the what is in why? A rough guide to the maze of geographical indications'. European Intellectual Property Review, 31(3), 118-123:122.
[94] Van Caenegem W (2004) 'Registered GIs: intellectual property, agricultural policy and international trade'. European Intellectual Property Review, 26(4), 170-181:175.
[95] Munzer S. R & Raustiala K (2007) 'The global struggle over geographic indications'. European Journal of International Law, 18(2), 337-365:344.
[96] London Economics (n 86) 249-250.
[97] Blakeney & Evans (n 66) 584.

beyond the designated area,[98] and acts as a warning to others regarding the extent of the exclusive right of the beneficiary.[99]

Nevertheless, despite the fact that the Commission granted the PDO status to the name *Feta*, in 1996, this decision was contested by Germany and Denmark which claimed that the name has already been considered generic. They requested the cancellation of its registration as a PDO,[100] which had as a result the amendment of the relative Annex, in 1999, by removing from the registered PDO products the name *Feta*.[101] These developments had detrimental effects on the market share of the feta cheese as there was a large reduction in product sales in this period.[102] However, in 2006 the CJEU rejected the complaint as unfounded,[103] and ruled that the name *Feta* has a direct link between the reputation of the product and its geographical origin. Since then the feta cheese regained commercial success by increasing its volume and value share.[104]

The CJEU took into consideration several factors such as production, consumer perception, consumption amount, market character, and the status under national law.[105] Based on the PDO definition requirements, a historical link between a specific place and the product origin is necessary,[106] and therefore providing evidence that this product is still made using traditional methods is of immense importance. Denmark argued that until the late 1980s, this cheese was made in line with methods distinct from traditional Greek methods presented in Greece under the name *Feta*.[107] In contrast, the CJEU recognised that the national legislation in 1988 shaped new conditions wherein those methods no longer exist,[108] and formed the context of the geographical areas of production in accordance with traditional practices, as well as codifying all applicable rules to the feta cheese.[109] This proves that the status of the product is under national law, and the government had already decided, on the application date, to protect the traditional production methods. Accordingly, the exclusivity of the name *Feta*

[98] Council Regulation (EC) No 510/2006 Article 4.
[99] Blakeney & Evans (n 66) 587-589.
[100] Kingdom of Denmark, Federal Republic of Germany and French Republic v Commission of the European Communities. Joined cases C-289/96, C-293/96 and C-299/96 of 16 March 1999, [1999] ECR I-1541. Also, Denmark and Germany supported by France.
[101] Commission Regulation (EC) No. 1070/1999 on the registration of geographical indications and designations of origin; Andrew Hibberd, 'Named and claimed', The Independent (London, Saturday 15 April 2000) 11.
[102] London Economics (n 86) 232-253.
[103] The ECJ dismissed the action on the basis of Article 3(1) of Council Regulation CE 510/2006; (*Feta* case), paras.76-99.
[104] London Economics (n 86) 232-253.
[105] (*Feta* case), paras.76-99.
[106] Council Regulation (EC) No 510/2006 Article 2.
[107] *Feta* case, para.77.
[108] Decisions of the Ministers of Finance, Agriculture and Trade.
[109] *Feta* case, para.78.

continues to exist due to the passing of legislation by the Greek government in 1988.[110] Moreover, various additional data of bilateral agreements and collective marks presented by the Greek government before the CJEU demonstrated that the name is not generic.[111]

By examining the character of the market and market share for the product, the CJEU found that the larger feta cheese consumption was concentrated in Greece. The domestic market size was extremely high because more than 85 per cent of the consumption of feta cheese per capita per year in the EU took place in Greece.[112] Subsequently, the CJEU considered evidence about the form and duration of production and consumption within the EU. Based on relevant studies, the production's largest quantity occurs in the designated region of Greece, despite the fact that Denmark and Germany sometimes experienced significant amounts.[113]

In addition, most consumers in Greece and generally in the EU believe, according to the CJEU, that the name *Feta* bears a geographical rather than a generic connotation.[114] In fact, the CJEU gave particular attention to the nature of production and marketing, thus deciding that the name *Feta* is not generic.[115] It found a strong geographic link between Greece and the feta cheese as other cheeses with the same name but made elsewhere rather than in Greece, are 'commonly marketed with labels referring to Greek cultural traditions and civilisation'.[116] The consumers in those countries recognise the feta cheese as a cheese connected with Greece, even though it was produced in another country.[117] This reinforced recently by the Commission that launched infringement proceedings,[118] supported by Greece and Cyprus, claiming that Denmark had breached its obligations under the Quality Scheme Regulation.[119] Specifically, it did not prevent or stop the use of the name *Feta* on cheese produced in Denmark that was destined for export to third countries, thus failing to fulfil its obligations under EU law.[120]

Therefore, the agro-food SME clusters may focus on the production and

[110] Ibid. paras 76,78. Ministerial Order 2109/88, 1988, based the definition of the geographical area on traditional practices; and Ministerial Order 313025, 1994, codified the rules applicable to Feta cheese. (n 121).
[111] Ibid. paras 93-94. Since 1972, the use of the name "Feta" in Austria has been protected by bilateral agreement with Greece.
[112] Ibid. para.85.
[113] Ibid. para.80. According to the 13th to the 17th recitals in the preamble to the contested regulation, the Hellenic Republic produces approximately 115 000 tonnes annually. In 1998, almost 27 640 tonnes were produced in Denmark. From 1988 to 1998, production in France varied between 7 960 tonnes and 19 964 tonnes. Production in Germany has varied between 19 757 and 39 201 tonnes since 1985.
[114] Ibid. para.86. Although, Denmark had argued that most consumers in Denmark believed that the name was generic not considered persuasive argument.
[115] Ibid. para.88.
[116] Ibid. para.87. The ECJ recognized the historical connection between Greece and Feta.
[117] Ibid. para.87.
[118] Case C-159/20 *Commission v Denmark* [2022].
[119] Regulation (EU) No 1151/2012. (n 35).
[120] Case C-159/20 para 80.

commercialisation of GI goods across the EU, and thus its members such as local businesses gain advantages, as demonstrated by the *Feta* case. The extension of GIs protection can guarantee the uniqueness of high-quality agro-food goods, thus strengthening their presence in markets through suitable marketing approaches. This ensures certainty for consumers and therefore easier market access, which can provide several socio-economic benefits to the EU regions. Accordingly, local producers could preserve traditional knowledge and increase their income, thereby contributing to the sustainability of the local economy. Appropriate planning and implementation of relevant institutional actions on GI protection of agro-food goods may therefore create a new cycle of production effort in rural areas. This could be based on decentralised production for assisting balanced regional development and thus the dynamic operation of agro-food SME clustering in the EU regions.

Conclusion

This chapter finds that high-quality European agro-food goods can ensure global opportunities for agro-food SME clusters. This is because the EU has a leading position in global markets as one of the biggest exporters and importers of agro-food goods. Although it possesses certain advantages in the current changing trade environment, its total market share however in the agro-food supply chain seems to be reduced in the long term, favouring new players around the world. A WTO multilateral agreement could result in several benefits for the EU, and hence for agro-food SME clusters, such as discovering various trade opportunities. However, multilateralism is in trouble because the relevant negotiations are generally at a standstill mainly due to trade protectionism.

For this reason, the EU has developed a negotiating agenda with various countries and regions across the world and concluded a number of bilateral and regional trade agreements concerning agro-food goods. To obtain barrier-free market access to non-EU countries, however, the EU aims to encourage tariff liberalisation by applying regulatory measures for convergence with trade partners and promoting international standardisation.[121] While the agro-food SME clusters may take advantage of new trade opportunities, counterfeited agro-food items nevertheless cause serious issues as they violate intellectual property rights,[122] and mainly the GIs protection of high-quality agro-food goods.

[121] European Commission 'Ensuring a level playing field for EU businesses' <https://single-market-economy.ec.europa.eu/industry/international-activities_en>.
[122] European Commission 'For a European Industrial Renaissance'. COM(2014) 14 final 21.

By decreasing consumer confusion and unfair competition, the GIs protection may play a considerable role in the internationalisation process of agro-food goods and therefore the agro-food SME clusters' efficiency. Thus, the EU should pursue extending GIs protection to all agro-food goods under a harmonised multilateral system of registration, but there are quite opposite views among the WTO members on this prospect. As demonstrated by the CJEU rulings on the *Feta* case, the extension of GIs protection could facilitate market access by providing key marketing advantages for high-quality agro-food goods. It may also offer many socio-economic benefits to rural areas by assisting local producers to preserve traditional knowledge and increase their income. Accordingly, high levels of regional development may be achieved by ensuring the viability of local economies, which could be a key element for agro-food SME clustering across the EU regions.

CHAPTER 7: The establishment of agro-food SME clusters throughout the EU regions

Introduction

The high-quality European agro-food goods can strengthen their competitive position in the global markets due to new opportunities arising from the EU's trade agreements. A GIs protection policy for agro-food goods could also play a vital role in the internationalisation process for the agro-food supply chain and simultaneously contribute to achieving high levels of regional development.[1] This may ensure the sustainability of local economies, thus offering a favourable environment for the establishment of agro-food SME clusters in the EU regions. The interaction between global and local geographical and socio-economic forces may enhance the agro-food SME clusters through networking of SMEs, which could occur at all levels of the agro-food supply chain. However, the EU is currently experiencing disparities in prosperity levels throughout its regions.[2] To respond to this problem, the EU cohesion policy may support the EU regions in recognising their particular qualities and addressing local needs and challenges in the context of balanced regional development. Taking advantage of the regional particularities could be an initial step for the emergence of agro-food SME clusters in the EU.

For all the reasons stated above, this chapter aims to consider how the challenge of balanced regional development can affect the establishment of agro-food SME clusters in the EU regions. To this end, it first explores the interaction between global and local geographical and socio-economic forces that arise from the nexus of globalisation and localisation in the EU regions. By considering the networking of SMEs throughout the agro-food supply chain, it also presents an outline of the potential geographical and socio-economic position of the agro-food SME clusters in the EU. Subsequently, this chapter discusses the EU cohesion policy regarding regional development, by examining the EU's economic, social and territorial cohesion in relation to an imminent agro-food SME clustering. It also examines EU rationales for policy intervention to identify the particular regional characteristics in each EU region. Finally, it proposes the basic stages for the establishment of agro-food SME clusters and their operational framework by taking into account the importance of cluster management and the business environment in the EU.

[1] See Chapter 6.
[2] European Parliamentary Research 'Regional inequalities in the EU' EPRS' (2019).

I - The agro-food SME clustering as a project of socio-economic development

A - Thinking globally, acting locally

The concept of export-oriented business clustering could generate economic impact and promote local and regional development, because it may be consistent with the multi-dimensional nature of the local economic activity.[3] Even when competition and economic activities become more global, there is evidence that competitive advantages may become more local.[4] Globalisation has led to the geographical spreading of economic activity, allowing businesses and areas with specialised sources of competitive advantage to utilising their advantages over wider geographic areas.[5] If globalising forces move faster than forces that affect the geographical sources of competitive advantage, economies would become more distinct in some ways, rather than less different. Though tendencies toward globalisation of businesses and industries appear to decrease the significance and uniqueness of subnational areas, a trend toward localisation of specific sectors and economic activity seems to have the opposite effect.

Globalising and localising tendencies increase the socio-economic significance of the *place*, especially the features that determine whether a specific location would gain or suffer from the effects of globalisation and localisation.[6] The reason is that the modern world economy consists, in part, of a mixture of interdependent production systems that could be formatted according to a logic of growing returns and agglomeration economies based on transactions, which is a source of competitive advantages and productivity impact. Namely, effective regional economic systems can be characterised by well-developed forms of formal and informal collective order and constitute an area with significant prospects for constructive types of public action and policymaking to increase industrial performance.[7] As a result, the globalisation-localisation nexus may be able to generate the appropriate conditions for effective policies to support the emergence and operation of agro-food SME clusters throughout the EU regions.

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[3] Taylor D. F & Miller C. R (2010) 'Rethinking local business clusters: the case of food clusters for promoting community development'. Community Development, 41(1) 108-120:108 & 115.
[4] Enright M (1999) 'The Globalisation of Competition and the Localisation of Competitive Advantage: Policies Toward Regional Clustering', in: Hood N & Young S. *The Globalisation of Multinational Enterprise Activity and Economic Development*. London: Macmillan. 306.
[5] OECD (2000) 'Local partnership, clusters and SME globalisation'. Conference for Ministers responsible for SMEs and Industry Ministers: Enhancing the competitiveness of SMEs in the global economy, Bologna, Italy, (14-15 June 2000) 11
[6] Scott A (1998) 'The Geographic Foundations of Industrial Performance', in: Chandler et al. *The Dynamic Firm: The Role of Technology, Strategy, Organisation, and Regions.* (OUP)
[7] Krugman P (1994) 'Competitiveness: A Dangerous Obsession'. *Foreign Affairs*, 73(2) 28-44:30–45; Scott (n 6).

This is the notion of *glocalisation*,[8] which incorporates the processes of globalisation and localisation. In contrast to localisation, which relates to organisations, communities, individual subjects, and human beings, globalisation encompasses planetary processes, where their particular manifestations can be contemplated in concrete localities.[9] In *glocalisation*, the dichotomy between the global and the local is inaccurate, even though the socioeconomic, institutional, and other superstructures, constructed by humans, are undergoing territorial and functional transformations. However, these global transformations have their origins in specific groups of the population, constitutive of globalisation, which exist physically and are thus always classifiable within a certain time-space context or at a specific place in a concrete time.[10]

Therefore, *glocalisation* can be an expression of globalisation that encompasses the specificity of locality, by changing the focus from *space* to *place*.[11] Due to shifting interactions between space and place, the construction of place-bound identities has grown more vital rather than less significant in a world of reducing spatial barriers to communication, movement and exchange.[12] The phenomenon of *glocalisation* occurred synchronously with the progressive collapse of the nation-state, after the crisis of Fordism and the advent of post-Fordism, which indicate a considerable territorial rescaling of a number of regulatory actions.[13] This is typically understood as *thinking globally and acting locally*,[14] which emphasises the human capacity to transcend different territorial scales, at least cognitively, and is seen as a suitable method for the future sustainable and socio-economic development of the planet. Consequently, *glocalisation* can be viewed as a process with a variety of socio-economic, institutional, and cultural connotations, which may constitute important elements for agro-food SMEs clustering in the EU regions.

From an economic perspective, notwithstanding the turbulence and volatility of global processes, economic subjects constitutive of globalisation may be found in specific localities where businesses are concurrently forcefully local and forcefully global.[15] *Glocalisation* is often comprehended as a concept adopted by large economic entities. This entails adapting

[8] Sucháček, J (2011) 'Globalization and Glocalization'. In: Mácha P & Drobík T. The Scale of Globalization: Think Globally, Act Locally, Change Individually in the 21st Century. (Conference Proceedings) University of Ostrava. 322
[9] Ibid 322.
[10] Ibid 322.
[11] Harvey D (1993) 'From space to place and back again: Reflections on the conditions of postmodernity', in: Bird J et al., *Mapping the futures: local cultures, global change*. Routledge 3-29.
[12] Ibid. 3 - Also: Harvey D (1989) *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change*. Basil Blackwell. 41-172.
[13] Sucháček (n 8) 322; Krugman P (1991) *Geography and Trade*. MIT Press. 62.
[14] *Barash D & Webel C (2002) Peace and Conflict*. Sage. 547.
[15] Swyngedouw E (1996) 'Producing Futures: International Finance as a Geographical Project', in: Daniels P & Lever W. *The Global Economy in Transition*. Longman. 135-140.

their goods and services to meet the needs of highly diverse local markets across the globe.[16] Accordingly, the power of economic interests seems to be one of the major driving forces of *glocalisation* and, hence, it may be considered a challenging matter for small businesses facing enormous competitive pressures from large business entities. Drafting suitable policies however for supporting initiatives, such as the possible establishment of competitive agro-food SME clusters, may be an appropriate response to this situation.

The economics of competition and the role of location in ensuring competitive advantage, which have taken on increasing significance in a gradually knowledge-based, complex, and dynamic economy, might play a crucial role in business clustering.[17] Therefore, the rising effects of local and global forces' interactions could offer dynamic elements and competitive advantages to agro-food SME clusters, which may gain sufficient size and power in order to compete as large-scale businesses, on economic terms, in the global context. They could be able to become networks of businesses that participate in the phases of the agro-food supply chain, namely from the level of production until the end consumer of high-quality agro-food goods. Cluster participants may be part of a coordinating value-chain of activities needed to produce high-quality agro-food goods. Moreover, vertical or horizontal connections between businesses and the colocation of adjacent sectors are significant contributors to the enhancement of businesses and regional competitiveness.[18]

B - The industrial village of the future

The establishment of at least one agro-food SME cluster in each of the EU regions of the European territory could be an ultimate aim and a suitable way to achieve high levels of business networking across the European territory. This is because the EU regions, in which the agro-food SMEs clustering may take place, are considered as the territorial subdivisions level 2 NUTS of the EU common classification of territorial units.[19] As a result, every agro-food SME cluster can consist of hundreds of SMEs stemming from the entire agro-food supply chain, mainly from the three main economic sectors (agriculture, food processing and food distribution) which could involve multiple players.[20] Cluster members may also be relevant

[16] Sucháček (n 8) 323.
[17] Porter M (2000) 'Location, Competition, and Economic Development: Local Clusters in a Global Economy'. Economic Development Quarterly, 14(1) 15-20:16.
[18] Porter M (1998) 'Clusters and the New Economics of Competition'. Harvard Business Review, 76(6) 77-90:78.
[19] See Thesis Introduction.
[20] See Chapter 3 & Chapter 4.

supporting institutions, such as universities and research centres, trade associations, standards agencies, state-owned entities and more. Additionally, each region might possess its own cluster strength, and if a region could effectively operate with its agro-food SME cluster, it may derive various strategic advantages. Business clustering can be attractive to the regions accommodating it and contribute to their socio-economic development, because prosperity relies on productivity through which a region allocates its resources, such as workforce, natural resources and infrastructure, to produce goods and services.[21] In particular, the location advantages increasingly lie in local things, such as knowledge, relationship, and motivation that distant rivals cannot match.[22] The proximity of customers, competitors, suppliers, universities and research institutions can provide an incentive for the formation and exchange of information and increase the opportunities to improve productivity and enhance competitiveness, thus favouring the attractiveness of the regions.[23]

Accordingly, SMEs located in the EU regions from the primary, secondary and tertiary sectors of the economy could network and participate in the process of production, processing, and distribution of agro-food products. The vertical integration of this industry comprises a wide range of economic activities and produces a notable variety of products, ranging from simple foodstuffs to luxurious goods. The output of the dissimilar EU regions is complementary as the southern EU regions can supply fruits and vegetables, whereas the northern EU regions can supply dairy products, meat and cereals.[24] This variety of products currently stems from businesses that 99 per cent of which are SMEs, which play a significant role in the agro-food value chain that is one of the largest in Europe.[25] Consequently, the scattering and combination of industries throughout the EU regions will 'bring the factory amidst the fields',[26] thus making agriculture capable to derive all the profits that it can find in being combined with the agro-food supply chain. Namely, combining agricultural with industrial work is an important phase, which 'is imposed by the very necessities of producing for the producers themselves'.[27]

The members of the agro-food SME clusters could achieve, through the accumulation of complementary skills and synergies, economies of scale, access to specialised resources, and

[21] Porter M (1998) 'Clusters and the New Economics of Competition'. Harvard Business Review, 76(6) 77-90:90; Innovating Regions in Europe (IRE) 'Design of cluster initiatives: An overview of policies and praxis in Europe' (2008) 6-7.
[22] Porter M (1998) *On Competition*, Boston: Harvard Business Review Books. 327.
[23] Ibid.
[24] Moussis N (2013) *Access to the European Union: Law, Economics, Policies*. 20th ed., Intersentia, 607-609.
[25] European Commission 'European Industry in a Changing World – Updated Sectoral Overview 2009'. SWD (SEC(2009) 1111 final, 70.
[26] Kropotkin P (1888) 'The Industrial Village of the Future'. Nineteenth Century, 140(14), 513-530:527.
[27] Ibid.

direct and timely flow of information.[28] They may also decrease production costs, improve operations and increase their competitiveness in the global markets.[29] Characteristically, business clustering can increase the levels of productivity in any component of businesses or industries, by strengthening the capacity of cluster participants for productivity growth, and stimulating new business formation that can support innovation and expands the cluster.[30] In addition, based on knowledge and innovation, the agro-food SME clusters may produce high-quality goods at low cost as a benefit to the end consumer and to promote environmental sustainability. Thus, they could be consistent with the EU's aim 'to assure a high level of food safety and animal and plant health … through coherent Farm to Fork measures and adequate monitoring'.[31] They may also adhere to the EU's environmental standards, which help to 'green the EU economy, protect nature, and safeguard the health and quality of life of people living in the EU'.[32]

The agro-food SME clusters could contribute to achieving high rates of regional development and strengthening the local economy in the EU regions by the qualitative and quantitative increase of employment. This is important in the current times, where a fairness dimension is needed to provide an adequate framework for the changing of labour market realities and moving towards a social welfare model that supports citizens throughout their life course.[33] Job creation and new entrepreneurial innovations can flourish through activities related to fostering social interaction in the collaborative environment of business clusters that might operate as community-based entities.[34] In particular, the agro-food SME clusters may also operate as community-based entities, because they could play a supportive role for their stakeholders, such as employees and entrepreneurs, by providing direct services in developing low-income housing, social programmes and civic infrastructure. They might also change the workforce attitudes and help people in moving from welfare-to-work and school-to-work into specific job positions with promising futures, thereby making them directly involved in business development.[35]

[28] See Chapter 1.
[29] See Chapter 6.
[30] Porter M (1996) 'What is strategy?'. Harvard Business Review, 74(6) 61–78:66-67; Porter M (2000) 'Location, Competition, and Economic Development: Local Clusters in a Global Economy'. Economic Development Quarterly, 14(1) 15-20:17.
[31] European Commission 'Food Safety' (2022) <https://food.ec.europa.eu/index_en>.
[32] European Union, 'Environment' (2022) 'Towards a greener and more sustainable Europe'. <https://europa.eu/european-union/topics/environment_en.>.
[33] See Chapter 5.
[34] Putnam R (1993) *Making Democracy Work.* Princeton University Press, 163-171.
[35] Porter M (1998) *On Competition*, Boston: Harvard Business Review Books, 401-402.

The establishment of agro-food SME clusters throughout the EU regions may present a socio-economic interest as they could contribute to addressing relevant challenges, such as poverty and social exclusion, through a way of regional development wherein 'the rise of network society is a critical attribute'.[36] Building networks of cooperation between parts of the population, dynamic businesses and regional-based institutions could lead to a restructuring of the EU regions in order to compete effectively in the global economy. The reason is that the growing internationalisation of economic activities across the EU has made regions more dependent on them.[37] Business clustering could be a proper answer for the EU to face some consequences of its multiple crises,[38] and create a new cycle of productive effort to increase its competitiveness and, by extension, improve the socio-economic development in the EU regions. Furthermore, the combination of agriculture with other sectors of the economy, via the agro-food SME clustering, could form a vital part of the EU economy, which can guarantee the supply of high-quality agro-food goods. It is about policies in the context of balanced regional development that would offer an important private and social benefit, as well as improving the quality of life and ensuring economic, social and territorial cohesion.

II - The challenge of balanced regional development

A - EU economic, social and territorial cohesion

The agro-food SME clustering may be confronted with challenges related to existing differences in prosperity levels both between countries and inside the Member States. The effects of regional inequalities are typically evident in social deprivation, high unemployment levels, low-quality schools, and insufficient infrastructure.[39] However, Articles 174-178 TFEU lay down that the EU should foster socio-economic development and reinforce territorial cohesion by decreasing disparities between the regions. EU Cohesion Policy is considered one of the most visible and largest of the EU's instruments to support employment and growth in Europe. In particular, it focuses on rural areas that are affected by industrial transition, and regions that suffer from natural or demographic impediments, such as regions with very low population density and island, cross-border and mountain regions.

[36] Castells M (2000) "The Rise of The Network Society" in *The Information Age: Economy, Society and Culture*. Oxford: Blackwell. 162.
[37] Ibid 411-412.
[38] See Thesis Introduction.
[39] Piketty (2014) *Capital in the Twenty-First Century.* Harvard University Press. 247.

EU Cohesion Policy is behind projects that receive funding from the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the Cohesion Fund, which applies to Member States that have a GDP lower than 90 per cent of the EU average. Social and economic cohesion, as defined in the 1986 Single European Act, is about 'reducing disparities between the various regions and the backwardness of the least-favoured regions',[40] Another dimension to cohesion was also added, referring to territorial cohesion.[41] This is because cohesion policy should foster more balanced, more sustainable territorial development, as a wider concept than regional policy, which is especially linked to the ERDF and works only at the regional level. Under the European Structural and Investment (ESI) Funds,[42] the EU's regional development programmes target all EU regions aiming to support socio-economic development. The agro-food SME clusters could be an important part of this effort and thus contribute to promoting growth and jobs, and make regions more attractive for investments.

Nevertheless, the EU Cohesion Policy experienced important problems relating to cohesion policy spending in the period 2014-2020.[43] There was primarily an absence of strategic justification for programmes as their objectives were not specific and measurable because of non-existent quantified targets and insufficient monitoring. Additionally, there were variable degrees of shortcomings in many areas of management. It is necessary therefore to support long-term strategic analysis, planning and management, which would focus on the distinct strengths and weaknesses of the EU regions.[44] The new CAP may contribute to this purpose through its strategic plan at a national level, in which the particularities of the regions can be considered in the national plans.[45] This could play a vital role in the establishment of specific agro-food SME clusters that may utilise the advantages of the EU regions. To this end, it would be useful to consider EU rationales for policy intervention on the EU's economic, social and territorial cohesion by examining the conceptual underpinnings and reviewing the previous objectives, resources and effectiveness of interventions funded under the EU Cohesion Policy.

[40] Single European Act (OJ L 169, 29.6.1987) 1-28.
[41] TFEU Article 174.
[42] European Structural and Investment (ESI) Funds: ERDF, the ESF, the Cohesion Fund, the European Agricultural Fund for Rural Development (EAFRD), and the European Maritime and Fisheries Fund (EMFF).
[43] Bachtler J et al. 'Reassessing the performance and direction of EU Cohesion Policy in 2014–20'. in: EU Cohesion Policy (2017) 11-21.
[44] Ibid. 20.
[45] See Chapter 4.

B - Cohesion policy: EU rationales for policy intervention

EU Cohesion Policy has been formed by several conceptual models and the experience of policy development over the previous decades. It has been guided by various approaches based on mixtures of fiscal federalism, innovation-based growth, social investment and place-based regional policy.[46] However, differences over time and space have caused territorial inequality matters, both economically and socially. [47] Until the 1980s, EU policies on regional development were mainly redistributive, focusing on compensating the most problematic areas, with structural and geographical difficulties, via business support and infrastructure investment. They also included various social objectives, such as addressing the effects of high unemployment.[48] Nevertheless, in the early 1990s, the economic outlook of the EU deteriorated dramatically due to slow growth. As a result of this poor growth performance, unemployment increased while budget deficits became higher than at the beginning of the 1980s.[49] Then, the EU entered a period with a highly sophisticated system of structural assistance founded upon an array of mechanisms designed to suit the multifaceted nature of the objectives of economic and social cohesion.[50] Accordingly, it confronted a series of dangers on the road ahead to economic and social cohesion, which were connected with the inherent inconsistencies between the objectives of structural policies and the operation of associated EU sectoral policies and programmes.[51]

In the coming three decades, EU policy has had a more allocative role, attempting to support more efficiently the use of endogenous resources in all regions, especially through support for new business formation, development of SMEs and innovation. At the same time, the social policies aim continued to be important, by emphasising countering social exclusion and increasing the employment rate of vulnerable groups.[52] This is because many regional strategies in many EU countries were based on a philosophy that prioritises social equality

[46] Barca F (2009) An Agenda for a Reformed Cohesion Policy, A Place-Based Approach to Meeting European Unio,n Challenges and Expectations, Independent report prepared at the request of Danuta Hübner, Commissioner for Regional Policy, European Commission, Brussels; Hemerijck A (Ed.) (2017) *The Uses of Social Investment*, (OUP); Vandenbroucke F (2017) 'Social Investment as a Policy Platform: A European Argument'. In: Hemerijck A (Ed.) *The Uses of Social Investment*. (OUP).
[47] Bachtler J & Begg I (2017) 'Cohesion policy after Brexit: the economic, social and institutional challenges' Journal of Social Policy. 745-763:748
[48] Ibid 748-749.
[49] *European Economy* '*Annual Economic Report for 1993'. No. 54.* (*1993*).
[50] Kenner J (1994) 'Economic and Social Cohesion - The Rocky Road ahead'. Legal Issues of Economic Integration. 21(1) 1–37:30.
[51] Ibid 31-32.
[52] Bachtler & Begg (n 47).

together with the pursuit of economic efficiency. [53] In Germany, a constitutional aim of equal living conditions is included in the Basic Law,[54] and the French government is obligated constitutionally to promote equality amongst territorial authorities, integrating regional economic competitiveness with territorial and social cohesion.[55] There is also an analogous provision in the Italian constitution, and policy actions in a range of other countries,[56] are based on policy objectives for *balanced development* and *solidarity*.[57] These European traditions are reflected in the objectives of the EU Cohesion Policy, specified in Articles 174-178 TFEU.

The EU made provisions from the beginning for the ESF which was created in 1957 and was complemented by the establishment of the ERDF in 1975. Subsequently, these funds were brought together with the EAFRD as Structural Funds from 1988 onwards, complemented from 1994 by the EMFF and allocated an increasing share of spending for the 2014-2020 period. This policy framework for meeting the EU objectives of economic, social and territorial cohesion could be an important supportive source for the development of the agro-food SME clusters. However, one of the main challenges for EU Cohesion Policy is that, after three decades of its implementation, the evidence for its effectiveness is particularly questionable, [58] thereby indicating that substantial resources have been spent without adequate strategic justification.[59]

More specifically, in 2013, the cohesion policy experienced the most considerable set of regulatory reforms since the landmark reform of Structural Funds in 1988. The changes were important in establishing a new policy direction which could align the objectives of the ESIF to the overall priorities of the EU, as expressed in the Europe 2020 strategy.[60] The regulations also introduced requirements for more strategic coherence in the planning and implementation of ESIF programmes, as well as a greater thematic concentration through the targeting of resources. A new performance framework, *ex-ante conditionalities*, and an emphasis on results in the formulation of objectives in programmes sought to reinforce the effectiveness of planned spending.[61]

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[53] Davies S et al. (2016) New European territorial challenges and regional policy: Annual Review of Regional Policy in Europe, EoRPA Paper 16/1, European Policies Research Centre. University of Strathclyde, Glasgow.
[54] Bundestag (2010) *Basic Law for the Federal Republic of Germany*. Berlin, Article 72.
[55] MEF (2015) *Projet de loi de finances pour 2016.* Annexe, Politique des territoires. Ministère de l'économie et des finances: Paris
[56] e.g. Finland, Norway, Poland, Portugal, Spain, Sweden, Switzerland
[57] Bachtler & Begg (n 47).
[58] Polverari L et al. Balance of Competences Cohesion Review: Literature Review on EU Cohesion Policy. Final Report to the Department for Business, Innovation and Skills (2014).
[59] Bachtler J et al. 'The long-term effectiveness of EU Cohesion Policy: Assessing the achievements of the ERDF, 1989–2012' (2016) 1-2.
[60] European Commission, Communication from the European Commission 'EUROPE 2020: A strategy for smart, sustainable and inclusive growth'. COM(2010) 2020 final *(Europe 2020).*
[61] Bachtler (n 59).

Nonetheless, the effectiveness of the cohesion policy was undermined by the fragmentation of spending across many priorities with a lack of critical mass, and insufficient consideration of the logic of intervention, especially as regards the anticipated outcomes of policy choices in the setting of objectives and allocation of resources. Deficiencies in policy frameworks and institutional capacity at national and regional levels were limiting, and even countering, the potential impact of EU funding. The implementation of the policy was also characterised by insufficient exploitation of synergies because of a lack of coordination across policy fields and organisational boundaries.[62] In many cases, these problems were not new and, in some EU regions, had constrained effective programme implementation since the early 1990s.[63] The introduction also of *ex-ante conditionalities* has led to a major investment in addressing institutional, legislative and strategic weaknesses. Such burdens may undermine the effectiveness of investment in future projects, such as the potential establishment of agro-food SME clusters in the EU.

Institutional theories have highlighted the significance of *place* in explaining growth and the spatially-dependent economic and institutional elements that underlie unequal socio-economic development.[64] According to the theoretical framework of the spatial agglomeration of economic activity,[65] there are doubts about the efficacy of *spatially-blind* regional policies, which are focused on the development of people via common standards of public services, such as education and health. Instead, it is advocated the facilitation of a placed-based approach to socio-economic development.[66] In this way, the place-specific type of natural and institutional resources necessitates that socio-economic policy interventions should be place-tailored rather than aspatial or sector-specific.[67] Essential to this approach are EU structures that can determine an optimal mixture of investment priorities in infrastructure, social inclusion, human capital, innovation and more. These can be part of integrated development strategies involving vertical coordination and horizontal cooperation between relevant economic and social actors at each level.[68] By identifying the particular characteristics in each EU region, the

[62] Ibid 1-9.
[63] Kenner (n 50) 30-36.
[64] Williamson C R (2009) Informal institutions rule: institutional arrangements and economic performance, Public Choice 139: 371-387; Farole T et al. (2009) Cohesion Policy in the European Union: Growth, Geography, Institutions. Working paper, European Commission; Rodrigues-Pose A (2010) Economic geographers and the limelight: the reaction to the 2009 World Development Report. Working Paper 2010/01.
[65] Krugman P (2010) The new economic geography, now middle-aged. Paper to the Association of American Geographers.
[66] Brakman S et al. (2005) New Economic Geography, Empirics and Regional Policy. CPB Papers No.56, CPB Netherlands Bureau for Economic Policy Analysis, The Hague; World Bank: Development Report (2009) Reshaping Economic Geography. World Development Report 2009.
[67] Barca F (2009) An Agenda for a Reformed Cohesion Policy, A Place-Based Approach to Meeting European Union Challenges and Expectations. Independent report prepared at the request of Danuta Hübner, Commissioner for Regional Policy, European Commission.
[68] Bachtler & Begg (n 47).

abovementioned EU structures might determine a combination of investment priorities that could offer an effective basis for agro-food SME clustering. For this purpose, the rationale for EU Cohesion Policy may adopt a more territorial approach to respond to the socio-economic development of the EU regions by meeting the needs and challenges of relevant localities.

III - The realisation of the agro-food SMEs clusters

A - Emergence and future paths

The local strengths of regions, such as availability of raw materials, concrete expertise in R&D organisations and traditional knowledge, may constitute crucial factors for the emergence of business clustering.[69] Moreover, territorial cohesion which is the third dimension of EU Cohesion Policy, was introduced for the attainment of more sustainable use of assets with benefits for the environment and the quality of life.[70] One of the main objectives of territorial cohesion is to use the strengths of each EU region in order to contribute effectively to achieving sustainable and balanced development of the EU as a whole. These strengths of the EU regions could become the solid basis for the creation of agro-food SME clusters, thus furthering regional development which is often the outcome stemming from the robust location factors that can be converted into a new productive use.

For this purpose, it is important to conduct an elaboration of studies, in the framework of EU Cohesion Policy 2021-2027,[71] which would illustrate appropriately the comparative advantages of each EU region.[72] The productive sectors of the agro-food supply chain and the dynamic businesses and organisations may be identified in order to establish agro-food SME clusters based on well-defined and specific qualitative and quantitative characteristics. The reason is that each of the cluster initiatives could be designed according to the precisely identified business interests, specific competencies, knowledge hubs and market prediction,[73]

[69] Pinch S & Henry N. (1999) 'Paul Krugman's Geographical Economics, Industrial Clustering and the British Motor Sport Industry'. *Regional Studies*, 33(9) 815-827:826; European Commission 'Regional Clusters in Europe' Observatory of European SMEs (2002) 14.
[70] European Commission, Communication 'Green Paper on Territorial Cohesion Turning territorial diversity into strength'. COM(2008) 616 final, 5.
[71] As regards the EU Cohesion Policy 2021-2027, funds allocated to finance the ERDF to invest in the social and economic development of all EU regions and cities, the Cohesion Fund (CF) to invest in environment and transport in the less prosperous EU countries, The ESF+ to support jobs and create a fair and socially inclusive society in EU countries, and the Just Transition Fund (JTF) to support the regions most affected by the transition towards climate neutrality.
[72] EU Science Hub (2022) 'Smart Specialisation' <https://joint-research-centre.ec.europa.eu/scientific-activities-z/smart-specialisation_en>.
[73] European Commission, Communication "Towards world-class clusters in the European Union: Implementing the broad-based innovation strategy", 5

and the regional strengths as demonstrated above. The key challenge could be therefore to fulfil these conditions and make effective initiatives for the emergence of agro-food SME clusters, as well as increasing the possibilities of their long-term success.

Nevertheless, though networking is proven to be beneficial to SMEs in most cases, these business entities are not traditionally responsive and willing to form business-type partnerships or even clusters.[74] Hindering factors in a cooperative approach of SMEs are primarily their small size and family character, and their traditional structure owing to their low ability to manage possible risks. Another problem is that SMEs often have no access to information regarding activities, such as the clustering process, due to time limitations and a lack of qualified staff.[75] Likewise, most of them are not aware of available financial sources, which may help them to finance cooperation activities for business networking.[76] However, as glocalisation brings competition at a national and local level, entrepreneurs who were older competitors-rivals in the same sector of the economy may become allies to face the competitive environment. Hence, business clustering could be a major challenge for SMEs, which are currently affected by the increased competition.

Due to the vital role of SMEs, the EU has emphasised the importance of their participation in clusters through corresponding EU cluster policies. Consulting the SME stakeholders may be an important component for agro-food SME clustering. Relevant cluster initiatives could reach out to SMEs through several tools, such as regular consultations of panels of businesses, consultations with sectoral and horizontal business organisations represented at the EU level, and online public consultations. In this way, SMEs could overcome the limitations regarding their participation in business clusters. Additionally, discussion workshops and thematic events in each EU region can contribute to raising awareness of SMEs, and informing and motivating them via specific methods, such as the presentation of best practices for clustering. Because of these activities, it may be feasible for at least a small group of SMEs to become the initial members of the potential agro-food SME cluster.

Subsequently, additional initiatives for clusters' development, such as relevant platforms and programmes provided by the EU, may support strengthening strategic linkages between SMEs and enhance trust among them that would lead to the maturation of the idea and vision

[74] OECD 'The Impact of the Global Crisis on SME and Entrepreneurship Financing and Policy Responses'. Centre for Entrepreneurship, SMEs and Local Development. (2009) 6.
[75] Ibid 5-7.
[76] Christensen T et al. 'Let's Make a Perfect Cluster Programme'. The Danish Ministry of Science Innovation and Higher Education, Berlin/Copenhagen. (2012) 6.

of the cluster.[77] Unquestionably, the trust may be a central component for clustering as it refers to the absolute faith that people have over persons and institutions.[78] Thus, high levels of trust can decrease the transaction costs, legal disputes and administrative procedures,[79] and therefore could stimulate supportive actions in situations of uncertainty or risk that could occur throughout the future paths of agro-food SME clusters. Smart specialisation strategies have also been highlighted by the Commission as key initiatives for business clustering,[80] through concentrating resources on a few key priorities and addressing their particular strengths,[81] rather than spending investments across irrelevant areas and business sectors. Therefore, the emphasis could be on the agro-food SME clustering because of its potential aim to operate based on the local strengths in each EU region. Conversely, the agro-food SME clusters may become helpful entities to recognise the strengths and assets of the EU regions and contribute to setting strategic priorities. Accordingly, cluster mapping and benchmarking may be essential tools to identify regional specialisation forms and compare various economic activities in the agro-food supply chain.

B - Operational framework

In order for agro-food SME clusters to operate effectively, their members may need professional support services offered by the cluster organisations. Though business clustering can rely on the ability of stakeholders and supportive conditions, capable cluster management could be critical for the release of cluster capabilities.[82] Hence, cluster management may be recognised as a professional qualification that requires high-quality standards and professionalism to completely reap the potential benefits. It could offer efficient services needed by businesses and institutions that work together in clusters.[83] The participants of the agro-food SME clusters may therefore benefit from a higher service intensity of cluster management that could reflect higher effects on R&D, and attract international business activities for SMEs and cooperation requests from parties outside the cluster.

[77] Mathews M 'Information, Institutions And Trust In Clusters'. The Druid 25th Celebration Conference 2008 on Appropriability, Proximity, Routines and Innovation Copenhagen. (Denmark, 17-20 June 2008): 2-6
[78] Giddens A (2001) *Sociology*, 4th ed.. Blackwell 680.
[79] Luhmann N (2000) 'Familiarity, Confidence, Trust: Problems and Alternatives'. In: Gambetta D. *Trust: Making and Breaking Cooperative Relations*, electronic edition. University of Oxford.103.
[80] European Commission 'Regional Policy contributing to smart growth in Europe 2020'. COM(2010) 553 final.
[81] Ibid. 6.
[82] Christensen (n 76) 32.
[83] Müller L et al 'Clusters are Individuals: New findings from the European cluster management and cluster program benchmarking'. The Danish Ministry of Science Innovation and Higher Education (2012) 35; Communication (n 73) 8.

In this context, the agro-food SME clusters may take advantage of the cluster facilities provided by the EU, such as cluster-related projects and initiatives that aim to improve the efficiency of cluster management. The EU-financed European Cluster Excellence Initiative (ECEI) is a key pillar for this purpose as it intends to promote excellent cluster management by providing certain training programmes and cooperation opportunities to cluster managers. It has also developed a set of indicators such as structure, governance, financial basis, strategy, objectives, services and achievements that allow the evaluation of the *excellence status* of cluster management.[84] This may lead to obtaining of European quality label based on the European Foundation for Quality Management (EFQM) Excellence Model, which could ensure visibility and recognition of clusters worldwide.

Excellent management could be considered as an essential precondition for the effective operation of agro-food SME clusters to achieve the highest outcomes for their participants and thus for the socio-economic development in the EU regions. Moreover, the management team in cluster organisations could play a dominant role to cluster operations. It may contribute to the formation of a business environment, which could encourage and enable an entrepreneurial spirit in a way that generates opportunities and create appropriate conditions for clustering.[85] To form and maintain an appropriate business environment, however, the EU should implement policies to address existing barriers in the internal market, so that the agro-food SME clusters could compete on a level playing field.

The harmonisation of the rules is an essential component of internal market policies.[86] The main aim is to decrease bureaucracy by supporting businesses to operate in the EU based on a single and unified management and reporting system that can increase transparency and confidence.[87] The protection of employees, investors, and the public against corporate cheating, fraud and mismanagement may be enhanced by outlining legislative and non-legislative initiatives to strengthen transparent cooperative relationships between business stakeholders. To this end, the EU might address important barriers to the *four freedoms* in the internal market,[88] thereby creating a better business environment for agro-food SME clustering.

Specifically, there are several barriers to the free movement of services in the EU,[89] which may prevent the effective operation of agro-food SME clustering. Although it could be

[84] See generally for cluster management in Christensen (n 76) 3.
[85] Müller (n 83) 31.
[86] European Commission 'Company Law and Corporate Governance' <https://ec.europa.eu/info/business-economy-euro/doing-business-eu/company-law-and-corporate-governance_en>.
[87] Ibid.
[88] *Four Freedoms*: the free movement of services, people, goods and capital in the EU.
[89] European Commission 'Single market for services' <https://single-market-economy.ec.europa.eu/single-market/single-market-services_en>.

concluded that the transposition of the Services Directive is satisfactory,[90] there are still difficulties in its implementation by the Member States.[91] Internet connection tariffs, cross-border delivery prices and interoperability limits reduce the achievement of the full potential of e-commerce and the use of electronic signatures. Additionally, the lack of bank fee transparency and standardised information for financial products inhibits the banking services' integration and generates financial mobility issues for market actors.

The principle of free movement of people across the EU has been extended to include all EU citizens.[92] Nevertheless, language barriers impede them to enjoy full enjoyment rights of free circulation and establishment,[93] which may generate important employment and business mobility problems for agro-food SME clusters' stakeholders. Dissimilar registries and administrative systems amongst the Member States trigger extensive and costly procedures, such as translation and extra evidence requirement of document validity. Moreover, the absence of automatic recognition of several professional qualifications throughout the EU causes delays in recognition processes and corporatist conflicts at the national level, thus generating massive issues in cross-border employment mobility. Low administrative cooperation for posting workers, tax impediments to cross-border employment, and impossible portability of supplementary pensions and health insurance rights are also important barriers to the free movement of people.

Furthermore, the agro-food SME clusters may cope with difficulties regarding legal, administrative and technical barriers to the free movement of goods,[94] such as differences in the transport documentation. Businesses and citizens that buy goods in a different country still face certain complex and burdensome procedures that cause distortion of competition.[95] This occurs even though the CJEU, in the *CIA Security case*,[96] has found that technical regulations that had not been notified under the relevant Directive,[97] were not applicable in proceedings between persons regarding unfair competition. The aim of the Directive is 'to protect freedom of movement for goods by means of preventive control and that the obligation to notify is

[90] Directive 2006/123/EC on services in the internal market.
[91] See Chapter 1; European Commission, Communication 'Upgrading the Single Market: more opportunities for people and business'. COM(2015) 550 final; European Economic and Social Committee 'Upgrading the Single Market'. (16 March 2016) INT/773.
[92] European Commission 'Free movement - EU nationals' <https://ec.europa.eu/social/main.jsp?catId=457>.
[93] See Chapter 1; Communication (n 91).
[94] See Chapter 1.
[95] Communication (n 91).
[96] Case C- 194/ 94, *C.I.A. Security International S.A. v Signalson S.A. and Securitel SPRL* [1996] E.C.R. I-2251 *(CIA Security case)* – Chalmers D et al. (2010) *European Union Law*, 2nd Edition. Cambridge University Press, p.292.
[97] Directive 83/189/EEC laying down a procedure for the provision of information in the field of technical standards and regulations.

essential for achieving such Community control'.[98] Also, misinterpretations of the Regulation concerning novel foods and food ingredients affect the free movement of safe food goods which is a crucial matter for public health protection.[99] However, the numerous derogations in the VAT Directive,[100] and the large differences in Value Added Tax (VAT) rate and the declaration form throughout the EU, constitute additional barriers to the internal market.[101]

Regarding the free movement of capital, the markets in the EU are fragmented,[102] and this may create important problems for agro-food SME clusters. Though the Member States suitably implemented the Payment Services Directive,[103] national law involves further and diverse requirements under the Single Euro Payments Area (SEPA).[104] Difficulties in borrowing-lending provoke high costs of doing business in another country and create consumer disadvantage via decreased customer mobility. Insurance policy tax inconsistencies and fragmented national monopolies in the financial sector, such as settlement and clearing, indicate important barriers to cross-border trade. Furthermore, several schemes of insurance limit the capital's free movement due to country differences as regards the nature and level of the injury or loss, thereby causing a variety of degrees of compensation.

Conclusion

This chapter identifies the geographical and socio-economic conditions throughout the EU regions for the establishment of agro-food SME clusters in the context of balanced regional development. The interaction of global and local economic forces has triggered the phenomenon of *glocalisation* that comprises the processes of globalisation and localisation, by shifting the emphasis from *space* to *place*. In this way, it may offer dynamic elements and competitive advantages to agro-food SME clusters, in order to compete as large-scale

[98] Ibid., I-2247; In February 1979, in *Cassis de Dijon case*, the CJEU held that products legally produced and marketed in one Member States could be marketed in another. – Case C-120/78, *Rewe-Zentrale AG v. Bundesmonopolverwaltung fur Branntwein*, 1979 E.C.R. 649 *(Cassis de Dijon case).*

[99] Regulation (EU) 2015/2283 on novel foods; See Hyde R et al (2017) 'European Novel Foods Policy at a critical juncture: drawing lessons for future Novel Food Governance through a retrospective examination of Regulation 258/97' Food and Drug Law Journal. 72(3).

[100] Directive 2010/88/EU amending Directive 2006/112/EC on the common system of value added tax, with regard to the duration of the obligation to respect a minimum standard rate.

[101] Feria R (2012) 'The 2011 Communication on the future of VAT: harnessing the economic crisis for EU VAT reform'. *British Tax Review*, 2: 119-134, pp.121-125; European Economic and Social Committee, (n 91) 17.

[102] See Chapter 1.

[103] Directive 2015/2366/EU on payment services in the internal market.

[104] ECB: SEPA 'Single Euro Payments Area' <https://www.ecb.europa.eu/paym/integration/retail/sepa/html/index.en.html>.

businesses worldwide, through networking of SMEs from any stage of the agro-food supply chain. This vertical sector integration could generate a collaborative environment with social interactions related to agro-food SME clusters, which may operate as community-based entities that provide support to cluster stakeholders, such as employees, entrepreneurs and more.

Nevertheless, the EU should address the existing differences regarding prosperity between its regions. As one of the largest of the EU's instruments to support employment and growth, the EU Cohesion Policy should focus on understanding the distinctive strengths and weaknesses of the individual EU regions. Adopting a more territorial approach may offer suitable regional support to EU regions for recognising their particular qualities and maximising their capability to respond to local needs and challenges. The identification therefore of the particular characteristics in each individual region could constitute a key element for the establishment of agro-food SME clusters via taking advantage of the regional qualities.

For this purpose, the EU Cohesion Policy should respond to the development and needs and challenges of the EU regions and localities. After identifying the advantages of each EU region in the context of balanced regional development, available support should be offered by the EU Cohesion Policy at every step of the process to establish agro-food SME clusters. As regards their operational framework, professional support services provided through cluster management may be necessary for cluster stakeholders to fully exploit the potential benefits in a business environment, which would be based on the free movement of people, goods, services and capital. However, designing an EU legal framework for agro-food SME clusters may be necessary for their emergence and effective operation. An appropriate regulatory environment could support them to reap the benefits of the particular strengths of EU regions, and the advantages of relevant EU policies at every stage of their establishment process. This may also assist the agro-food SME clusters to gain suitable benefits from proper cluster management and a favourable business environment in the EU.

PART THREE

Towards an EU legal framework for agro-food SME clustering

CHAPTER 8: Regulating contractual networking in agro-food SME clusters

Introduction

Cluster organisations of agro-food SME clusters could ensure a resilient form of networking integration by operating as network centres that have signed bilateral contracts with every cluster member, such as SMEs that can preserve their own economic and legal independence.[1] Until now, legal conceptions about connected contracts have proved to be inadequate as the legal system has not achieved addressing the distinct properties of networks, which cannot fall within the broad framework of the general principles of contract law. On the contrary, the legal system is able to comprehend and regulate networks by categorising them as consisting of a series of bilateral contracts.[2] In the case of agro-food SME clusters, for instance, there could be a contract between each SME and cluster organisation for the sale of agro-food products in exchange for a price. While this conventional understanding of legal analysis is accurate as regards individual transactions, it cannot deal with disputes that occur in the context of networks, such as issues regarding loyalty to the network, internal non-contractual liability in networks, and external liability of networks.[3] Namely, it is difficult to represent business relations among remote parties and deal with issues of liability that may appear in the network forms of agro-food SME clusters in the EU.

For this reason, the current chapter aims to discuss an EU legal framework for agro-food SME clusters to address issues with regard to loyalty to the network, internal non-contractual liability in networks, and external liability of networks. To this end, it initially explores potential legal implications of the network forms of agro-food SME clusters by examining the legal inadequacies of connected contracts related to business networks that are similar to the form of franchise. Considering Section 358 of the German Civil Code (BGB)[4] as a legal basis, however, it shows that the concept of connected contracts could be generalised as a principle, which may contribute to the designing of legal regulation for the contractual networks of agro-food SME clusters. Subsequently, this chapter examines how the contractual networks of agro-

[1] See Thesis Introduction.
[2] See Chapter 2.
[3] Collins H (1990) 'Ascription of Legal Responsibility to Groups in Complex Patters of Economic Integration' 53 MLR 731:742–3.
[4] German Civil Code (BGB) Civil Code in the version promulgated on 2 January 2002. Federal Law Gazette [Bundesgesetzblatt] I Section 358. 42.

food SME clusters can be regulated under supranational law at the EU-wide level. Specifically, it appraises steps in this direction that have been taken by the Draft Common Frame of Reference (DCFR),[5] which would be an important source of inspiration for the Europeanisation of contract law. This chapter additionally discusses the EU judicial framework that can offer appropriate institutional competence to establish an EU contract law through the designing of the Common Frame of Reference (CFR). Based on the DCFR and Section 358 BGB, the CFR could be able to regulate the concept of connected contracts for agro-food SME clustering, thus achieving to address issues related to loyalty to the network, internal non-contractual liability in networks, and external liability of networks.

I - Legal implications of the network forms of agro-food SME clusters

A – Legal inadequacies of connected contracts

Cluster organisations would be able to contribute to the completion of contracts within the agro-food SME clusters that may work as business networks based on a *hub and spokes* pattern similar to a franchise, where the franchisor operates as a network centre that has signed bilateral contracts with the franchisees. However, it would be difficult for this conventional approach to represent business relations among remote parties and the management along the supply chain.[6] For example, a retailer may use a computerised inventory management system in order for its regular suppliers and their upstream suppliers to deliver stock replenishment, where and when it is required, prior to the retailer's shelves being emptied by customers. Without direct contractual arrangements between the retailer and all supply chain participants, however, the legal analysis ignores the governance of trading relations among remote parties obtained through various supply chain management mechanisms.[7]

Certainly, if there is an absence of a specific item on the shelves, the retailer is able to claim damages against its direct supplier for breach of contract. Contracts may also be used by the participants in the supply chain to allow direct claims between remote parties via private law in its doctrine of a third-party beneficiary.[8] However, these well-known techniques of the private law of contract are inadequate to deal with disputes that occur in the context of

[5] Von Bar C & Clive E (eds.) (2010) *Principles, Definition and Model Rules of European Private Law: Draft Common Frame of Reference (DCFR).* (OUP).
[6] Collins H (2011) 'Introduction to networks as connected contracts'. In: Teubner G., *Networks as connected contracts: edited with an introduction by Hugh Collins.* Hart, 13-14.
[7] Ibid.
[8] Wolf M. (2009) 'The Protection of Contractual Networks Against Interference by Third Parties'. In: Amstutz M & Teubner G (eds.) *Networks: Legal Issues of Multilateral Co-operation*. Hart. 225.

networks, such as issues regarding loyalty to the network, internal non-contractual liability in networks, and external liability of networks.[9] These three principal types of case constitute common problems in the business network form of franchise, which may be analogous to the potential project of agro-food SME clustering throughout the EU regions.

The first type of case arises in claims that amount to an allegation of disloyalty to the common purpose of the inter-organisational contract.[10] This problem occurs when either the franchisor or the franchisee argues that the other party's conduct undermines, even if there is no breach of the express terms of the agreement, the purpose of the franchise.[11] Perhaps, it could be a claim that the franchisor failed to adequately try to develop more franchise stores by luring more franchisees to participate in the network. As a result, established franchisees would be affected adversely as they are based on the brand's visibility to attract new customers. Undoubtedly, a rise in the number of franchisees can produce economies of scale in advertising and supply purchasing.[12]

This kind of claims may be considered in certain legal systems as a breach of an implied duty to perform the contract in good faith or a related implied term. To advance such claims, however, it is important to be apparent that self-interested actions, which do not breach the contract's terms, should not be regarded as normal behaviour for maximising residual income, but rather as a breach of contract or implied duty such as good faith.[13] In addition, the conduct of the franchisor could be considered disloyal to the interests of the franchise operation as a whole. Specifically, rather than forcing the franchisor to place the interests of franchisees before its own, the law may ascribe meaning to a good faith obligation by putting the interests of the franchise operation as a whole before its own or equivalent to its own interests.[14] Similarly, a duty of loyalty could be owed to the business network of agro-food SME cluster by its participants, namely the cluster organisation and SMEs, though the legal analysis may consider that its operation must be viewed mainly as a collection of bilateral contracts. Self-interested contractual behaviour by either the cluster organisation or an SME may constitute a breach of this duty of loyalty or good faith owed to other parties in the agro-food SME cluster.

[9] Collins (n 3) 742–3.
[10] Blumberg P. I (1993) *The Multinational Challenge to Corporation Law: The Search for a New Corporate Personality.* (OUP) 247.
[11] Brownsword R et al. (2017) *Contract and Regulation: A Handbook on New Methods of Law Making in Private Law.* Edward Elgar. 227.
[12] Collins (n 6) 14-15.
[13] Teubner G (2009) 'Coincidentia oppositorum: Hybrid Networks Beyond Contract and Organization'. In: Amstutz M & Teubner G (eds.) *Networks: Legal issues of multilateral cooperation*. Hart.22-24.
[14] Collins (n 6) 15.

As regards the second type of problem about internal non-contractual liability in networks, the traditional legal analysis does not consider the business relations among parties in the network that have not connected through direct bilateral contracts.[15] This typically happens in a hub and spokes model of the network, such as the business form of franchise, where the franchisees do not have direct contractual agreements between themselves, but each of them has entered into a contract with the franchisor. However, it is obvious that a single franchisee would be able to harm the interests of the other franchisees and the franchisor.[16] For example, in the case that a franchised outlet is temporarily closed by public health inspectors, the damage to the brand's image could have a negative impact on the profits of all the franchised outlets.[17] Likewise, if authorities may force the closure of an SME in the agro-food SME cluster due to safety or health issues, the damage to the brand's reputation in the specific cluster may affect adversely the profits of the other participating SMEs in the cluster.

In general, the franchisee that is responsible for damaging the franchise's reputation may be in breach of contract with the franchisor.[18] The franchisee would almost certainly be expected to follow a manual of operations, under the express terms of that bilateral contract, which should indicate health and safety standards related to the relevant franchise system.[19] Though the franchisor may enforce its contractual rights and recover damages from the delinquent franchisee, the damages would not include compensation on behalf of the third-party franchisees for their losses caused by the harmful reputation of the franchise brand name. Even if franchisees that are third parties to a contract between delinquent franchisee and franchisor would seek to claim compensation for pure economic loss, such claims are usually rejected on the grounds that they potentially generate indefinite amounts of liability to an indefinite number of plaintiffs.[20] Nevertheless, it would be useful for the effective operation of agro-food SME clusters to identify legal elements regarding recovery for pure economic loss by third-party SMEs for their horizontal relations in the network. Perhaps, an assumption of responsibility or the development of special relationships could justify the formation of a legal duty directly owed between SMEs in each network form of agro-food SME clustering.

[15] Burns T (2006) 'Developing a Franchise: could securitization be a serious funding option for franchisors in the United Kingdom?'. JBL 656:662-673.
[16] Benjamin J (2000) *Interests in Securities: A Proprietary Analysis of the International Securities Markets* (OUP) 288.
[17] Collins (n 6) 15-16.
[18] Baldwin R (2012) *Understanding regulation: theory, strategy, and practice*. (OUP) 165; Blair R. D & Lafontaine F (1999) 'Will Khan Foster or Hinder Franchising? An Economic Analysis of Maximum Resale Price'. Journal of Public Policy & Marketing. 18(1):34.
[19] Burns (n 15) 675-6.
[20] Collins (n 6) 16.

Regarding the third problem, the traditional legal analysis seems to ignore issues related to the external liability of networks. A representative example is when a customer in one of the franchised outlets claims compensation against the particular franchisee for suffering personal injury and psychological shock as a result of a problematic product or service.[21] However, if the path to compensation is hindered by factors such as the franchisee's insolvency or the lack of sufficient liability insurance by this franchisee, it is important to consider whether the consumer can pursue legal action against the franchisor or the franchise operation as a whole.[22] In cases where the outlet is managed by a unified business association, the claim may be brought against the entire organisation.[23] This is because each outlet would act as an agent for the whole enterprise.[24] However, vicarious liability is not usually passed via contracts between independent business entities, and hence the franchisor would not be held liable for the franchisees' negligence against their customers.[25]

Nevertheless, even though the customer is allowed to sue the franchisor directly, it does not seem to be easy for the franchisor to carry the whole burden of liability to the franchisees, despite the fact that all share the franchise's benefits.[26] Without explicit contractual risk allocations, the franchisor cannot pass on the costs of liability throughout the franchise operation.[27] In the absence of a single business entity, such as a company that can gather together profits and losses, a mechanism for internalising costs across the entire organisation would not be available.[28] For this reason, it may be useful to consider an appropriate legal framework for the network form of agro-food SME clustering, which could justify a direct claim by a consumer against the cluster organisation that can operate as the central business entity of the network. Additionally, it may be feasible to examine through this legal framework how the costs of a successful claim must be shared across the operation with the cluster organisation and the other members of the agro-food SME cluster.

[21] Ibid. 17.
[22] Teubner G (1991) 'Beyond Contract and Organization? The External Liability of Franchising Systems in German Law'. In: Christian J (ed.) *Franchising and the Law: Theoretical and Comparative Approaches in Europe and the United States*. Baden-Baden: Nomos Verlag. 105-132:129.
[23] Muchlinski P (2007) *Multinational enterprises and the law*. (OUP) 53.
[24] Collins (n 6) 17-18.
[25] Petrin M (2009) 'Assumption of Responsibility in Corporate Groups: C handler v C ape plc'. The Modern Law Review 76(3) 603-619: 612-13.
[26] Morgan P. (2013) 'Vicarious liability on the move.' 129 Law Quarterly Review 139:143.
[27] Teubner (n 22).
[28] Collins (n 6) 17-18.

B - The concept of connected contracts as a principle of the legal systems

The kind of legal regulation for the agro-food SMEs clustering may consider the hybrid and paradoxical character of networks in order to address issues related to loyalty to the network, internal non-contractual liability in networks, and external liability of networks. To this end, the strategy of conceptualising an effective legal form could examine elements of business cooperation beyond simply considering networks as constellations of bilateral contracts. In the United States, for instance, the legislation addresses what are regarded as abuses in several sectors, such as petroleum distribution via outlets that are controlled by the dominant oil companies in the market.[29] The legislation generally imposes a general duty to perform in good faith and puts in place limits on peremptory contract termination by requiring reasonable notice and cause for termination, as well as possibly demanding extensive disclosure of material information before entering into various forms of business networking.[30]

The political popularity of this legislation feeds widespread discussions with regard to the inequality of bargaining power between large companies, such as oil producers, and small businesses that operate franchises or distributorships.[31] Undoubtedly, in various cases, the large companies have used their market power to abuse their small franchisees in order to shift economic risks entirely to the weakest party.[32] The US legislation often approaches business networking from the narrow viewpoint of specific stakeholders. The small business lobby, for example, achieved effectively to claim the protection of small independent franchisees from the oppression of the large oil companies.[33] This is a crucial point in the legal regulation of networks, since large businesses can definitely take opportunistic advantage of franchisees' economic dependency after they have made significant investments.[34] However, both parties are economically dependent, as a negligent franchisee can damage the reputation of the franchisor. It is important therefore for the legal system to adopt a more balanced perspective that can effectively recognise the economic logic of business networking.[35]

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[29] US Federal Trade Commission Rule: Disclosure Requirements and Prohibitions Concerning Franchising and Business Opportunity Ventures 16 CFR pt 436; California Franchise Investment Law (1971); Delaware Franchise Security Law (1970); New Jersey Franchise Practices Act (1971); US Petroleum Marketing Practices Act 15 USC ss 2801–2806; US Automobile Dealers Day in Court Act 15 USC ss 1221–1225.
[30] ABA Section of Antitrust Law (2004) *The Franchise and Dealership Termination Handbook.* Chicago, American Bar Association.
[31] Collins (n 6) 30-32.
[32] Steinberg P & Lescatre G (2004) 'Beguiling Heresy: Regulating the Franchise Relationship'. Penn State Law Review 109, 105:105.
[33] Killion WL (2009) 'The Modern Myth of the Vulnerable Franchisee: The Case for a More Balanced View of the Franchisor–Franchisee Relationship'. Franchise Law Journal 28, 23:23.
[34] Collins (n 6) 31.
[35] Ibid.

The obligations imposed on the parties by such legislation are often ambiguous and disputed as regards the information that is *material* to be disclosed, the amounts to a *good cause* or *reasonable notice* for termination, and the kind of conduct that breaches the duty to perform in a good faith.[36] Nonetheless, the legal system should identify and support stable network expectations to articulate these issues systematically, thus contributing to the designing of legal regulation for networks, such as the agro-food SME clustering in the EU. This is because there is a need to recognise and manage appropriately the potential internal and external economic risks of the networks, such as the agro-food SME clusters, without jeopardising their operational performance. To this end, Section 358 of the German Civil Code (BGB)[37] may constitute a suitable legal basis to construct a legal model, which could more sufficiently handle business networking and hence may offer a kind of conceptualisation of agro-food SME clustering. Namely, this legal model could provide the foundations for the necessary and appropriate regulation of economic risks presented by networks.

Section 358 BGB introduces the idea of connected contracts, in which two contracts that the law typically examines as completely distinct, will in fact be considered as interdependent for certain purposes.[38] In particular, Section 358(3) BGB elucidates that connected contracts are able to involve multi-party relationships between sellers, consumers, and creditors financing the purchase of consumers, because 'a contract for the supply of goods… and a consumer loan contract are linked, if the loan fully or partially serves to finance the other contract and both contracts constitute an economic unit'.[39] According to this provision, an economic unit is presumed in particular if the entrepreneur funds the consumer's consideration directly or, in the case of third-party lending, if the lender utilises the entrepreneur's services in preparation for or during the consumer loan contract.[40] For instance, when a consumer makes a purchase with a credit card, Section 358 identifies two potentially interdependent contracts. Specifically, the contract of sale between seller and consumer, and the credit card arrangement between consumer and bank.[41]

This provision of the German Civil Code is certainly appealing to proponents of the legal recognition of the phenomenon of networks, such as the agro-food SME clusters. The primary reason is that it establishes the concept of an *economic unit*,[42] which embraces the individual

[36] Ibid 30-32.
[37] German Civil Code (BGB) Civil Code in the version promulgated on 2 January 2002. Federal Law Gazette [Bundesgesetzblatt] I Section 358. 42.
[38] BGB Section 358 (1)-(5) "Contracts linked to the contract from which the consumer has withdrawn".
[39] BGB Section 358(3).
[40] Ibid.
[41] BGB Section 358 (1)-(3).
[42] BGB Section 358(3).

contracts involved through its formation where the creditor uses the services of the entrepreneur in order to create the credit arrangement. If a consumer has a legal right to withdraw from a contract with the entrepreneur, the consumer is therefore presumed to have the right to cancel the credit arrangement.[43] In particular, the interdependent contracts stand or fall together because, pursuant to Section 358(1) BGB, if the consumer exercises a legal right to cancel a purchase, the loan from a lender used for the purchase is also cancelled automatically, with the result that the consumer is considered not to have borrowed money at all.[44] Generally, according to the general principles of private law, the revocation of a contract does not influence the validity of another in the absence of an explicit term making the presence of one conditional on the existence of the other.[45] Section 358 BGB, however, recognises the functional interdependence of the contracts by treating their presence as mutually supportive in some ways.[46] This kind of interdependence recognised by the provision could constitute an important basis for the formation of a legal framework for contractual relationships within the networks of agro-food SME clusters.

The effects of Section 358 BGB can be highlighted in a case before the CJEU, which had to decide whether earlier German legislation on connected contracts was compatible with the EU consumer protection directives that grant the right for consumers to rescind contracts under certain circumstances.[47] In the *Schulte* case,[48] the consumers had been involved in a *buy-to-let* investment scheme in order to obtain a renovated apartment from a constructor, which was to be rented by third parties and the purchase had to be financed completely by a bank loan for tax reasons. Also, an intermediary company, which specialises in real estate and financial services, handled the marketing of this scheme, under which the rents would be pooled, and subsequently the income would be distributed by the bank to cover the repayments of the interest on the loans. Nevertheless, ten years after the purchase, the consumers attempted to cancel the secured credit contract on the grounds that it had been a doorstep-selling situation from the intermediary company.[49]

This cancellation was allowed because the CJEU had previously ruled, in *Heininger*,[50] that where a consumer had not received any notice regarding the right of cancellation, there is

[43] BGB Section 358(2).
[44] BGB Section 358(1).
[45] Collins (n 6) 33.
[46]BGB Section 358(2).
[47] Council Directive 85/577/EEC to protect the consumer in respect of contracts negotiated away from business premises, Art. 3(2)(a), 4,5,7.
[48] Case C-350/03 *Elisabeth & W Schulte v Deutsche Bausparkasse Badenia AG* [2005] ECR I – 9215. *(Schulte).*
[49] *Schulte*, paras 69, 81.
[50] Case C-481/99 *Heininge*r [2001] ECR I-9945.

no time limit on exercising that right.[51] The EU directive however provides explicitly that 'the legal effects of such renunciation shall be governed by national laws',[52] and hence the consumers were unable to cancel the contract for the apartment as the right of a cancellation did not extend, under the previous German legislation, to the purchase of immovable property.[53] The consumers desired to remove themselves from the entire series of transactions as even though there would be cancellation of the secured credit agreement, they still remain the owners of the property, which is not worth enough to cover the loan repayments. Specifically, this means that the consumers will be liable immediately to pay back to the bank the remaining balance and interest expense on the outstanding loan.[54] Accordingly, the German court referred the case to the CJEU, asking if this consequence was in accordance with the directive's requirements.

The CJEU held that the whole network of contracts, including the purchase of property, would have been cancelled in normal cases, where the bank or its intermediary notified the consumers regarding their right to cancel the purchase within seven days and that right was invoked.[55] As there was not any relevant notice in this case, the objective of consumer protection through providing an effectual right of cancellation of doorstep-selling transactions would be examined in accordance with the requirements of the applicable national law. According to the CJEU, the directive requires national law to protect consumers 'who have been unable to avoid exposure to such risks, by adopting suitable measures to allow them to avoid bearing the consequences of the materialisation of those risks'.[56] In fact, for the correct implementation of the directive, the national court should allow the consumer to be capable to unfold all the transactions, including the purchase of the apartment, so that the parties can return to the same position as they were before the conclusion of the transactions. Consequently, this case offers a representative example of connected contracts because the credit agreement and the purchase of the apartment, though technically entirely separate contracts, are linked into an *economic unit,* according to Section 358 BGB, and thus the right of the consumers to cancel one of the contracts will be ineffective unless both can be cancelled.[57]

The concept of connected contracts which are entirely separate contracts, which can be linked into an *economic unit*, may be able to address issues related to loyalty to the network,

[51] *Schulte*, paras 88-89, 93.
[52] Council Directive 85/577/EEC of 20 December 1985 to protect the consumer in respect of contracts negotiated away from business premises, Art. 7.
[53] *Schulte*, paras 88-92.
[54] *Schulte*, para 92.
[55] *Schulte*, para 97.
[56] *Schulte*, para 103.
[57] Collins (n 6) 32-35.

internal non-contractual liability in networks, and external liability of networks. For this reason, it could constitute a fundamental basis for the legal regulation of agro-food SME clustering. Although the concept of connected contracts in Section 358 BGB is aimed at the specific problem of consumers' withdrawal from contracts entered into using a credit agreement with the seller or a third party, the way of legal reasoning in codified legal systems may lead to the conclusion that the central idea of connected contracts could be generalised as a principle. As a principle, therefore, it could be extended to networks of independent businesses, such as the agro-food SME clusters, by understanding that the contracts are concurrently separate but interdependent, both market transactions and simultaneously part of a loose kind of *economic unit*.

II - Contractual networks of agro-food SME clusters in the EU

A - Towards the Europeanisation of rules

Given that the business formations of agro-food SME clusters in the EU could represent a new paradigm of networks in the productive business organisation, European private law needs to accommodate the relevant arrangements and regulate them in a way that furthers their economic success. It may also protect their stakeholders against possible problems such as free-riding, opportunism and irresponsible externalisation of risk. Some steps in this direction have been taken by the Draft Common Frame of Reference (DCFR),[58] which is an academic project prepared by the Study Group on a European Civil Code and the Research Group on Existing EC Private Law. In particular, the DCFR is a synthesis of European private law systems commissioned by the EU institutions,[59] and contains principles, definitions and model rules of European private law in an outline edition. Though it does not explicitly involve the concept of business networking, it adopts relevant principles that may offer appropriate elements for regulating the networks of agro-food SME clusters.

Loyalty matters are addressed partly in the DCFR through the use of a duty to act in accordance with good faith and fair dealing in exercising contractual rights,[60] and likewise the parties are obliged to cooperate with each other when and to the extent that this can reasonably

[58] Von Bar & Clive (n 5).
[59] Collins (n 6) 28; Cafaggi F (2008) 'Contractual Networks and the Small Business Act: Towards European Principles?'. European Review of Contract Law 4(4) 493-539:538-539.
[60] DCFR III.-1:103.

be expected.[61] Concerning the issue of special relationships between parties that are not bound formally by contracts, the DCFR may allow third parties to enforce benefits explicitly conferred in other parties' contracts.[62] This rule for third-party protection, however, cannot be applicable solely on the basis of mutual reliance and interdependence in the absence of an explicit contractual provision conferring a benefit intended to be legally enforceable. In addition, the general part of the DCFR does not examine the problem of external liability of networks as an economic unit or quasi-organisation.[63]

A more distinct feature of the DCFR that is relevant to networks concerns its distinct treatment of the business groups of marketing arrangements referred to as commercial agencies, distributorships and franchises,[64] which may be similar to agro-food SME clusters. While specific rules for each of these types of economic coordination are suggested, the DCFR proposes some general rules for the above-mentioned forms that are, for the most part, default rules which apply unless otherwise agreed upon.[65] There is a pre-contractual duty to supply sufficient information for the other party 'to decide on a reasonably informed basis whether or not to enter into a contract of the type and on the terms under consideration'.[66] Due to a strengthened duty of cooperation, the parties must involve in an actively and loyally collaboration, as well as coordinating their relevant efforts so that they can accomplish the contract's objectives.[67] This duty of loyalty does constitute a fiduciary obligation, but it necessitates equal treatment by principals, franchisors, and suppliers to their agents, franchisees, and distributors respectively.[68] Similarly, the cluster organisation as the network centre in each agro-food SME cluster may treat the cluster participants equally.

The concept of a network is expressly mentioned in the DCFR in relation to a franchise, as there is an implied requirement that 'the franchisor must make reasonable efforts to promote and maintain the reputation of the franchise network',[69] whereas 'the franchisee must take reasonable care not to harm the franchise network'.[70] Nevertheless, these specific references to the network's economic value should lead to EU proposals for obligations that could occur between parties outside of bilateral contracts. Namely, they may address internal non-

[61] DCFR III.-1:104.
[62] DCFR II.-9:301.
[63] Collins (n 6) 28-29.
[64] DCFR IV.E.–1:101.
[65] DCFR IV.E.–1:101 & DCFR IV.E.–2:101.
[66] DCFR IV.E.-2:101.
[67] DCFR IV.E.-2:201.
[68] Collins (n 6) 29.
[69] DCFR IV.E.–4:207.
[70] DCFR IV.E.–4:303.

contractual liability in networks and external liability of networks, which are of immense importance for the formation of the legal framework of agro-food SME clusters in the EU.

Indeed, for the emergence and effective operation of agro-food SME clustering throughout the EU regions, it may be important to identify a common legal basis at a supranational level. In this way, the Europeanisation of contract law for agro-food SME clusters could ensure normalisation and stabilisation of their potential inherent tensions, secure trust, and counter the risks that they possibly create. However, there are several perspectives from which the notion of Europeanisation of contract law is often approached.[71] Europeanisation as the *entrance* of European-derived rules, principles and policies into national contract law systems, or Europeanisation as synonymous with harmonisation in order to denote the process of eliminating differences in national laws,[72] may not be able to provide a sufficient legal framework. The reason is that the agro-food SME clustering could be formed at the EU level as a proposed pan-European project and, for this reason, it may be useful to be based on common pan-European rules designed at the European level. Therefore, Europeanisation as the development of contract law at the European level,[73] namely the creation of European contract law, which implies a de-nationalisation/de-territorialisation of contract law and, concurrently, its transnational construction,[74] may be the suitable way to regulate the connected contracts of agro-food SME clusters.

The meaning of European contract law can be perceived in at least two distinct ways.[75] The first way (wide view) comprises all the contract law rules that are applicable in the EU, such as the contract law stemming from EU law-making institutions, the Member States and their regions, and international conventions to which EU Member States are parties.[76] However, this wide view of European contract law is incomprehensible because there are no well-defined dividing lines among its categories, which are upon 'interlocking international, European, and national layers that blur and feed into each other'.[77] Consequently, it is obvious that these complexities could constitute major obstacles in the effort for Europeanisation of contract law regarding sophisticated and large-scale projects such as the agro-food SME clustering across Europe. In the second way (narrow view), European contract law is typically

[71] Miller L (2011) *The Emergence of EU Contract Law: Exploring Europeanization.* (OUP) 4.
[72] Gutman K (2014) *The Constitutional Foundations of European Contract Law: A Comparative Analysis.* (OUP) 30.
[73] The Europeanisation of contract law can be proposed as the emergence and development of contract law by European Union institutions and actors with a governance, competence and capacity. It should be noted that prior to the Treaty reform in 2009, it is within the European *Community* pillar that European contract law has been developed. In: Miller (n 72) 4-5.
[74] Miller (n 71) 4-5; Cafaggi (n 59).
[75] Gutman (n 72) 17.
[76] Hesselink M (2015) "Contract Theory and EU Contract Law", Centre for the Study of European Contract Law. Working Paper Series.: 8.
[77] Gutman (n 72) 19.

used synonymously with the term *EU contract law*, as denoting the relevant Union acquis in the field.[78] Thus, EU contract law is considered to be exclusive to the contract law of the EU, namely the contract law contained in primary and secondary EU law, which includes all the contract law rules of the Treaties, regulations, directives, and general principles recognised by the CJEU.[79]

EU contract law in this narrow meaning has a series of distinct features that could put in place the axes to shape a set of contract law rules for agro-food SME clustering. In particular, EU contract law is fragmented as it does not comprise common rules that apply to all types of contracts such as sales and services, and all types of contracting parties such as consumers and businesses. It does not also face key issues arising in a contract's life cycle related to formation, invalidity, interpretation, performance, non-performance and remedies.[80] Contrariwise, EU contract law adopts a sector-specific approach, by tackling issues in certain sectors of the single market, such as consumer credit, commercial agency, package travel, timeshare, and late payment in commercial transactions.[81]

Moreover, the overwhelming amount of EU contract law rules and doctrines are instrumental to improve the functioning of the single market,[82] such as the commercial agency directive, late payment directive, and consumer contract law directives.[83] These directives are based on Article 114 TFEU, which confers upon the EU the competence to enact measures for the harmonisation of national rules.[84] The objective to improve the functioning of the single market is a fairly narrow objective for contract law rules, but it has been narrowed even further in recent years by the EU, which inclines to associate a functioning market with a growing market.[85] It is noteworthy that the consumer rights directive,[86] and the contract law rules for

[78] Ibid.
[79] Hesselink (n 76) 8.
[80] Ibid.
[81] European Commission Communication 'A more coherent European contract law: an action plan'. Brussels. COM(2003) 68.
[82] Collins H (2009) 'The European economic constitution and the constitutional dimension of private law'. European Review of Contract Law. 5, 71–94.
[83] Council Directive 86/653/EEC on the coordination of the laws of the Member States relating to self-employed commercial agents; Directive 2011/7/EU on combating late payment in commercial transactions; Directive 2011/83/EU on consumer rights; Directive (EU) 2019/2161 amending Council Directive 93/13/EEC and Directives 98/6/EC, 2005/29/EC and 2011/83/EU of the European Parliament and of the Council as regards the better enforcement and modernisation of Union consumer protection rules; Directive (EU) 2019/771 on certain aspects concerning contracts for the sale of goods.
[84] TFEU Art. 114.
[85] Hesselink (n 76) 9; European Commission, Communication 'The EU justice agenda for 2020: strengthening trust, mobility and growth within the Union'. COM(2014) 144.
[86] Directive 2011/83/EU on consumer rights.

the digital single market,[87] clearly aim at economic growth.[88] The fragmented sector-specific character also of EU contract law and its instrumental emphasis on economic growth and the functioning of the single market,[89] could become guidelines in drafting targeted EU policies for the establishment of agro-food SME clusters.

Contract law is a central aspect of private law that governs the rights and obligations of private parties on a horizontal level. EU contract law is not in fact private law, as it is composed of directives aimed at the Member States rather than private parties such as businesses and consumers.[90] Furthermore, EU contract law does not apply to civil disputes directly because it confers no subjective rights on contracting parties.[91] Contracting parties' rights and obligations are mostly governed by national law, though the Member States must implement directives requiring them to impose particular rights and obligations for specific contracting parties in specific circumstances.[92] Since there is no direct effect of EU contract law in civil disputes, the Europeanisation of contract law for agro-food SME clustering may be a difficult topic. For this reason, a suitable way for Europeanisation could be the adoption of the step-by-step approach,[93] taking into account that EU contract law is primarily concerned with bilateral relationships,[94] and thus contracts are mainly viewed as systems of bilateral exchanges.

Consequently, the Europeanisation of contract law for agro-food SME clustering could put in place an appropriate legal basis to address bilateral contracts, as an initial step for the participation of each potential member in agro-food SME clusters. However, it is important to examine alternative solutions for a legal reaction when the agro-food SME clusters as connected contracts may exhibit features of *organised irresponsibility*, which could lead to conflicts about internal responsibility or generate negative externalities that impact outsiders. An updated draft of the DCFR, which would include obligations regarding loyalty, internal non-contractual liability and external liability of networks, may offer sufficient institutional norms for this purpose.

[87] European Commission 'Digital contract rules'. <https://ec.europa.eu/info/business-economy-euro/doing-business-eu/contract-rules/digital-contracts/digital-contract-rules_en.>.
[88] This narrow instrumentalism is well illustrated by the European commission's slogan: "justice for growth". In: European Commission 'Justice for growth: Commission launches public consultation on resolving disputes out of court'. <http://ec.europa.eu/justice/newsroom/civil/news/150918_en.htm>.
[89] See above.
[90] Hesselink (n 76) 10.
[91] Ibid.
[92] Dickson J (2011) 'Directives in EU legal systems: whose norms are they anyway?', European Law Journal. 17
[93] Smits J (2005) The Need for a European Contract Law: Empirical and Legal Perspectives. Europa Law Publishing. 179.
[94] Cafaggi (n 59).

B - The judicial framework of EU contract law

The DCFR is a necessary instrument that may be taken into account in order to design a legal form for agro-food SME clustering on an EU-wide level. It seems to be the most appropriate model for filling the gaps left by the Convention on Contracts for the International Sale of Goods (CISG).[95] The Swiss proposal to enlarge the CISG has directed the attention around the world to the creation of a harmonised contract law, not only on an international but also on a regional basis, as demonstrated by the attempts of China, Korea and Japan to develop Principles of Asian Contract Law,[96] and the Organisation for the Harmonisation of Business Law in Africa.[97] As far as the EU is concerned, attempts to harmonise civil law date back to the late 1980s, but the crucial question is whether the EU is capable of devising a common EU contract law.[98] It is noteworthy that the CISG has been ratified in the EU by almost all Member States, and therefore any potential legislative codification for agro-food SME clusters should be aware of the significance of the CISG, and devise an instrument which may be used as a complement to the CISG or as a solely domestic instrument.

Being a solely domestic instrument presupposes that each of the EU Member States should replace its existing contract law with the new EU harmonised one, which is highly unlikely to happen.[99] In contrast, it is feasible for a harmonised EU contract law to be devised and adopted in relation to the CISG through the Member States making a declaration according to Article 94(1) CISG, which states that the Contracting States may declare at any time that 'the Convention is not to apply to contracts of sale or to their formation where the parties have their places of business in those States'.[100] The advantage of this is that this kind of agreement is not an international one, and thus EU contract law could be subject to Article 94 CISG. Accordingly, as regards intra-EU trade, EU contract law would apply and, hence, the CISG will be applicable only if there is at least one non-EU contractual member in the agreement.

The process for the creation of EU contract law needs appropriate institutional competence to pursue its purpose. Hence, it may be important to identify if the EU has the exact authority for enacting an EU contract law for the business networks of agro-food SME clusters. In effect, the EU has the judicial framework in place because EU law is interpreted

[95] United Nations Convention on Contracts for the International Sale of Goods (1980).
[96] Han S (2013). 'Principles of Asian Contract Law: An Endeavor of Regional Harmonization of Contract Law in East Asia'. 58 VILL. L. REV. 589.
[97] OHADA: Organisation for the Harmonization of Business Law in Africa.
[98] Zeller B (2015) 'Anatomy of EU contract harmonisation: where do we stand?'. International Trade Law & Regulation. 21(2), 41-53:41.
[99] Ibid 42.
[100] CISG Article 94(1).

and applied uniformly in all Member States, and for this reason the CJEU decisions tend to ensure EU judicial uniformity.[101] Subsequently, the process progresses as national courts interpret the principles established by CJEU case law in a way that is consistent with the goals of the EU legislative process, which in this instance would be a uniform EU contract code.[102] However, experience with the implementation of consumer rules arising from EU directives demonstrates that some national courts prefer to maintain continuity with previous case law,[103] namely, 'rather than trying to think in the logic of EU private law, they look for common ground between the old law and the new rules, in an attempt to preserve as much as possible'.[104] Although this happened in the early application and interpretation of the CISG by national courts, the CJEU as a supranational court can be able to create a consistent interpretation of uniform EU laws, which could be suitable for the emergence of agro-food SME clusters in the EU.

The principle of autonomous interpretation of EU laws has first been established by the CJEU judgment of 1964, in the *Unger* case,[105] and is reflected in Article 267 TFEU,[106] which requires that all national cases that depend on the interpretation of EU law are referred to the CJEU, at the latest in the last instance, if the right interpretation of EU law is unclear. Based on established CJEU case law, the CJEU is not responsible for deciding national cases but only for interpreting EU law, and then the national court must apply the CJEU's interpretation of EU law to the relevant case. Admittedly, national courts are capable of interpreting national law in light of the pertinent directives without having to refer cases to the CJEU, unless they are unsure of the scope of the related EU provisions.[107]

Although it seems that there is an intention to establish concepts of EU private law through the rulings of the CJEU, it is uncertain however if the CJEU could be a key player in the development of a unified EU contract law, which may provide a legal framework for the contractual networks of the agro-food SMEs clusters. The CJEU has only heard seven CISG

[101] Biukovic L (2008) 'Anatomy of an Experiment: Consolidation of EU Contract Law'. UBC L. Rev. 41, 278: 286.
[102] Zeller (n 98) 42-43.
[103] See, for example, the judgment by the Oberlandesgericht (regional court) Hamm, Neue Juristische Wochenschrift - Rechtsprechungsreport (NJW-RR) 2003, 1360, on the new German sales law after the implementation of the Consumer Sales Directive 1999/44/EC.
[104] Rott P (2005) 'What is the Role of the ECJ in EC Private Law? A Comment on the ECJ judgments in Ocdano Grupo'. Hanse Law Review 1(1) 6-7.
[105] Case C-75/63 *Unger v Bestuur der Bedrijfsvereniging voor Detailhandel en Ambachten* [1964] E.C.R. 379; [1964] C.M.L.R. 319.
[106] TFEU Article 267: The Court of Justice of the European Union shall have jurisdiction to give preliminary rulings concerning: (a) the interpretation of the Treaties; (b) the validity and interpretation of acts of the institutions, bodies, offices or agencies of the Union; Where such a question is raised before any court or tribunal of a Member State, that court or tribunal may, if it considers that a decision on the question is necessary to enable it to give judgment, request the Court to give a ruling thereon.
[107] Rott (n104) 9.

cases,[108] despite the fact that more cases involving supranational law could have been referred to it, as a unified implementation of the CISG throughout the EU would be advantageous. This means that, notwithstanding the CJEU's existence and its intense judicial activity, 'the EU has not achieved yet complete unification of contract law'.[109] As noted in the *Von Colson* case,[110] it is the responsibility of national courts to interpret and apply the legislation adopted for the implementation of directives in accordance with the requirements of EU law, to the extent that they have been given the discretion to do it under national law.[111] Accordingly, the national law is applied to the EU directives and, as a result, unification essentially does not extend to all facets of contract law. This is stressed in the *Tobacco Advertising* case,[112] in which the CJEU held that the powers of the EU institutions under Article 114 TFEU are limited to measures 'intended to improve the conditions for the establishment and the functioning of the internal market'.[113]

Nevertheless, Articles 26 and 114 TFEU specify that the EU could intervene to correct differences in national legislation only if they are shown to be detrimental to the EU internal market.[114] In *Vodafone*,[115] the CJEU noted that merely identifying discrepancies between national laws and the possibility of infringements of fundamental freedoms or competition distortions is insufficient to justify the use of Article 114 TFEU as a legal basis.[116] The EU legislature may have recourse to it particularly when there are disparities between national rules that hinder fundamental freedoms and therefore have a direct impact on the functioning of the internal market.[117] The CJEU explained that recourse to that provision is also an option if the goal is to avoid the emergence of such obstacles to trade stemming from the divergent development of national laws, but 'the emergence of such obstacles must be likely and the measure in question must be designed to prevent them'.[118] Consequently, the CJEU's decisions entrust the legislature with a high level of discretion in selecting whether and how to unify rules, primarily owing to the rather flexible wording of Articles 26 and 114 TFEU.[119] This means that the lack of unification of EU contract law, which could be helpful to the

[108] See CISG Law
[109] Biukovic L (2008) (n 101) 286.
[110] Case C-14/83 *Von Colson v Land Nordrhein-Westfahlen* [1984] E.C.R. 1891; [1986] 2 C.M.L.R. 430.
[111] Ibid, para 28.
[112] Case C-376/98 *Germany v Parliament and Council* [2000] E.C.R.1-8419, [2000] 3 C.M.L.R. 1175.
[113] Ibid, paras 83, 37–38.
[114] Weatherill S (2011) 'The Limits of Legislative Harmonization Ten Years after Tobacco Advertising: How the Court's Case Law has become a 'Drafting Guide'. German Law Journal 12(3) 828.
[115] Case C-58/08 *Vodafone Ltd v Secretary of State* EU:C:2010:321; [2010] 3 C.M.L.R. 44. *(Vodafone)*
[116] *Vodafone* para 32.
[117] *Vodafone* para 32.
[118] *Vodafone* para 33.
[119] Weatherill (n 114) 828 & 863.

establishment of agro-food SME clusters in the EU, does not fail due to constitutional barriers but due to the lack of political will.

C – Designing the Common Frame of Reference

The problem of the political will for the unification of EU contract law could be solved via negotiations between EU Member States and EU institutions on the basis of the existing agreement of CISG. However, the critical issue is to clarify how unification may be accomplished and how far it will extend so that it could generate a suitable legal basis for the agro-food SME clusters. The creation of a supranational law seems to be the appropriate solution to regulate the contractual networks in the EU because at this stage it is not possible a harmonised EU law would displace the existing domestic law of all EU Member States.[120]

The EU institutions have undertaken several relevant initiatives to unify areas of contract law, which start with the assumption that there is a need to decrease discrepancies between national laws governing private contracting. In 2003, the Commission attempted to codify the EU contract law principles by drawing on the diverse legal traditions of the EU Member States.[121] The action plan generally argued that it should be of an advisory nature, and suggested that a combination of regulatory and non-regulatory measures should be identified to solve the problems of differences among national contract laws.[122] In addition, the Commission asked for proposals about a more coherent EU contract law,[123] and the DCFR was published in response. However, prior to the DCFR, a proposal for a directive on consumer rights was released by the Commission,[124] followed in 2011 by the Proposal for a Common European Sales Law (CESL).[125] The aim of CESL is 'to improve the … functioning of the internal market by making available a uniform set of contract law rules'.[126] Nevertheless, although the national legal systems remain operational, the Commission has not managed yet to justify a comprehensive EU-based contract law. As a result, the DCFR and CESL remain soft laws that could serve various purposes for several stakeholders, and thus they may lead to a higher level of unification of contract law for the agro-food SME clusters.

[120] Zeller (n 98) 44.
[121] Biukovic (n 101) 304.
[122] Communication (n 81) 2.
[123] European Commission 'A More Coherent European Contract Law (Action Plan)'. COM (2008) 614 final.
[124] Ibid.
[125] Commission Proposal (2011) Proposal for a Regulation on a Common European Sales Law (CESL), COM(2011) 635 final.
[126] Ibid Art.1.

Regarding the CESL, it seems that there are difficulties for it to become the form of a Regulation that would apply directly to all EU Member States and overcome all internal laws. Its policy objectives could facilitate the regulatory purposes for the development of agro-food SME clustering. Specifically, they are to secure a high and uniform level of consumer protection across the EU, maximise the opportunities which can accrue to SMEs from an effective internal market and maintain, except in defined circumstances, freedom of contract.[127] In general, it could be said that CESL attempts to regulate the internal market. However, the internal market is essentially international in nature, and thus the interaction between CESL and the CISG must be regulated.

As CESL is soft law, namely an optional instrument, it will be superseded by the CISG unless explicitly included as contractual clauses.[128] The problem with CESL becoming a regulation is that it mainly focuses on covering SME and consumer transactions, and therefore it is a restrictive sales law regime next to the existing domestic sales laws. Accordingly, it cannot face all legal issues that may arise in the context of an international sales contract, thus making it an unpopular alternative as parties should use either the CISG or the otherwise applicable domestic sales legislation.[129] For this reason, the Commission officially placed the CESL proposal on the list of proposals to be modified or withdrawn, indicating that it should be modified 'in order to fully unleash the potential of e-commerce in the Digital Single Market'.[130] The CESL proposal was not formally withdrawn in the coming years, but it was not discussed by the Council, and no rapporteur was appointed by the European Parliament during the 2014-2019 term. Eventually, in 2019, the Conference of Presidents ruled that the European Parliament should request the Commission formally withdraw it.

On the other side, the DCFR could become a substantively authoritative source of law. Even if it does not receive formal recognition as an optional code soon, 'it will probably become an important source of inspiration for the Europeanisation of private law',[131] which may constitute the legal basis for the contractual networks of agro-food SME clusters. Essentially, the DCFR can succeed because it possesses a monopoly position since it covers 'almost all of patrimonial law: contract, torts, restitution, the transfer of property, personal securities, and even trust'.[132] Nonetheless, it needs various changes to fill existing gaps, which

[127] Ibid Art. 11.
[128] Zeller (n 98) 50.
[129] Schmidt K. M (2014) 'What will be the impact of the Common European Sales Law (CESL) in the CISG?'. In: *International Trade and Business Law Review*: Festschrift for Professor Bruno Zeller, 296
[130] European Commission Communication (2014) 'Commission Work Programme 2015 A New Start'. COM (2014) 0910 final, Annex II.
[131] Hesselink M (2009) 'The Common Frame of Reference as a Source of European Private Law'. Tulane L.R. 83, 919: 971.
[132] Ibid 927.

are specifically the outcomes of disagreements among domestic interests, in order for the political system to embrace it and may upgrade it to a regulatory framework for agro-food SME clustering.

The DCFR appears to have 'all the characteristics of a civil code',[133] and as an EU legislation may be able to coexist with the CISG. Accordingly, the contractual networks in the EU would be better served by relying on a common legal system, such as a Common Frame of Reference (CFR), which will be a suitable instrument for the final publication of DCFR. Via the CFR, the EU will be in the position to unify contract law effectively, as the DCFR is a scholarly tool based on comparative research that examines various innovative legal elements, such as Section 358 BGB of German law. This BGB provision and DCFR can open the way to design a CFR, which could regulate the concept of connected contracts for agro-food SME clustering, thereby addressing issues related to loyalty to the network, internal non-contractual liability in networks, and external liability of networks.

As a common legal system, the CFR could be in a position to deal with issues regarding loyalty to the networks of agro-food SME clusters by their members, namely cluster organisations and SMEs. The concept of *economic unit,*[134] established by Section 358 BGB, strengthens the mutually supportive presence and functional interdependence of contracts, [135] thus decreasing self-interested contractual behaviour by the parties. As demonstrated by DCFR,[136] the CFR could also address loyalty matters related to good faith and fair dealing in exercising contractual rights, and the obligation by the members to co-operate with each other in the agro-food SME clusters. In addition, a pre-contractual duty to supply relevant information and a duty of loyal cooperation, both recommended by DCFR,[137] may render necessary for cluster organisations as the network centres into agro-food SME clusters to treat other cluster members equally.

The CFR could also be able to address issues related to internal non-contractual liability in the networks of agro-food SME clusters. Namely, it may contain legal elements regarding recovery for pure economic loss by third-party members for their horizontal relations in the network. Section 358 BGB has already introduced the idea of connected contracts, in which two contracts that the law normally analyses as entirely distinct, will in fact be regarded as interdependent for certain purposes.[138] This provision could be helpful to form a legal duty

[133] Ibid 923.
[134] BGB Section 358(3).
[135] BGB Section 358(2).
[136] DCFR III.-1:103 & DCFR III.-1:104.
[137] DCFR IV.E.-2:101 & DCFR IV.E.-2:201.
[138] BGB Section 358 (1)-(5).

directly owed between SMEs in each network form of agro-food SME clustering. Moreover, the DCFR reflects the issue of special relationships between parties that are not bound formally by contracts, allowing third parties to enforce benefits explicitly conferred in contracts of other parties.[139]

Finally, the CFR could deal with issues related to external liability of network forms of agro-food SME clusters. According to the DCFR,[140] there is an implied requirement that the network centre must make reasonable efforts to promote and maintain the reputation of the network. Hence, suitable rules could be designed for agro-food SME clustering, which may be able to justify a direct claim by consumers against cluster organisations that can operate as central business entities of networks. The DCFR also requires that the network members must take reasonable care not to harm the network,[141] and additionally Section 358 BGB stresses that the idea of connected contracts can include multi-party relations between sellers, consumers, creditors, and more.[142] Consequently, it seems feasible to examine through a relevant legal framework how the costs of a successful claim may be shared across the operation onto cluster organisations and other members of agro-food SME clusters.

Conclusion

This chapter argues that the legal regulation for agro-food SME clusters may take into account the hybrid and paradoxical character of networks to address issues related to loyalty to the network, internal non-contractual liability in networks, and external liability of networks. These three main types of case constitute common problems in the network form of franchise, which could be analogous to the agro-food SME clustering. This is because the well-known techniques of contract law are inadequate to address disputes that arise in the context of networks. However, Section 358 BGB establishes the concept of connected contracts, in which two contracts that are normally viewed as entirely separate by the law, may in fact be treated as interdependent for specific purposes. They can be linked into an *economic unit*, and thus be able to address liability issues in networks. By understanding that the contracts are concurrently separate but interdependent, the central idea of connected contracts in Section 358 BGB may

[139] DCFR II.-9:301.
[140] DCFR IV.E.–4:207.
[141] DCFR IV.E.–4:303.
[142] BGB Section 358(3).

be generalised as a principle, which could be applied to networks of independent businesses, such as the agro-food SME clusters.

In addition, the DCFR adopts relevant principles that may offer appropriate elements for regulating the networks of agro-food SME clusters. The DCFR could probably become a substantively authoritative source of law and constitute an important source of inspiration for the Europeanisation of contract law. This common legal basis at a supranational level may be considered as an initial step for the participation of each SME as a member in agro-food SME clusters. Nevertheless, the process for the creation of EU contract law requires suitable institutional competence to achieve its purpose, but the CJEU's rulings give the legislature a high level of discretion in selecting whether and how to unify rules. This implies that the lack of unification of EU contract law that could constitute the legal basis for the development of agro-food SME clusters, is not because of constitutional barriers but because of the lack of political will, which can be overcome through negotiations between EU Member States and EU institutions.

Accordingly, this chapter recommends the designing of a common legal system, such as a CFR that would be based on the innovative, for the unification of contract law, legal elements contained in Section 358 BGB of German law and the DCFR. The CFR may be an instrument used as a legal basis for the better functioning of contractual networks in the EU. Namely, it could regulate the concept of connected contracts for agro-food SME clustering, thereby addressing issues related to loyalty to the network, internal non-contractual liability in networks, and external liability of networks. This could be an appropriate solution for a legal reaction when the agro-food SME clusters as connected contracts may exhibit features of *organised irresponsibility*. These contracts however remain inevitably incomplete as there is no either foreseeability at the time of drafting or justification for establishing unambiguous provisions regarding the costs of a future situation. The gap-filling role of corporate law, nevertheless, can predict such situations by adding new rules of company law and/or by interpreting existing rules. Consequently, a suitable corporate form for cluster organisations, which could operate as central companies within agro-food SME clusters, may be able to contribute to the completion of connected contracts, thus decreasing the levels of complexity and uncertainty among the stakeholders.

CHAPTER 9: Legal formation of the cluster organisation in agro-food SME clustering

Introduction

As the central business entity of agro-food SME clusters, the cluster organisation could coordinate the cooperative activities and the bilateral contracts between itself and each cluster participant, such as SMEs. It may be the network centre with an appropriate legal form that could contribute to the completion of connected contracts of the network by managing to govern complex relationships for a long time.[1] In this way, the corporate nature of the cluster organisation of agro-food SME clustering in the EU may achieve to decrease complexities and uncertainties among its stakeholders who possess multiple and overlapping property rights that should be adjusted and conciliated by the legal system. This means that the agro-food SME clusters may be considered as commons where there is a high degree of interdependence of resources and capabilities.[2] Given that the cluster organisation could be the central business entity of agro-food SME clusters, it is important to consider its suitable legal form to ensure the maintenance of this commons, and thus produce a surplus for stakeholders and society as a whole.

For this purpose, this chapter aims to appraise legal elements to design an EU-wide legal status for the business entity of the cluster organisation in agro-food SME clustering. By examining the economic theory of the commons in natural resources,[3] it explores the governance framework for cluster organisations that would include all affected stakeholders from the business activity. In order for the agro-food SME clusters to effectively operate as commons, it also examines ways to identify those stakeholders through social cost construction. Subsequently, this chapter considers relevant legal implications by discussing the experimentation and exploration of initiatives to produce the law for the commons. Based on the design principles set by the theory of commons, it generates the institutional design for cluster organisations. This opens the way to explore a partially harmonised legal framework of cluster organisations at a supranational level so that the agro-food SME clusters can operate as commons throughout the EU. Considering the legal diversity at a national and regional level, this chapter examines the relationship of Member States' company laws with the phenomenon

[1] See Chapter 8.
[2] See Chapter 2.
[3] Ostrom E (1990) *Governing the Commons: The Evolution of Institutions for Collective Action.* (CUP).

of regulatory competition. It suggests reflexive harmonisation as an effective model of flexibility that could play an important role in the commons approach of agro-food SME clustering in the EU regions. Based on this model, the supranational form of the cluster organisation can be designed by exploiting suitable legal elements stemming from the legal forms of existing and proposed EU business entities.

I - Agro-food SME clusters as commons: Governance framework

A - Ownership within and of the cluster organisation

Instead of adopting the agency model of the functional theory,[4] considering the agro-food SME clusters as commons seems to be the appropriate way to the conceptualisation of the legal structure of the cluster organisation. This is because various stakeholders can be contributors of inputs, by drawing on the resources, while simultaneously preserving and sustaining the asset pool of the cluster organisation as a source of productive value. The economic theory of the commons examines the circumstances under which collective actions can preserve valuable resources for society, such as the common-pool natural resources of collectively managed irrigation, fishery and forest systems.[5] It argues that the over-exploitation of shared resources could be mitigated by forms of collective resource management and utilisation.[6]

The characteristics of effective resource-use regimes refer to the nature of the pertinent collective property rights and the institutional elements that are able to generate these rights, which are contingent, disputed, and not self-enforcing. Accordingly, the commons is not an area devoid of ownership,[7] but it is distinguished by various overlapping property rights, which interrelate in several ways in order to sustain the shared resource where each stakeholder group's individual and collective well-being eventually depends.[8] For this reason, the theory of commons has examined a broader governance framework for the emergence and stabilisation of property rights.[9] This governance framework may be considered as a model for

[4] See Chapter 2.
[5] Ostrom (n 3).
[6] Deakin S (2012) 'The Corporation as Commons: Rethinking Property Rights, Governance and Sustainability in the Business Enterprise'. Queen's LJ, 37(2) 368.
[7] Ostrom (n 3); Ostrom E (2005) *Understanding Institutional Diversity*. Princeton University Press.
[8] Deakin S (2017) 'The Corporation in Legal Studies'. In: Baars G & Spicer A (Eds.) *The Corporation: A Critical, Multi-Disciplinary Handbook*. (CUP). 57.
[9] Ostrom E et al. (2010) *Working Together: Collective Action, the Commons, and Multiple Methods in Practice*. Princeton University Press. 95.

the cluster organisation of agro-food SME clusters because property rights appear to offer enduring answers to the challenges of collective action linked with shared resources.

In the commons, property rights cannot simply be defined by open access to common resources or the deficiency of a right to exclude.[10] In contrast, the common-property systems are recognised by the presence of collectively owned rights of access, withdrawal, management, exclusion and alienation.[11] More specifically, the right of access means that users of common-pool natural resources have the right to enter a defined physical property. Having the withdrawal right, also, they can obtain the goods of the resource, such as water, timber, or food for pastoral animals. In addition, the right of management offers them the right to regulate internal use patterns and transform the resource by building improvements. Regarding the right of exclusion, users of common-pool natural resources can determine who else will have an access right, and how this right may be transferred. Finally, the right of alienation means the right for them to potentially sell or lease any of the above collective-choice rights. It is noteworthy that the right of alienation is not the key defining right in a commons. Instead, limits on alienation rights may be imposed to preserve the resource for shared use.[12]

Likewise, property rights in the business firm and by extension the cluster organisation,[13] which could be considered as a central business within the agro-food SME cluster, may take many forms. Thus, cluster organisations could not be shaped and governed according to the shareholder-centric model. It would be artificial to make a strict distinction between *governance rights* vesting in shareholders and *contract rights* vesting in all other stakeholders, and claim the priority of the former over the latter.[14] The reason is that each output produced by the cluster organisation may be non-contractible to some extent, and each stakeholder should participate in its governance. As there is a substantial level of continuity between the business environment and the commons in natural resources,[15] it would be important to consider how the theory of commons can be applied in agro-food SME clustering. In this way, several stakeholders at different parts in the life cycle of cluster organisations may have rights of access, withdrawal, management, exclusion and alienation.[16]

[10] The right to exclude is a core component of the right to property. It permits each person to exclude state actors and private actors from his or her property. In: Sprankling J.G (2014) 'The International Law of Property'. (OUP) 305-322.
[11] Schlager E & Ostrom E (1992) 'Property Rights Regimes and Natural Resources: A Conceptual Analysis'. Land Economics 68(3) 249:250-251.
[12] Ostrom E (n 9) 95-96; In property law, alienation is the voluntary act of an owner of some property disposing of the property, while alienable is the capacity for a piece of property or a property right to be sold or otherwise transferred from one party to another.
[13] See Chapter 2.
[14] Deakin (n 8) 58.
[15] It is based on Simon Deakin's research about the corporation as commons, Deakin (n 6).
[16] Simon Deakin's research shows that the model of the commons is a good fit for the modern business enterprise. In: Deakin (n 6).

In particular, the rights of access may be described as entry conditions for the participation of stakeholders in agro-food SME clusters, such as SMEs, employees, creditors, research centres, and other groups of society. The rights of withdrawal may concern capital distribution rules, employee remuneration and benefits, secured and unsecured lender rights, fiscal authority claims and more. In addition, the rights of management could be defined as rules regarding the division of powers between the board of agro-food SME clusters and different constituencies on corporate decision-making matters. For instance, various stakeholders may have rights in insolvency, rights to vote on main transactions, rights to be consulted on restructurings, and more. The rights of exclusion also may be reflected by rules that determine the scope of participation, voice, and income rights of different constituencies, such as distinctions between key employees and others, holders of common and preferred stock, and different categories of creditors. Finally, the rights of alienation may be described as rules governing alienability of shares, securitisation of financial claims on the agro-food SME clusters and more.[17]

The theory of commons stresses that rights of alienation are typically, in practice, less salient than the other property rights in a common-pool natural resource,[18] which is a highly relevant feature to the business analysis. Generally, corporate law has been based on the concept of shareholder lock-in and limited alienation rights, as it happens with the right of shareholders to transfer their claims to third parties. In the case of employees, although their rights of alienation are highly limited, they are able to remove their labour power from the business. On this occasion, however, they are normally not allowed to receive complementary physical assets or intellectual property from the business asset pool.[19] Limits on alienation of assets is a widely used method of maintaining interdependencies among assets in a common-pool natural resource, thus ensuring its long-term sustainability.[20] From this aspect, there could be no difference between natural resources and the resources accumulated within the business organisational structures of agro-food SME clusters.

[17] The content of this paragraph is based on Simon Deakin's Table: Property Rights in the Business Enterprise. In: Deakin (n 6) 374.
[18] See above.
[19] Deakin (n 6) 374.
[20] Ibid; Sacconi L et al. (2011) *Corporate Social Responsibility and Corporate Governance: The Contribution of Economic Theory and Related Disciplines*. Palgrave Macmillan.

B - Identifying stakeholders by constructing social cost

The agro-food SME clustering could challenge, via the commons approach by cluster organisations, the relationship between shareholders and managers of the shareholder-centric model. It may show that the governance framework of cluster organisations could have a broader scope by encompassing various stakeholders who are particularly vulnerable to opportunism. For instance, employees' interests cannot be adequately protected solely through a contract on various occasions, such as violating their expectations of job security by moving the manufacturing plants to another country.[21] The gap in protecting employees provides corporate managers sufficient space for redistributing contractually unallocated surplus to shareholders and themselves through shares and stock options.[22] Other stakeholders are also likely to encounter significant obstacles in bargaining for their interests to be protected as they lack a contractual connection with the business.[23] Therefore, it could be necessary for stakeholders' interests in agro-food SME clusters to be protected via regulation and bargaining in an efficient and socially adequate manner.

Perhaps, transaction costs deter stakeholders and companies from entering into contracts based primarily on their impact on social wealth. In such circumstances, it is usually claimed that property rights should be allocated by the courts to the parties placing the highest value on them.[24] The main goal for cluster organisations in agro-food SME clustering may be to achieve without any transaction costs the distribution of rights arising from the parties' bargaining. However, there are multiple important impediments for stakeholders to bargain with companies to protect their interests because the social costs that react on society are frequently uncertain and ambiguous, and hard to verify.[25] Therefore, regulating the actions that cause harmful effects could be an effective way to correct social costs. Although this implies some regulatory costs, the alternative way of doing nothing about the problem at all preserves the current allocation of social costs that decrease social wealth. It also generates transaction costs, where the parties seek to improve economic efficiency by concluding contracts to redistribute these costs. [26]

[21] Blair M & Stout L (1999) 'A Team Production Theory of Corporation Law'. Virginia Law Review 85(2) 247:305.
[22] Blair M (1995) *Ownership and Control: Rethinking Corporate Governance for the Twenty-first Century*. Brookings Institute.
[23] Johnston A (2012) 'Recent Developments in Stakeholder Theory: from the Productive Coalition to the Governance of Social Cost'. In: Vitols S & Heuschmid J (eds.) *European Company Law and the Sustainable Company – A Stakeholder Approach*. ETUI/GOODCORP, 28.
[24] *Coase R (1960) 'The Problem of Social Cost'. Journal of Law and Economics 3, 15-28.*
[25] Callon M (2007) 'An Essay on the Growing Contribution of Economic Markets to the Proliferation of the Social'. Theory, Culture & Society. 24, 139-163.
[26] Coase (n 24) 15-19.

Nevertheless, it is doubtful as to whether or not regulation alone could align the corporate decision-making of each cluster organisation with the common good. Regulatory intervention based only on a cost-benefit analysis means that social costs would continue to be prevalent because 'it is very likely that most externalities should be allowed to continue if the value of production is to be maximised'.[27] According to the functional theory,[28] the regulators may fully intervene in the problem of social costs by leaving managers with the aim of maximising financial gains as possible while respecting the fundamental rules of society, which are expressed in law and ethical custom.[29] However, this seems to be hypocritical as it often enables managers to easily disregard the impact of their activities on society and the natural environment, unless to the degree that this impact is converted into formal economic and legal restraints.[30]

It is noteworthy that, unlike SMEs, large businesses are able to exploit their lobbying influence on politics to prevent or mitigate regulatory intervention.[31] Additionally, the traditional instrumental regulation is currently experiencing a secular crisis. Due to the growing complexity within society and the stronger linkage between productive and financial systems, this kind of regulation seems to be 'either irrelevant, or produces disintegrating effects on the social area of life or else disintegrating effects on regulatory law itself'.[32] For all those reasons, regulators are potentially incapable of intervening in an effort to address the social costs stemming from economic activities, and therefore any conventional regulation may be ineffective for the cluster organisations of agro-food SME clusters to achieve their goals based on commons theory.

Given that conventional regulation seems impossible on the basis of cost-benefit analysis and contracts involving various stakeholders and companies encounter enormous challenges, only ethical custom could prevent highly motivated managers from maximising financial gains as possible by burdening stakeholder groups with social costs.[33] However, commitments related to corporate social responsibility seem more possible to be public relations practices

[27] Coase R (1988) *The Firm, the Market, and the Law, Chicago*. University of Chicago Press. 26.
[28] See Chapter 2.
[29] Friedman M 'The Social Responsibility of Business is to Increase its Profits', The New York Times Magazine, (September 13, 1970).
[30] Orts E (2005) 'Ethics, Risk, and the Environment in Corporate Responsibility'. In: Hay B et al. (eds.) *Environmental Protection and the Social Responsibility of Firms.* Resources for the Future, 184-196:190-191.
[31] Ibid 191.
[32] Teubner G (1987) 'Juridification: Concepts, Aspects, Limits, Solutions'. In: Teubner G (ed.) *Juridification of Social Spheres: A Comparative Analysis in the Areas of Labor, Corporate, Antitrust, and Social Welfare Law*. De Gruyter, 3-48:21.
[33] McDaniel M.W (1991-1992) 'Stockholders and Stakeholders'. 21 Stetson L.Rev. 121.

than serious efforts to cope with the corporate impact on social costs.[34] Companies are able to make profits via externalisation of costs to society and the environment, since contract or regulation cannot prevent them, thus generating much greater rises in shareholder value than the corresponding increase in social wealth or the promotion of the common good.[35] Accordingly, when companies create shareholder value by externalising costs to either society or the environment, 'this is simply a wealth transfer rather than the generation of a surplus'.[36]

The matter for agro-food SME clusters is whether a better and cost-effective way of controlling social costs could be achievable, thereby bringing corporate governance of cluster organisations into greater line with the theory of commons and, by extension, the common good. The law may bypass the possible failure of conventional instrumental regulation and the inability of contracts by taking into account the adoption of a reflexive approach.[37] According to the theory of reflective law, the law becomes 'a system for the coordination of action within and between semi-autonomous social subsystems'.[38] This implies the development and implementation of procedures that are compatible with the logic of the societal domain that is intended to regulate,[39] such as the logic of cluster organisations of agro-food SME clustering. Thus, the reflexive approach contrasts with the externally imposed substantive outcomes of conventional instrumental regulation, which would only change how the system of social domain reacts to its surroundings without essentially accomplishing the regulatory purpose.[40] This type of procedural regulation could require each cluster organisation to include stakeholders in the decision-making mechanisms in order to safeguard their interests. In this way, the reflexive approach could influence the decision-making process to take into consideration the effects on society and the environment more seriously, thus allowing more effectual governance of social costs than conventional regulation via their internalisation by cluster organisations.

To grant participatory rights to various stakeholders of cluster organisations, however, their prior identification may be required. This conventional approach is basically static and

[34] Barnard C & Deakin S (2002) 'Reinventing the European corporation? Corporate governance, social policy and the single market'. 33 I.R.J. 484 at 486-7; Branson D.M (2000-2001) 'Corporate Governance 'Reform' and the New Corporate Social Responsibility'. 62 U.Pitt.L.Rev. 605.
[35] See Chapter 2.
[36] Johnston (n 23) 31.
[37] Reflexive approach: 'the relationship between the legal system and the economy is one of co-evolution and mutual constitution. The operational autonomy of the systems does not contradict their adjustment, through co-evolution, to each other's influence, and their mutual adjustment over time to a common societal environment'. In: Rogowski R & S Deakin, Reflexive Labour Law, Capabilities and the Future of Social Europe, University of Warwick School of Law Legal Studies Research Paper No. 2011-04, 16.
[38] Teubner G (1983) 'Substantive and Reflexive Elements in Modern Law'. Law & Society Review, 17(2) 242.
[39] Ibid. 266-281.
[40] Teubner G (1993) *Law as an Autopoietic System*. Blackwell.

can work well for employees because there is an understanding by the regulator about the issues that they confront, such as management's opportunistic breach of their implicit contracts and their incapacity to diversify their investments.[41] Nonetheless, this approach is more challenging for other stakeholders, such as local communities and the environment, in which risks and social costs may be more unevenly distributed.[42] In particular, it is difficult for the regulator to impose specific obligations on managers about public interest and common good in their decision making, because it could not be presumed that the board members have all the information concerning the company's social and environmental impacts.[43] Moving beyond employees, SMEs, research centres, suppliers, creditors and costumers, which may be the most obvious stakeholder groups of cluster organisations, it becomes gradually hard to identify some others that could be affected by the business activity of agro-food SME clustering. Overcoming this issue by designating the stakeholders in advance, however, there is a risk to exclude affected groups or give rights to unaffected ones.[44] Therefore, identifying the affected stakeholder groups of cluster organisations at the endpoint of the regulatory process, rather than the beginning, might be an effective way.

Indeed, affected stakeholders may be formed when there are concerns and inquiries by individuals or social groups about the externalities of business activity. Given that those affected distinguish issues of common concern, through long explorations 'new, original and often unforeseen identities emerge, which sometimes demand to join the collective and recompose it'.[45] Accordingly, there could be a need for a dynamic approach to identifying stakeholders of cluster organisations, in which those affected by every business activity may be recognised on a continuing basis via a reflexive process of social cost construction. Namely, it seems that it is not an effective method of identifying affected stakeholders in advance by a regulator or guessing them by the board, which is unable to have all the pertinent information but is entrusted with promoting the common good.

Based on a dynamic approach, individuals or groups who may perceive themselves as affected by the business activity of agro-food SME clustering could participate in a dialogue process with decision-makers of the cluster organisation. In this manner, they may form agreements that can be compatible with the theory of commons and pertain to the nature and presence of the externalities of business activity and methods to reduce or eliminate the costs

[41] See above: Blair & Stout (n 21).
[42] Johnston (n 23) 31-32.
[43] Jensen M C (2002) 'Value Maximization, Stakeholder Theory, and the Corporate Objective Function'. Business Ethics Quarterly, 12(2), 235-256.
[44] Johnston (n 23) 32.
[45] Callon (n 25) 144.

that emerge from them. This process of dialogue may be conducted through a *hybrid forum*, where the actors could be able to negotiate their own identities and interests, and issues related to the presence, type and magnitude of externalities.[46] In this way, 'facts and values have become entangled',[47] in order for the hybrid forum output to may be a set of elements in the common resource of the cluster organisation. This output should be suitable for all stakeholders and serve as a way of resolving disagreements over those elements, so that the agro-food SME clusters could effectively operate as commons.

II - Agro-food SME clusters as commons: Legal implications

A - The law for the commons

The creation of an effective legal framework through which the hybrid forum output could be suitable for resolving disagreements among affected stakeholders of cluster organisations is necessary. The institution of private property rights and government control to enforce the rules of common resource use seem inappropriate solutions to face potential free-rider problems,[48] which could cause the unsustainability of the common resources,[49] and by extension the agro-food SME clusters. Private property rights backed by the government via the legal system may not provide the foundation for guaranteeing that gains on investments are sufficiently captured and externalities are minimised.[50] This is because government interferences and market forces threaten common property institutions since both government and market possess the ability to weaken norm-based systems for the management of collective resources.[51]

Accordingly, it may be a paradox to attempt to build a new legal framework for agro-food SME clusters as commons through laws that may be based on the agency model, which presumes the domination of markets and government authority. Interestingly, however, there are various notable applications of laws governing trusts, contracts, patents, copyright,

[46] Callon M (1998) 'An Essay on Framing and Overflowing: Economic Externalities Revisited by Sociology'. In: Callon M (ed.) *The Laws of the Markets*. Blackwell, 244-269:257.
[47] Ibid 255.
[48] Free riding: benefiting from a collective good without having incurred the costs of participating in its production. The problem of free riding was articulated analytically by the American political economist Mancur Olson in: The Logic of Collective Action: Public Goods and the Theory of Groups (1965),
[49] Hardin G (1968) 'The Tragedy of the Commons'. 162:3859 *Science* 1243.
[50] White S (2016) 'Republicanism and Property-Owning Democracy: How Are They Connected?'. The Tocqueville Review/La Revue Tocqueville. 37(2), 103-124.
[51] Wood M (2017) 'The Public Trust Paradigm for a New Economy' In: Wood M *Law and Policy for a New Economy.* Edgar Elgar.

municipal government, co-operatives, and other bodies of law aimed at protecting common assets and the social practices of the commons.[52] This experimentation and exploration may produce the law for the commons, as a new body of socio-legal and political innovation, which would be used as a facilitating instrument in dealing with the government and market enclosures. [53]

The law for the commons may be able to bridge the gap between legitimacy and legality expressed via the rules adopted by the politico-economic and corporate elite, which further the shareholder-centric model against the rights of other stakeholders. Thus, commons-based legal innovation could be an effort to transcend the structural constraints of legality, formed by the current formal machinery of market-state governance, which concentrates on *things* without taking into account dynamic social relationships, culture, history and ecosystems.[54] It is important to note that the nation-state is losing power as global capital progressively becomes more dominant.[55] The scope and complexity also of socio-economic and ecological issues exceed the acumen and tools of centralised governmental or corporate bureaucracies. However, the weakening of the state coincides with the worldwide expansion of civil society and the rise of new citizen actors and novel modes of mobilisation.[56] In such instances, action occurs in an *institutional void,* in which there is an absence of clearly defined rules and standards on how politics should be pursued, and policy measures should be agreed upon.[57]

Having its main application to natural resources, the theory of commons can contribute significantly to filling in this institutional void,[58] which could be important for the law of business enterprise,[59] and consequently for the operation of agro-food SME clusters as commons. Based on the theory of commons, a set of eight *design principles* has been identified, which governs the resolution of overlapping and potentially conflicting property claims.[60] These design principles, which are the result of a long evolutionary process, are the following: well-defined boundaries of resource systems, proportionality between benefits and costs, collective choice arrangements, monitoring, graduated sanctions, localised conflict resolution mechanisms, minimal recognition of rights for local users, and nested enterprises for local units.[61] Thus, collective resource-management regimes, under these conditions of eight design

[52] Xifaras M (2016) 'The Global Turn in Legal Theory'. Canadian Journal of Law & Jurisprudence XXIX No.1 215-243.
[53] Bollier D (2015) 'Reinventing Law for the Commons'. A Strategy Memo for the Heinrich Böll Foundation. 2.
[54] Ibid.
[55] See Chapter 3.
[56] Hajer M (2003) 'Policy without polity?' Policy analysis and the institutional void. 36(2) 175–195:175.
[57] Ibid.
[58] Ostrom (n 9).
[59] Deakin (n 8) 60.
[60] Ostrom (n 9).
[61] Ibid 100-101.

principles, are better capable of ensuring the sustainability of shared natural resources for current and future generations.[62]

More specifically, according to the model of commons as regards natural resources, the boundaries of a resource system and the set of users with rights over it, should be clearly defined, thereby limiting problems related to externalities as well as facilitating cooperation and rule enforcement. Moreover, proportional equivalence between benefits and costs associated with a common-pool resource is required to enhance the legitimacy of rule systems and assist compliance and enforcement. With regard to collective-choice arrangements, users affected by a natural resource regime should be authorised to participate in rule formation, thus increasing the likelihood that rules fit local circumstances and be adaptable to changing environmental and social dynamics. Concerning the design principle of monitoring, the individuals charged with monitoring rule adherence and resource conditions should be accountable to users. Additionally, sanctions for violated rules should be graduated, allowing for infractions to be noticed while acknowledging the probability of mistakes, misunderstandings and exceptional circumstances. Localised, rapid and low-cost conflict-resolution mechanisms also should enable the interpretation and implementation of rules for conflicts to be resolved in a manner that maintains trust. Furthermore, the rights of local users to make their own rules should be officially recognised by higher-level entities in order to preserve the regime itself. Finally, regarding the design principle of nested enterprises,[63] when common-pool resources are part of a larger system, small-scale units should match rules to local conditions, within a larger framework of institutions designed to govern interdependencies among smaller units.[64]

The appropriateness of institutional solutions to the problems of collective actions, posed by the use of shared natural resources of the commons, could illustrate the potential of the commons model as an alternative normative paradigm to that provided by the functional theory.[65] This may be applied in the context of corporate law and governance of agro-food SME clusters. Namely, the commons model could assist in the identification of the conditions under which legal structures could contribute to the sustainability of agro-food SME clusters and their relationship with the broader socio-economic and natural environment where they would operate. Therefore, the eight design principles,[66] identified by common research in

[62] Ostrom (n 3).
[63] Nested enterprises are parts of a set forming a chain or sequence in which each member (enterprise) is contained in or contains the next.
[64] Ostrom (n 9) 100-101.
[65] See above.
[66] See above.

natural resource systems, may be used to inform the institutional design of corporate law and other legal appearances governing the business enterprise.[67] This could be useful as a legal basis for the design principles of cluster organisations, and thus for the operation of agro-food SME clusters as commons.

B - Design Principles for the law of agro-food SME clusters

The eight design principles emerging from commons research on natural resources may be applied to a model of corporate law for the legal framework of cluster organisations in order for agro-food SME clustering to operate as commons. In the commons model, multi-stakeholder governance dominates over shareholder primacy, and a priority is provided to rule-making processes' autonomy at the level of internal business relations. Thus, there is a lessened role for external forces of capital markets, and respect for local democratic choices on how to regulate the businesses in the face of pressures to condone or encourage transnational regulatory arbitrage and avoidance.[68] By taking insights from various initiatives worldwide about the law for the commons, it may be feasible to design the law for agro-food SME clusters in the EU regions, which could be radically opposed to the shareholder-centred, market-focused and globally-guided paradigm of corporate law.[69]

Regarding the first design principle, the boundaries of the business enterprise and the set of its stakeholders should be clearly defined through suitable rules, thereby facilitating cooperation and rule enforcement.[70] By extension, these rules could be used for the operation of cluster organisations of agro-food SME clustering. As the business firm consists of those assets over which it has control,[71] the boundaries of cluster organisations may be characterised by multiple and overlapping property rights of different stakeholder groups.[72] One of the most distinguished examples is the innovative organisational form of the multi-stakeholder co-operative, which is a new paradigm that collectivises and centralises basic overhead services and, in this way, empowers small social economy ventures,[73] such as the Seikatsu organic food

[67] Deakin (n 6) 377-378.
[68] Deakin (n 8) 59.
[69] See Chapter 2.
[70] Deakin S (2012) (n 6) 378.
[71] Grossman S. J & Hart O. D (1986) 'The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration', Journal of Political Economy. 94(2) 691-719:693.
[72] Stakeholder groups: SMEs, suppliers, costumers, creditors, employees, individuals or groups of local communities and more.
[73] Birchall J & Sacchetti S (2017) 'The Comparative Advantages of Single and Multi-Stakeholder Cooperatives'. Euricse Working Papers No. 95|17.

co-operatives do in Japan.[74] Thus, multi-stakeholder co-operatives are regularising governance for co-stewardship of commons areas and moving away from inflexible bureaucratic techniques that are increasingly ineffective.[75]

Moreover, the design principle of equivalence between inputs and returns should apply to all stakeholders of the business, and only to shareholders.[76] Accordingly, proportional equivalence between benefits and costs associated with the cluster organisation may be required to enhance the legitimacy and assist compliance and enforcement. This could ensure the sustainability of agro-food SME clustering in terms of resource inputs and engagement of various stakeholder groups in the design of rules about how those resources are used and managed. For instance, an NGO, the Sustainable Economies Law Centre,[77] cultivates a new legal landscape for the governance of co-operatives to assure an effective sharing economy. It also provides essential legal tools for ensuring equitable wages and avoiding wage discrepancies within co-operatives, as well as guaranteeing shared capitalisation to avert disproportionate losses or harm to any one stakeholder.[78]

Concerning the design principle of collective choice arrangements, all affected stakeholders should be authorised to participate in rule formation at the level of business, thus increasing the likelihood that rules fit local contexts and be adaptable to changing circumstances.[79] In this sense, all stakeholders of agro-food SME clusters could participate collectively in the formation of rules. This conception of the business enterprise seems to have its roots in a materialist theory of social reality, which contends for the presence of emerging social structures formed by collective practices and attitudes.[80] This is evident, for example, in indigenous peoples' efforts to maintain their own communal resources and cultural commitments via collective law and group resource stewardship.[81] Relevant guidance is the 1993 Convention on Biological Diversity, which has been ratified by 165 countries, giving legal protection to the governance system of communities.[82]

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[74] Seikatsu organic food co-operatives <https://seikatsuclub.coop/en/about.html.>.
[75] Conaty P & Bollier D 'Toward an Open Co-operativism: A New Social Economy Based on Open Platforms, Co-operative Models and the Commons'. Commons Strategies Group, (January 2015) 11.
[76] Deakin (n 6) 378.
[77] Sustainable Economies Law Center <https://www.theselc.org/.>.
[78] Bollier D (2015) Reinventing Law for the Commons A Strategy Memo for the Heinrich Böll Foundation. 21.
[79] Deakin (n 6) 378.
[80] Lawson T (2014) 'The nature of the firm and the peculiarities of the corporation' Cambridge Journal of Economics, 39:1-32; Lawson T (2015) 'Comparing conceptions of social ontology: emergent social entities and/orinstitutional facts?' Journal for the Theory of Social Behaviour.
[81] Perkins S. C 'Researching Indigenous Peoples' Rights Under International Law'. <http://intelligent-internet.info/law/ipr2.html#Present%20Activities.>.
[82] 1993 Convention on Biological Diversity, <https://www.cbd.int/convention/.>.

In addition, monitoring of the internal rules of the business should be carried out by the management personnel, which is accountable to each group of stakeholders.[83] Consequently, the individuals charged with the monitoring of rules in agro-food SME clustering may be subject to accountability to all stakeholders. Mutual forms of management have a collective approach with a focus on social welfare and more communitarian ownership structures.[84] For example, the success of the John Lewis Partnership,[85] the largest employee-owned business in the UK, shows that when ownership resides with the workforce, there is a tendency for superior business performance.[86] Monitoring is conducted by managers who are accountable to their colleagues because they exercise the management of an 'employee-owned business [that] requires an inclusive and engaging approach to leadership'.[87]

The design principle of graduated sanctions should be used to restrict management's ability to deny any person or group access to the business' resources, and the ability of a dominating group to deny others access, such as shareholders often do with the workforce through takeover bids and corporate restructuring.[88] Therefore, sanctions for violated rules may be graduated for the effective operation of cluster organisations and agro-food SME clustering. Certainly, to describe a business as a juridical person is to provide it with the capacity to participate in transactions and relations that are recognised by the legal system. This implies that sanctions may be implemented in a manner that supports the specific form of economic organisation, which has become synonymous with the business enterprise.[89] It is noteworthy that several open-source communities, such as the digitally-manufactured building system of Wikihouse,[90] are building digital constitutions as a means of governing their network-based community. These texts offer a moral foundation for graduated sanctioning of offenders, which includes recourse to courts for enforcement in certain cases.[91]

Concerning the design principle of conflict-resolution mechanisms, localised, rapid and low-cost legal instruments should enable the interpretation and implementation of rules at the level of the business in order for disputes to be resolved in a way that facilitates trust-building

[83] Deakin (n 6) 378.
[84] Mayer C (2013) 'Firm Commitment: Why the corporation is failing us and how to restore trust in it'. In: Nordberg D & Katelouzou, D. (2015). *Alternatives within corporate 'ownership'*. (OUP). 16.
[85]John Lewis Partnership <https://www.johnlewispartnership.co.uk/work/employee-ownership.html.>.
[86] The UK's fifty largest employee-owned companies <https://employeeownership.co.uk/wp-content/uploads/Employee_Ownership_Top_50_Infographic.pdf>.
[87] John Lewis Partnership, A guide to employee ownership. 7. <https://www.johnlewispartnership.co.uk/work/employee-ownership.html>.; Storey J & Salaman G (2017) 'Employee ownership and the drive to do business responsibly: a study of the John Lewis Partnership'. Oxford Review of Economic Policy.
[88] Deakin (n 6) 378.
[89] Deakin S (2017) 'Tony Lawson's Theory of the Corporation: Towards a Social Ontology of Law'. Cambridge Journal of Economics. 41, 1505–1523:152.
[90] WikiHouse <https://www.wikihouse.cc/>.
[91] Bollier D (2015) Reinventing Law for the Commons A Strategy Memo for the Heinrich Böll Foundation. 29.

in stakeholder relations.[92] Thus, relevant dispute resolution mechanisms could operate in agro-food SME clusters for maintaining trust among stakeholders of the cluster organisation. An increasing number of organisations have already embraced alternative dispute resolution procedures in an attempt to reduce costs related to stakeholder conflicts. This evolution indicates a substantial change in how various organisations have come to approach and deal with internal disagreements.[93] One of the successful organisational forms that has developed conflict-resolution mechanisms is the Omni Commons of Oakland in California,[94] which consists of enterprises that undertake legal, fiscal and administrative tasks for collectives of small businesses with a commons focus.[95]

Minimal recognition of rights is also the design principle that the rights of the business' stakeholders to set their own rules should be acknowledged by higher-level entities. This principle basically indicates that the legal system must give appropriate weight to the internal governance mechanisms of the business.[96] In this way, the internal governance mechanisms of agro-food SME clusters could be adequately recognised by the legal system. In general, local communities must be empowered to govern themselves, since externally imposed rules are improbable to be modified to local conditions.[97] Inspired by the Community Bill of Rights as stated in the Community Environmental Legal Defense Fund (CELDF),[98] people in several countries draft their own community charters to claim moral and legal rights to safeguard a range of local resources at various levels. For instance, the organisation Remix The Commons completed a project to develop a compilation of community charters and a mapping tool, the Atlas of the Charters of Urban Commons,[99] in cooperation with actors directly engaged in the field through participatory and collaborative approaches.[100]

Finally, according to the design principle of nested enterprises, local businesses should be permitted to match rules to local conditions, within a broader structure of institutions for governing interdependences between smaller businesses.[101] Hence, supranational legal frameworks may reflect governments' powers to enact standards of fair conduct for the

[92] Deakin (n 6) 378.
[93] Lipsky D. B et al. (2017). Organizational Conflict Resolution and Strategic Choice: Evidence from a Survey of Fortune 1000 Companies. Cornell University, ILR School. 2.
[94] Omni Commons of Oakland in Californi <https://omnicommons.org/>.
[95] Ibid.
[96] Deakin (n 6) 378-379.
[97] Ostrom E (2013) 'Generalizing the core design principles for the efficacy of groups'. Journal of Economic Behavior & Organization. Volume 90, 21-32: 22.
[98] Community Environmental Legal Defence Fund (CELDF) (2022). < https://celdf.org/.>.
[99] Atlas of the Charters of the Urban Commons <https://www.remixthecommons.org/en/communs-urbains-et-mecanismes-juridiques-atlas-des-chartes/.>.
[100] Ibid <http://www.remixthecommons.org/en>.
[101] Deakin (n 6) 379.

businesses of agro-food SME clustering that could be tailored to local circumstances. 'Appropriation, provision, monitoring, enforcement, conflict resolution and governance activities' can be organised in multiple levels of nested businesses.[102] For instance, there are already several initiatives to expand present bodies of law at the EU level to recognise the business enterprise as commons. The conference 'European juridical strategies for the commons' conducted in April 2015 was a focused attempt in this direction, with the goal of exploring practical approaches to advance this agenda.[103]

An additional notable endeavour to introduce the commons paradigm at the EU level can be found in the European Parliament's intergroup on Common Goods and Public Services.[104] In general, the intergroups have no official legislative power because they are not Parliament bodies and thus may not express Parliament's opinion.[105] However, they can influence legislation and regulations, as well as inspiring crucial policy and political discussions. The commons intergroup aimed to build a common perspective about the commons by linking common assets with public services in the framework of European policies.[106] It would be 'understood as confirmation of the aspirations and discourse of the commons becoming a political force',[107] which could be a significant starting point for the emergence and effective operation of the agro-food SME clusters as commons across the EU regions.

Interestingly, in July 2018, the European Parliament passed a resolution with recommendations to the Commission on a Statute for social and solidarity-based enterprises by adopting partially harmonised rules,[108] while leaving other parts of regulation to each Member State's national legislation. This EU-wide legal status for social enterprises, which would combine supranational and national laws, may offer important elements for designing the corporate form of cluster organisations. This is because social enterprises adopt a commons-oriented approach as their primary objective is 'the achievement of measurable, positive social impacts'.[109] Namely, they provide services or goods that generate a social return, and their

[102] Ostrom (n 3) 101.
[103] Conference 'European juridical strategies for the commons' April 2015 <http://cenj.ehess.fr/index.php>.
[104] Europa: Intergroup (2022) 'List of members'.
<https://www.europarl.europa.eu/pdf/intergroupes/VIII_LEG_06_Common_goods.pdf.>.
[105] Europa 'The intergroups of the European Parliament'.< https://www.europarl.europa.eu/about-parliament/en/organisation-and-rules/organisation/intergroups.>.
[106] Epsu.org 'Goals and road map'.
<https://www.epsu.org/sites/default/files/article/files/Intergroup_on_Commons_Starting_doc_short_1_.pdf.>.
[107] Sophie Bloemen of the Commons Network,
<http://www.euroalter.com/2015/what-we-share-a-commons-intergroup-takes-off-in-the-eu-parliament>.
[108] Statute for social and solidarity-based enterprises - European Parliament resolution of 5 July 2018 with recommendations to the Commission on a Statute for social and solidarity-based enterprises (2016/2237(INL)).
[109] Ibid Article 2(1)(a).

management and any distribution of profits are based on accountability and transparency for their members and other stakeholders affected by their business activities.[110]

III - The agro-food SME clusters as commons in the EU

A - Legal diversity for the cluster organisation

i - The phenomenon of regulatory competition

As a cross-sectoral EU-wide project, the agro-food SME clustering could be based on a partially harmonised legal framework at a supranational level, in which the European legislator may use regulations to create its own corporate form for the cluster organisation. Accordingly, this EU-wide corporate form could enter into the typological spectrum of the EU supranational entities.[111] The emergence of supranational corporate structures poses however the issue of 'whether this development is the keystone to the harmonisation of corporate law or merely its beginning'.[112] In this sense, it may be possible for the proposed legal form for the cluster organisation of agro-food SME clusters to become either the culmination of the corporate law harmonisation that takes place within the Member States,[113] or a means of giving substantial impetus for further harmonisation.[114]

Although the harmonisation programme has encountered important difficulties and setbacks, EU company law is one of the most important areas that the EU pursued to harmonise by passing a large number of supranational legislation, such as regulations and directives.[115] It is worth noting that the term *harmonisation* has at least three different meanings in the context of EU company law.[116] To begin with the literal meaning, harmonisation can be described, according to Article 50(2)(g) TFEU, as the coordination to the *necessary extent* of the safeguards needed by the Member States of businesses to protect relevant interests with the

[110] Ibid Article 2(1).
[111] This reaches from the European Economic Interest Grouping (EEIG) to the European Company (SE), and the European Cooperative Society (SCE), the European Private Company (SPE), the Societas Unius Personae (SUP).
[112] Fleischer H (2010) 'Supranational Corporate Forms in the European Union: Prolegomena to a Theory on Supranational Forms of Association'. *Common Market Law Review* (CMLR), 1671-1717:1691.
[113] The EEC/EC/EU has passed many directives (supranational legislation directed at Member States and requiring implementation in national laws), and various directly applicable regulations, which related mostly to supranational legal forms.
[114] This discussion is reminiscent of the economic debate which preceded the introduction of the euro, where two opposing theories (coronation theory and cornerstone theory), confronted each other. In: Fleischer (n 112) 1691.
[115] Gelter M (2017) 'EU Company Law Harmonization between Convergence and Varieties of Capitalism'. ECGI Law Working Paper N° 355/2017, 2-3.
[116] Lohse E. J (2011) 'The Meaning of Harmonization in the Context of European Union Law: A Process in Need of Definition'. In: Andenas M & Andersen C. B. (eds), *Theory and Practice of Harmonisation.* Elgar. 313.

goal of ensuring such safeguards equal across the EU.[117] Nonetheless, this meaning of harmonisation is not clear since it is unavoidably dependent on political assessments of what constitutes the *necessary extent* of the coordination.[118] This may be linked with the principles of subsidiarity and proportionality, which are open-ended and fundamentally political,[119] leaving considerable scope for radically divergent perspectives about what has happened at the EU level in the field of company law.[120]

According to the anti-literal and extensive meaning, harmonisation is frequently used as a synonym for uniformity amongst the company laws of the Member States, which is an intermediate objective that proponents of this view see as intrinsically instrumental to market integration.[121] However, it is unlikely to achieve the aim of making company laws throughout the EU uniform, due to the lack of consensus or political will and the insurmountable divergence in national legal ground rules.[122] In contrast, based on the narrow etymological meaning of harmonisation, the company laws of Member States seem to fit together, thus making EU company law to be harmonised to a large extent. Mutual recognition of companies is possible regardless of where they operate. For instance, re-incorporations are a choice for businesses that already work in the EU, organisational arbitrage albeit not unhampered is also feasible, and incorporation under different company law for foreign businesses is no longer an issue for cross-border traders in the EU.[123] In this respect, significant progress has already been accomplished in the sphere of company law, which is instrumental to TFEU's market integration ambition.[124] Therefore, the etymological meaning of harmonisation could reflect appropriately the interplay of supranational and national laws needed for the design of partially harmonised rules of the cluster organisation of agro-food SME clustering.

From its origins in the 1960s to the present, the evolution of EU company law may be regarded as reflecting two different phases of convergence in corporate law, each approximately tied to the success of a specific model of capitalism that seemed to prevail at the corresponding time.[125] The first phase was marked by a corporate law vision, influenced mainly by continental jurisdictions, which belongs to a variety of capitalism based on *coordinated market economies*, where the maximisation of shareholder value was not yet the main goal of

[117] Article 50(2)(g) TFEU – The larger goal was that shareholders, creditors, and other third parties interacting with firms across intra-European borders should be able to rely on a single set of minimum standards. In Gelter (n 115) 5.
[118] Edwards V (1999) *EC Company Law*. Clarendon Press. 8.
[119] Weatherill S (1995) *Law and Integration in the European Union*. Clarendon Press.
[120] Enriques L (2017) 'A Harmonized European Company Law: Are We Already There?'. ICLQ 66, 763–777:765.
[121] Ibid 764.
[122] Ibid 770-773.
[123] Ibid 764.
[124]]Ibid 777.
[125] Gelter (n 115) 3-4.

corporate law.[126] In particular, the early harmonisation project of EU company law was relatively determined by practical factors, such as the interaction of businesses with third parties. For example, a two-tier board structure would be necessary as the Commission's initial goal was to implement employee representation in EU-based companies.[127] This model relies on strategic coordination via the interaction of aggregated interest groups with a long-term perception,[128] and hence it seems to contain important elements that could be useful underpinnings for the development of the law for agro-food SME clusters as commons in the EU.

On the other hand, in the second phase, which began in the late 1990s and continues today, harmonisation efforts are focused on competition and individual market transactions. Specifically, they are influenced by liberal capitalism, namely a variety of capitalism based on *liberal market economies* that are geared towards shareholders and growingly the stock markets.[129] The reason is that the EU is a *victim* of the worldwide success of the Anglo-Saxon ideology of agency theory, which supports shareholder-centred corporate law.[130] A typical example is the formation of corporate governance codes that were influenced by the British *comply or explain* paradigm throughout the European continent.[131] Thus, the current approach of EU company law may not offer an appropriate legal environment for the emergence of agro-food SME clusters as commons throughout the EU regions.

Indeed, several developments assisted to boost EU company law harmonisation from the late 1990s towards liberal capitalism, such as the case law on the freedom of establishment. In *Centros*, *Inspire Art* and *Überseering*,[132] the CJEU considered the benefits for the creditors as doubtful,[133] and found the national limits on relevant business operations were in breach of the freedom of establishment.[134] In practice, these CJEU rulings have resulted in a proliferation of pseudo-foreign businesses through the formation of private limited liability companies in England and Wales.[135] Additionally, the 2003 and 2012 EU action plans of company law[136]

[126] Hall P (2001) 'An introduction to varieties of capitalism'. In: Hall P & Soskice D (ed.) *Varieties of capitalism-The institutional foundations of comparative advantage*. (OUP) 1-68.
[127] Gelter (n 115) 18.
[128] Johnston A (2009) *EC Regulation of Corporate Governance*. (CUP) 143.
[129] Gelter (115) 4.
[130] Robé J. P (2016) 'The Shareholders Rights Directive II The wrong cure for a deadly disease'. ERA Forum 17:45–55.
[131] The purpose of "comply or explain" is to "let the market decide" whether a set of standards is appropriate for individual companies, Mathias M (2008) *Convergence in Shareholder Law*. (CUP).
[132] Case C-212/97 [1999] ECR *I-01459;* Case C-167/01; Case C-208/00.
[133] Armour J (2000) 'Share Capital and Creditor Protection: Efficient Rules for a Modern Company Law'. Modern Law Review 63, 355-378.
[134] See Chapter 1.
[135] Roth G. H & Kindler P (2013) *The Spirit of Corporate Law*. Munich: C.H. Beck. 39.
[136] European Commission, Communication 'Modernising Company Law and Enhancing Corporate Governance in the European Union - A Plan to Move Forward', COM (2003) 284 final; European Commission, Communication 'Action Plan:

were resolutely focused on the aspect of corporate law and governance that ensures enhanced shareholder rights, since their main goal was to establish minimum requirements for shareholders in publicly listed companies. In general, the evolution of EU company law during the 21st century has taken a completely different path than the early harmonisation project, with the majority of the new legislation aimed at the development of capital markets, such as the Shareholder Rights Directive, the Takeover Directive and the IFRS Regulation.[137]

Member States' legislative capacity is gradually authorised by rules of transnational economic law, and thus is exposed to foreign competitive pressures. Given that the Member States are competing to attract and maintain confined economic resources, a new kind of market emerges that is based on *regulatory competition*.[138] However, any market rests on institutional structures,[139] namely they are *instituted* systems,[140] which could not function without specific normative foundations. Specifically, markets serve purposes and values that should not be simplified to the logic of the shareholder-centred model which focuses only on wealth maximisation. Therefore, potential outcomes derived from the relationship between agro-food SME clustering and regulatory competition of EU company law could be highly reliant on how the relevant rules are designed.

Regulatory competition can be described as a way via which 'legal rules are selected and de-selected through competition between decentralised, rule-making entities, which could be nation-states, or other political units, such as regions or localities'.[141] Since it eschews a centralised dominant regulator imposing rules and encourages diversity and experimentation in the pursuit of effective legislation, regulatory competition may have beneficial effects on the supranational form of the cluster organisation. Interestingly, based on the *pure theory* of local expenditure,[142] regulatory competition reflects spontaneous factors that would attempt to dissuade governments from passing legislation that imposes an unsuitable regulation level.[143] However, regulatory competition tends to depict the paradigm of unfettered competition as the desired objective for institutions and laws. In the real world, this may lead to a necessity for

European company law and corporate governance – a modern legal framework for more engaged shareholders and sustainable companies', COM (2012) 740 final.

[137] Pargendler M (2016): 'The Corporate Governance Obsession'. Journal of Corporation Law 42, 359-402:380-381; See IFRS Regulation: International Financial Reporting Standards

[138] Deakin S (2006) 'Legal Diversity and Regulatory Competition: Which Model for Europe?' European Law Journal, 12(4) 440-454:440.

[139] Supiot A (2000) 'The dogmatic foundations of the market'. 29 Industrial Law Journal 321–345.

[140] Polanyi K (1957) 'The economy as instituted process'. In: Polanyi K et al. (eds.*) Trade and Market in the Early Empires* Free Press. 243–270.

[141] Deakin (n 138) 441. This is the explanation for the rules in the *Centros* case that fall under Art 49 TFEU on the freedom of establishment.

[142] Tiebout C (1956) 'A pure theory of local expenditure'. 64 Journal of Political Economy 416.

[143] Ibid.

competitive federalism, namely for a federal or transnational authority that would oversee the competition process among lower-level bodies.[144]

Competitive federalism uses legal mechanisms to realign the real world and the pure theory by deploying selected institutional interventions to balance supply and demand for laws.[145] The idea of competitive federalism, where there is a removal of barriers related to interstate mobility in a minimally harmonised regulatory environment, tends to result in a significant level of convergence towards a single and dominant model.[146] This is the *Delaware effect* that came to Europe from the US as a model for a market for incorporations. In particular, the CJEU paved the path for a European counterpart of the Delaware effect by deciding in Centros,[147] that state-level limitations to choosing national law applicable to a company may be a breach of the freedom of establishment.[148]

Competitive federalism theory can be invoked to support harmonisation in instances of negative externality caused by imperfect competition. Harmonising laws at the federal level, however, may generate issues owing to the damaging impacts of politically driven rent-seeking over distribution.[149] In the absence of control at the lower levels that could restrain rent-seeking, it is impossible for this model to allow regulatory competition. It would not therefore achieve to balance of legal decision-making between centralised and decentralised levels throughout the EU,[150] and may be compatible with the commons approach of the cluster organisation in agro-food SME clusters. As a result, it could be important to encourage a particular type of regulatory competition for agro-food SME clustering, where harmonisation of standards may provide the conditions for efficient rule-making systems under which local diversity is preserved.

ii - Reflexive harmonisation as a model of flexibility

Regulatory competition may play an important role in company law harmonisation in the EU by making spaces conducive to local experimentation and adaptation. This is about the

[144] Deakin S & Adams Z (2015) 'Freedom of Establishment and Regulatory Competition'. In: Chalmers D & Arnull A (eds.) *The Oxford Handbook of European Union Law*. OUP. 540.
[145] Deakin S (1999) 'Two Types of Regulatory Competition: Competitive Federalism versus Reflexive Harmonisation. A Law and Economic Perspective on Centros'. 2 Cambridge Y.B. Eur. Legal Stud. 231, 236-241.
[146] Ibid 232.
[147] Case C-212/97 [1999] ECR *I-01459.*
[148] Deakin & Adams (n 144) 542-544.
[149] Van den Bergh R (1994) 'The subsidiarity principle in European Community law: some insights from law and economics'. 1 Maastricht Journal of European and Comparative Law 337.
[150] Ibid.

model of *reflexive harmonisation*,[151] which could work as an alternative to competitive federalism,[152] and thus may constitute a suitable solution for the agro-food SME clusters as commons across the EU regions. This model would be based on the perception that competition may not ensure a situation where prosperity is maximised, but 'a process of discovery through which knowledge and resources are mobilised, the end point of which cannot necessarily be known'.[153] This sort of competition is reliant on normative aspects that bring *particularities* and *generalisations* into an equilibrium,[154] thereby establishing a balance between the local actors' autonomy and the efficacy of learning mechanisms based on observation and experience. Consequently, preserving diversity at the local level could be critical for the commons approach of agro-food SME clustering, as a lack of it limits the scope of knowledge upon which the learning process is constructed.

The observation that is 'hidden in the historical experience of economic integration',[155] can become a crucial feature of *system dynamics*,[156] where the differences between systems constitute *imperfections*,[157] which are the foundations for learning that emerges in a broad framework. This idea is based on the concept of co-evolution in the biological sciences, in which diverse systems are able to coexist in one ecosystem, with each maintaining its own viability.[158] Similarly, in the EU, reflexive harmonisation can enable rules to be adapted to local environments and preferences, at a national and regional level, whereas maintaining variety at the wider level of the supranational system. In this way, an EU-wide legal status for the cluster organisation, which would be designed in accordance with the particular regulatory style of reflexive harmonisation, may be tailored to the extremely divergent regimes operating within the EU.

The model of reflexive harmonisation in the EU has a strong resemblance to the open method of coordination (OMC) which has affected employment policy and a variety of other fields. The key distinction however is that, unlike the OMC, reflexive harmonisation includes

[151] This term was developed first by Rogowski, see Rogowski R & Wilthagen, T (eds.) Reflexive Labour Law (Kluwer, 1994).
[152] Deakin (n 145) 231–260.
[153] Deakin S (2009) 'Reflexive Governance and European Company Law'. *European Law Journal*. 15(2) 224–245.
[154] Sugden R (1997) 'Spontaneous order'. In: Newman P. *The New Palgrave Dictionary of Economics and the Law*. Macmillan 3, 485–495: 487.
[155] Paqué K.H (1997) 'Does Europe's Common Market need a social dimension? Some academic thoughts on a popular theme'. In Addison J. T & Siebert W. S. (eds.*) Labour Markets in Europe: Issues of Harmonisation and Regulation* . Dryden. 109.
[156] System dynamics is an approach to understanding the nonlinear behaviour of complex systems over time. System dynamics has found application in a wide range of areas, for example population, agriculture, ecological and economic systems, which usually interact strongly with each other.
[157] Neo-Austrian / Hayekian economic analysis.
[158] Teubner (n 40) 52.

the use of directives that have specific legally enforceable implications.[159] Reflexive forms of governance cannot therefore be considered as a *third way* between the standardisation and fragmentation of laws, but rather as a bridge between regulatory competition and harmonisation.[160] Specifically, the primary goals are to safeguard the autonomy and diversity of national and local rule-making structures, as well as channelling the process of adjusting rules to a higher level 'away from *spontaneous* solutions that would lock in sub-optimal outcomes, such as a *race to the bottom'*.[161]

Essentially, reflexive harmonisation stems from the theory of reflexive law, which seeks to transcend a simple dichotomy between *instrumentalist* theories of regulation and *deregulatory* theories that argue for the elimination of all external regulatory constraints.[162] In the field of EU labour law, for instance, a level of convergence and a coordinated rising of standards were attained by the uniting of the OMC with the social policy directives of the late 1990s to promote state-level answers to the Commission's aspiration for a greater balance of flexibility and social protection aims.[163] As there was no dilemma between formal and informal choices, EU labour law took advantage of the flexibility provided by the OMC in conjunction with the social dialogue process for law-making to advance diverse and local-level initiatives to regulatory issues by establishing an environment conducive to the emergence of autonomous solutions. Directives on labour law are an excellent illustration of this, as they are mainly construed as establishing key standards in the form of a *floor of rights*.[164] While down deviation was not allowed, the Member States were permitted and tacitly encouraged to improve the centrally defined standards.[165] Nevertheless, the Member States changed direction on domestic welfare state systems in accordance with the restrictions imposed by the EU's financial stabilisation agenda, which emerged in the wake of the global financial crisis.[166]

The experience of EU labour law at the turn of the century demonstrated the effectiveness of reflexive harmonisation, which could be an appropriate model for EU company law in identifying an EU-wide legal status based on the commons approach for the cluster organisation of agro-food SME clustering. It is noteworthy that there is no need to

[159] Deakin S (2006) 'Is regulatory competition the future for European integration?'. Swedish Economic Policy Review 13. 71-95:89.
[160] Deakin (n 153) 229.
[161] Deakin (n 159) 445.
[162] Teubner (n 40) 52.; Rogowski R & Wilthagen T (eds.) (1994) *Reflexive Labour Law* Kluwer.
[163] Deakin (n 153) 244.
[164] Kenner J (2003) *EU employment law: from Rome to Amsterdam and beyond*. Hart Publishing.
[165] Deakin (2006) Legal diversity and regulatory competition: which model for Europe? Centre for Business Research, University of Cambridge Working Paper No. 323:14.
[166] Deakin S & Rogowski R (2011) 'Reflexive Labour Law, Capabilities and the Future of Social Europe'. University of Warwick School of Law Legal Studies Research Paper No. 2011-04, 3.

institutionalise one single *best* solution because the diversity of systems should be an end in itself,[167] so that a broad range of possible answers to common regulatory issues could arise for the supranational legal form of the cluster organisation. As the legal basis for the EU's competence to intervene in the field of company law, Article 50 TFEU can render aspects of uniformity in rules, safeguarding the rights of cluster organisation stakeholders, to be required in order to prevent a race to the bottom. Certainly, Article 114 TFEU empowers the EU to enact *measures for the approximation* of national legislation in the context of the internal market. Under Article 352 TFEU, these measures should be in accordance with the objectives set out in the Treaty, even if it does not explicitly provide the necessary powers. Therefore, regulatory interventions for the EU-wide legal supranational form of the cluster organisation could combine external regulation with self-regulatory processes so that the agro-food SME clusters can operate as commons. In this way, it might be feasible to undergird and stimulate autonomous adjustment processes, especially through supporting mechanisms for group representation and participation, such as the hybrid forums of stakeholders.[168]

B - EU-wide legal status for the cluster organisation

i - Multi-stakeholder governance and referential technique of regulatory competition

Reflexive harmonisation could offer a degree of flexibility that would be crucial for the EU-wide legal form of the cluster organisation to be consistent with the design principles, which emerge from commons research and can be applied in corporate law.[169] Hence, this supranational legal status could depend on multi-stakeholder governance rather than shareholder primacy, and place a high emphasis on autonomy for internal rule-making processes and respect for local democratic choices.[170] To be in accordance with the legal diversity offered by the model of reflexive harmonisation, the EU-wide legal form may be drafted based on the *referential technique* of regulatory competition. This approach is opposed to the other type of legislative technique, which is the *complete statute* of regulatory competition that 'arises when EU law puts a complete statute at the disposal of a supranational corporate form'.[171] Instead, the referential technique may take into consideration various

[167] Deakin (n 138) 444.
[168] See above.
[169] See above.
[170] See above.
[171] Fleischer (n 112) 1702.

sensitive areas of legal diversity by selecting from a wide range of legislative references for an EU-wide legal status, including applicable subsidiary rules as established by national and local bodies.[172] Therefore, partially harmonised rules could only be concentrated on the key elements of the cluster organisation of agro-food SME clustering, leaving other areas of regulation to national and local rules.

This legal approach for the cluster organisation may possess some similarities with the regulatory framework of the Societas Unius Personae (SUP), which is a legal form for a single-member private limited liability company proposed by the Commission.[173] The proposal is based on Article 50 TFEU which is the legal foundation for the EU's competence to act in the field of company law, in order to achieve its objective via the independent adoption of identical rules by the Member States.[174] Thus, recourse to Article 352 TFEU is not necessary,[175] as it did with the proposal for the abandoned project for a Societas Privata Europaea (SPE),[176] which was the SUP's predecessor.[177] The new proposal leaves space for the application of national rules,[178] but retains its character as a harmonising instrument because the Commission asks 'Member States to provide in their legal systems for a national company law that would follow the same rules in all Member States and would have an EU-wide abbreviation'.[179] However, because of the rigid one-member requirement,[180] the SUP is in discrepancy with the concept of broad participation of the commons approach, which may be absolutely crucial for the proposed multi-stakeholder nature of the cluster organisation.

In contrast, the SUP's predecessor, the SPE, was designed to have more than one member as shareholders with 'a large degree of freedom to determine matters relating to shares, in particular the rights and obligations attached to shares'.[181] The possibility for several members to participate may be consistent with the agro-food SME clustering, where SMEs, research centres, public bodies and more may be members of the cluster organisation. These participants could contribute to its multi-stakeholder governance in order for the agro-food SME clusters to operate as commons. According to the SPE proposal, any transfer restriction or prohibition

[172] Ibid 1700-1703.
[173] Proposal for a Directive on single-member private limited liability companies COM(2014) 212 final.
[174] Ibid 5.
[175] See above.
[176] Proposal for a Council Regulation on the Statute for a European private company COM(2008) 396/3.
[177] By relying on Art. 50 TFEU rather than Art. 352 TFEU as the legal basis for the SUP, the Commission found an innovative way to avoid the difficult political debate that forced it to abandon the SPE Proposal'. In: Malberti C (2015) 'The Relationship between the Societas Unius Personae Proposal and the Acquis: Creeping toward an Abrogation of EU Company Law' 12 ECFR 238:243.
[178] SUP proposal, Article 7.
[179] SUP proposal, Article 3.
[180] SUP proposal, Article 15(3).
[181] SPE proposal, Article 14.

needs a qualified majority decision,[182] which requires the consent of each affected shareholder in order to safeguard the minority shareholders' interests.[183] In addition, the expulsion and the withdrawal of a shareholder are allowed under specific circumstances.[184] Nonetheless, its complete statute was supposed to be 'uniform and definitive' and to 'dispense with references to national law'.[185] This is because it was intentionally designed as an alternative to the referential technique of regulatory competition that fits the model of reflexive harmonisation, which promotes diversity of national or local rule-making systems.[186]

ii - Social-oriented form, 'ex novo' and separate business unit without cross-border requirements

The participation of many members in a supranational entity, such as the SPE, and the flexible legal basis of the referential technique of regulatory competition, similar to the SUP, may constitute key elements for designing the EU-wide legal form in line with the commons approach of the cluster organisation. Both of those elements constitute basic characteristics of each of the distinct existing EU business entities, such as the European Economic Interest Grouping (EEIG), Societas Europaea (SE) and Societas Cooperativa Europaea (SCE). It is worth mentioning that additional elements that may fit the proposed EU-wide legal status of the cluster organisation could be identified among the characteristics of the existing EU business entities, so that the agro-food SME clusters may operate as commons across the EU regions.[187]

In particular, the EEIG is distinguished as the first business form created by EU law,[188] with a legislative direction that is mainly targeted toward SMEs,[189] Likewise, the primary orientation of the cluster organisation may be to consist of business members that are SMEs participating in agro-food SME clustering. The EEIG is characterised as lightweight in partnership law because it is a particular legal entity designed to promote business cooperation,

[182] SPE proposal, Article 27.
[183] SPE proposal, Article 36.
[184] SPE proposal, Article 17 & Article 18.
[185] European Parliament, (2006) Report with recommendations to the Commission on the European private company statute, document n. A6-0434/2006 (2006) 5.
[186] See above.
[187] The Commission presented also relevant proposals for other EU legal forms, which were not established: the European foundation (FE), European mutual society (ME) and European Association.
[188] EEIG Regulation, Regulation (EEC) No 2137/85 – the European Economic Interest Grouping.
[189] EEIG Regulation, Article 3-4.

which is more structured than a joint venture but not as substantial as a business merger.[190] The EEIG's scope of action, however, is quite limited, since the EEIG Regulation does not provide to it the status of a distinct business unit, but merely permits it to perform auxiliary activities.[191] The Ecotrophelia Europe,[192] for example, which is one of the thousands of EEIGs operating throughout the EU, creates connections in the food industry via innovation and entrepreneurship, without having the status of a separate business unit. It only exercises auxiliary functions that facilitate cooperation and interaction between SMEs and research institutes, universities, and commercial and governmental agencies engaged in food innovation. Additionally, the EEIG's actual form may differ significantly across the Member States as the EEIG Regulation itself essentially sets a basic legal framework to be supplemented by the implementing legislation of the Member States.[193] Due to this type of referential technique, the EEIG Regulation demonstrates a limited regulatory depth, addressing only the establishment, existence and internal structure of the EEIG at the EU level, whereas referring for all other matters to the national legislation of the Member State in which the official address is situated.

In contrast, the SE and SCE are supranational entities with EU-wide legal status of a separate business unit,[194] which offer a higher degree of stability than the EEIG's structure. Accordingly, the cluster organisation could, as a separate business unit, be a stable and effective network centre of connected contracts of SMEs in the agro-food SME clusters. By adopting the referential technique of regulatory competition, both the SE and the SCE are regulated by a combination of different laws rather than a single set of legal rules. In particular, both the SE Regulation and the SCE Regulation establish a pyramid of legal sources. As the first source, each Regulation is integrated in addition to the provisions of the statutes where expressly authorised by each Regulation itself and the national provisions of the Member State in which the SE or the SCE has its registered office.[195] More specifically, the SE is considered as a European high-status project, because of its significance for legal policy in EU company law.[196] However, it is primarily conceived as an instrument for large businesses, as evidenced by the

[190] Murphy D. T (1990) 'The European Economic Interest Group (EEIG): A New European Business Entity'. Vand. J. Transnat'l L. 23 (1990): 65: 68.
[191] EEIG Regulation, Article 2.
[192] Ecotrophelia (2022) <https://eu.ecotrophelia.org/en/eeig-ecotrophelia-europe.>.
[193] EEIG Regulation, Article 2(1).
[194] Regulation (EC) No 1435/2003 of 22 July 2003 on the Statute for a European Cooperative Society (SCE); Regulation (EC) No 2157/2001 of 8 October 2001 on the Statute for a European company (SE).
[195] SE Regulation Article 9, SCE Regulation Article 8.
[196] Kenner J (2005) 'Worker involvement in the Societas Europaea: integrating company and labour law in the European Union?'. Yearbook of European Law. 24. 257-258.

high minimum capital requirement,[197] despite the fact that the SE Regulation mentions the possibility of SMEs forming SEs.[198] It is noteworthy that eight of SEs lie currently in the Euro Stoxx 50, which is the stock market index of leading eurozone companies.[199]

In addition, the SCE, which is considered as a socio-political tag-along in EU law, shares its history with the SE and adopts a similar regulatory paradigm as the SE Regulation.[200] It therefore follows the referential technique of regulatory competition, thus relying to a large extent on national law.[201] In this way, standardisation of cooperative laws is avoided for the SCE, which may 'as easily be thought of as a modified stock corporation, as a special trade association or a non-profit cooperative'.[202] Unlike capitalistic companies, the SCE focuses on serving the mutual needs of its stakeholders, such as employees, suppliers, customers and more, by developing their economic and social activities.[203] The Westfleisch, for example, which is one of the most successful meat marketers in the EU, has developed cooperative initiatives in order to serve the needs of about 7,500 employees and more than 4,700 farmers that are members and owners of participating businesses. This SCE focuses strongly on people, the environment and society by taking care of its employees and members, offering employee shareholdings, increasing animal welfare, ensuring quality control and guaranteed freshness, as well as providing greater security for farmers and better integration of local interests on-site.[204] The social-oriented form of SCEs could constitute a key element for the cluster organisation to be consistent with the eight design principles of agro-food SME clusters as commons. The commons approach is also strengthened due to the SCE's emphasis on democratic self-governance in accordance with the principle of 'one man one vote'.[205] Due to its participatory management structure,[206] the SCE could be considered an 'excellent example of company type which can simultaneously address entrepreneurial and social objectives'.[207]

Another characteristic of the SCE that could be important for the cluster organisation is related to methods of creation. Specifically, the SCE can be formed *ex novo*,[208] from the

[197] SE Regulation, Article 4(2).
[198] SE Regulation Recital 13.
[199] SEs in Euro Stoxx 50: Airbus, Allianz, BASF, LVMH Moët Hennessy Louis Vuitton, SAP, Schneider Electric, TotalEnergies, Vonovia. In: <https://www.stoxx.com/index-details?symbol=SX5E>.
[200] Fleischer (n 112) 1677-1678.
[201] SCE Regulation, Article 8.
[202] Fleischer (n 112) 1677.
[203] SCE Regulation, Article 1(3).
[204] West Fleisch (2022) <https://www.westfleisch.de/home/?L=2.>.
[205] SCE Regulation, Article 59.
[206] SCE Regulation, Article 4(11).
[207] European Commission 'On the Promotion of Co-Operative Societies in Europe'. COM (2004) 18 final, 23 February 2004. 14.
[208] European Commission 'The application of Council Regulation (EC) No 1435/2003 of 22 July 2003 on the Statute for a European Cooperative Society (SCE)'. COM(2012) 72 final. 12.

beginning of the business activity, which may be a basic element for the emergence of the agro-food SME clusters across the EU regions. Thus, whereas the SE Regulation can be used to reorganise and restructure existing businesses,[209] the SCE Regulation goes further and succeeds to establish new business entities through the referential technique of regulatory competition. In addition, despite a similar structure regarding the interplay between supranational and national laws, the SCE Regulation gives SCE's founders more freedom in tailoring the rules to their needs, as well as covering more areas relating to the structure and operation of the SCE than the SE Regulation does for the SE. [210] Accordingly, national lawmakers' decisions are more likely to shape the general characteristics of a SE than those of a SCE where margins of discretion unconnected to national laws are more expanded and the drafters of legislation are given more authority. Consequently, SCE Regulation provides a greater link between supranationality and flexibility than the SE Regulation, thus offering the founders of a SCE a stronger enforceable right that could be a useful element for the formation of the cluster organisation.

Nevertheless, the statute for the SCE requires there to be a cross-border element in the relevant companies. In particular, the cross-border requirements are set out in SCE Regulation in order for the SCE to have a branch office or a subsidiary or any other cross-border element in another Member State.[211] The LiM Living in Metropolises is, for example, a SCE that develops tasks arising in the areas of cooperative housing and urban development in various EU countries, such as France, Finland, the Netherlands, Austria, Germany, Latvia, Ireland and Spain.[212] The cross-border requirement might be an obstacle for the cluster organisation, however, because the agro-food SME clustering in the EU regions may concern business initiatives that could focus on supporting local SMEs and strengthening local economies.[213]

As regards other EU-wide legal forms, EEIG Regulation mandates that the EEIG must have at least two members from different Member States.[214] For instance, Agrinatura is an EEIG focusing on agricultural research with thirty-five members that are research institutions and universities from sixteen EU countries.[215] It is also noteworthy that EEIG Regulation requires the mandatory dissolution of the EEIG by a decision of the members if the cross-

[209] SE Regulation, Recital.
[210] For instance, the SE is governed by the national provisions applicable to public limited companies with regard to shares, bonds and similar securities, (SE Regulation, Article 5) while the SCE Regulation directly specifies that more than one class of shares may be issued, and leaves the statutes free to establish the different entitlements concerning the distribution of surpluses. (SCE Regulation, Article 4).
[211] SCE Regulation Article 2(1), Article 73(1).
[212] LiM (2022) <https://lim-coop.eu/en/.>.
[213] See Chapter 7.
[214] EEIG Regulation Article 4(2).
[215] Agrinatura (2022) 'Introduction'. <https://agrinatura-eu.eu/our-work/introduction/.>.

border criteria are no longer met.[216] Concerning SE, the cross-border requirement is a precondition to SE formation,[217] as is evidenced by the large SE multinationals of Airbus, Allianz and more. However, it is not compulsory for the SE to continue its existence in different countries, because the SE Regulation does not contain a similar provision to relevant provisions in EEIG Regulation[218] and SCE Regulation.[219]

Conversely, the decision of the Commission not to incorporate a cross-border element either in the draft for SPE Regulation or in the proposal for the SUP Directive, shows that it could be feasible for the cluster organisation to be structured without cross-border requirements. Article 352 TFEU may continue to be the appropriate legal basis when the EU legislator does not explicitly require a cross-border element for the establishment of supranational entities.[220] The CJEU judgement on the statute of the SCE stated that the conditions set out in Article 352 TFEU can be accomplished, notwithstanding the fact that SCE Regulation heavily relies on national legislation.[221] Finally, the CJEU judgements on Article 114 TFEU demonstrate that relying on this legal basis does not imply the presence of a distinctive cross-border feature in every circumstance addressed by the measure based on this basis.[222]

iii - Purpose-bound structure, legal personality and establishment of hybrid forums

Regarding the corporate purpose, the cluster organisation may adopt a purpose-bound structure, which could serve the multi-stakeholder nature and the eight design principles of the commons approach for agro-food SME clustering. It may be similar to the permissible purpose of the SCE, which is to satisfy its members' needs and foster their socio-economic activities.[223] Also, the EEIG also is purely purpose-bound because it must support its members' economic activities, but without making a profit to it.[224] In contrast, the SE, SPE and SUP are open-purpose structures because they are designed to be able to engage in any economic activity.

[216] EEIG Regulation Article 31(3).
[217] SE Regulation Article 2(1)-(4).
[218] EEIG Regulation Article 31(3).
[219] SCE Regulation Article 73(1).
[220] Hopt K. J (2015) 'Corporate Governance in Europe: A Critical Review of the European Commission's Initiatives on Corporate Law and Corporate Governance'. New York University Journal of Law & Business. 12(1) 139-213: 182-185; Fleischer (n 112) 1708.
[221] Case C-436/03, *European Parliament v. Council of the European Union*, [2006] ECR I-3733, para 26.
[222] See Joined Cases C-465/00, C-138/01 & C-139/01, *Rechnungshof (C-465/00) v Österreichischer Rundfunk and Others and Christa Neukomm (C-138/01) and Joseph Lauerman*n [2003] ECR I-4989, para 41.
[223] SCE Regulation Article 1(3).
[224] EEIG Regulation Article 3(1).

With regard to the object of the cluster organisation, EEIG Regulation could constitute a suitable model for this. Although the meaning and operation of company objects are not clarified in EU company law, EEIG Regulation states that the formation of a EEIG must include its corporate object.[225] The EEIG must also be disbanded by the decision of its members when its object is achieved or can no longer be pursued.[226]

Furthermore, similar to other EU-wide legal forms, the cluster organisation could have its own legal personality that may offer a form of legal capacity, which could underpin its economic and organisational capability to work effectively as a network centre of agro-food SME clustering. The EU avoided the question of legal personality's doctrinal background by simply granting legal personality to the SCE, SE, SPE, and SUP. Even for the EEIG, an effective solution was found, in which EEIG Regulation offers the legal capacity to the EEIG while leaving it up to each Member State to choose to grant legal personality to the EEIGs registered there. [227] Due to the local character of agro-food SME clustering in each EU region, the cluster organisation should support the local economy by having a registered office and a head office in its EU region and, hence, in its Member State. This is consistent with the SE and SCE that show a similar tendency,[228] and partially consistent with the EEIG which must be located at the site of its central administration or where one of its members' principal activities take place.[229] On the contrary, the SPE and SUP would not be under any obligation to have registered and head offices in the same Member State.[230]

Due to the multi-stakeholder governance of agro-food SME clustering,[231] the EU-wide legal status of the cluster organisation could be based on the dynamic approach, in which the output of the hybrid forums would be suitable to all stakeholders. Accordingly, this output may serve as a way of resolving disagreements, so that the agro-food SME clusters may effectively operate as commons under the model of reflexive harmonisation throughout the EU regions. Furthermore, the hybrid forums could offer valuable insights into how constructivist methods may be utilised to better align business actions with the common good.[232] Therefore, an appropriate institutional framework for the supranational legal entity of the cluster organisation

[225] EEIG Regulation Article 5.
[226] EEIG Regulation Article 31(2)(b)
[227] EEIG Regulation, Article 1(3).
[228] SE Regulation Article 7 & Article 64; Article 6(1) SCE Regulation
[229] EEIG Regulation, Article 12.
[230] Proposed SPE Regulation Article 7(2); SUP Proposal Article 10.
[231] See above.
[232] Callon, M (2008) 'An Essay on the Growing Contribution of Economic Markets to the Proliferation of the Social'. Theory Culture Society. 24, 139-163.

could enable, via corporate governance, stakeholders' interests to be safeguarded in a dynamic rather than a static manner.

The SCE, SE and SPE have adopted elements regarding employee involvement with participating rights.[233] It is noteworthy that 'the SE framework, uniquely at Community-level, links company law and labour law in an integrated fashion by requiring an element of worker involvement in the enterprise as a precondition'.[234] While the SPE would be subject to the rules on employee participation in the Member State where it has its registered office,[235] the SE and SCE have taken a step further by enacting two supplementary directives on employee involvement.[236] Both directives stipulate that the specific way of employee involvement in each SE or SCE must be discussed and decided principally by agreement between the companies' management and administrative organs and employee representatives.[237] Similarly, the affected stakeholders of agro-food SME clusters, such as employees, may have the rights to participate in information, consultation and decision-making by the law, which may require the cluster organisation to establish regular hybrid forums. In this way, all stakeholder groups could be able to meet with the management team of the cluster organisation to identify the real or potential effects of business actions on them and provide appropriate solutions to such effects.

Conclusion

This chapter argues that the creation of an EU-wide legal status for the business entity of the cluster organisation could be based on a specific legal form in order for agro-food SME clusters to operate as commons. According to the economic theory of the commons in natural resources, the governance framework in the common-property systems reflects the presence of collectively owned rights of access, withdrawal, management, exclusion and alienation. As there is a considerable degree of continuation between business and the commons in natural resources, various stakeholders of cluster organisations can possess this kind of rights. Unlike the shareholder-centric model, the governance framework of the cluster organisation could have a larger reach by including vulnerable stakeholders to opportunism. However, important barriers hinder them from protecting their interests since it is often difficult to prove the uncertain and vague social costs that affect society. Thus, by adopting a dynamic approach,

[233] SCE Regulation, Article 1(6), SE Regulation, Article 1(4), SPE proposal, Article 34.
[234] Kenner (n 196) 224.
[235] SPE Proposal, Article 34.
[236] SE Directive 2001/86/EC; SCE Directive 2003/72/EC.
[237] SCE Directive Articles 3 to 7; SE Directive Articles 3 to 7.

affected stakeholder groups from business activities can be identified on an ongoing basis through a reflexive process of constructing social costs. Those groups would negotiate in hybrid forums their own identities and interests, as well as concerns relating to business externalities.

The legal form of cluster organisations could ensure that the hybrid forum output would be appropriate for settling disagreements among affected stakeholders so that the agro-food SME clusters may operate as commons. To cover the institutional void for this purpose, the law for the commons may be produced and used in dealing with the government innervations and market forces. Specifically, a set of design principles, which has been identified to guarantee the sustainability of shared natural resources, could be used to inform the institutional design for cluster organisations. As a cross-sectoral EU-wide project, the agro-food SME clustering as commons may adopt elements from the capitalism model of coordinated market economies. Accordingly, the legal form of the cluster organisation could be based on a partially harmonised legal framework at a supranational level, where the company laws of Member States seem to fit together through the process of regulatory competition. This can lead however to a necessity for competitive federalism, which may tend towards a single and dominant model via the Delaware effect in the EU. As an alternative, the model of reflexive harmonisation could play an important role in the commons approach of agro-food SME clustering as it can create the conditions for capable rule-making systems that preserve local diversity. Therefore, regulatory interventions for the EU-wide legal status of the cluster organisation could combine external regulation with self-regulatory mechanisms through group representation for agro-food SME clusters to operate as commons.

To design the supranational form of the cluster organisation, this chapter identifies suitable legal elements, which are stemming from the legal forms of existing and proposed EU business entities, such as the EEIG, SE, SCE, SPE, and SUP. In particular, its EU-wide legal status should depend on multi-stakeholder governance and be designed in accordance with the legal approach of the referential technique of regulatory competition. Thus, the legal form of the cluster organisation could be a social-oriented separate business unit designed from the beginning of the business activity without cross-border requirements. The cluster organisation may also adopt a purpose-bound structure and have its own legal personality, as well as establishing hybrid forums for effective multi-stakeholder governance. Specifically, the supranational form of the cluster organisation could combine these legal elements with self-regulatory processes so that the agro-food SME clusters may operate as commons. This legal form that could reflect appropriately the interplay of supranational and national and local laws

might be particularly challenging because it may change the conventional socio-economic correlations among affected stakeholders across the EU regions

THESIS CONCLUSION

As a new model of prosperity, agro-food SME clustering would be able to contribute to addressing the economic and social consequences arising from multiple crises that Europe has been experiencing during the last fifteen years. To this end, agro-food SME clusters should operate under an appropriate EU legal framework for achieving socio-economic development in the EU regions. In particular, this thesis contends that these business networks could, based on cooperative relationships, play a vital role in the socio-economic transformation of EU regions, by overcoming existing key issues and legal challenges, and addressing competitive pressures for high-quality European agro-food goods. As the main sectors of the agro-food supply chain, agriculture, food processing and food distribution must take advantage of new technologies, global opportunities, and balanced regional development to effectively contribute to agro-food SME clustering. To achieve this, business networks of agro-food SME clusters should operate as commons for the benefit of society and the economy under an EU legal framework based on a combination of contractual networking of SMEs with the cluster organisation that may act as a network centre with an EU-wide legal status.

Research findings

This thesis shows that business clustering through the concept of cooperation can promote entrepreneurship and enhance competitiveness for European SMEs. Specifically, SMEs are able to achieve a relatively high economic performance due to synergy effects derived from cooperative relationships, and thus contribute to increasing the levels of employment and productivity in EU regions. EU institutions have designed several policies to promote entrepreneurship for individuals to create businesses and enhance the competitiveness of SMEs by setting as important priorities their access to finance and their internationalisation. However, the entrepreneurial environment is still unfavourable as Europe faces a prolonged entrepreneurship crisis and critical obstacles, such as the limited budget for SME financing and various legislative issues that cause negative effects on the competitiveness of SMEs. These concerns should be addressed via business clustering of SMEs because it can advance a propitious business environment for entrepreneurs through the creation of external economies and the development of a local cooperative spirit stemming from the spatial and geographical

proximity. Furthermore, business clustering can make SMEs more productive, and therefore more competitive, because the degree of productivity arguably determines the level of competitiveness.

Due to the importance of the clustering of SMEs, the EU has designed a cluster policy to support them, and established institutions for clusters to facilitate cluster organisations to provide a coordinating function as network centres. Nevertheless, this study identifies existing key issues and legal challenges for the emergence and effective operation of these business networks in the EU. In particular, there are only a few high-performing clusters, while the majority of sectoral industries and many regions lack cluster strength, thereby affecting detrimentally the dynamism of cluster organisations. The EU has also low levels of specialisation, which is necessary for a targeted and effective EU cluster policy. To address these issues, a new EU cluster policy should be designed and implemented under a unified system, which can operate within an appropriately regulated environment for the business networks of clusters of SMEs. However, there are crucial legal challenges as the business networks cannot fall under the legal categories of either contracts or corporations, but this distinctive form may be an alternative type of economic organisation based on the conjunction of the vertically integrated firm and mass consumer markets. The members of each cluster such as SMEs, therefore, can be connected via contracts with the corresponding cluster organisation, which would operate as a central company to ensure a stronger form of business networking. This company should be regarded as commons as it can undoubtedly consist of multiple, overlapping and potentially conflicting property rights and claims.

Certainly, it is important for the EU cluster policy to focus on undertaking initiatives in the most competitive sectors of the European economy, which would promote socio-economic development in the EU. This study argues for the effectiveness of the clusters of SMEs associated with the agro-food supply chain. This is because the EU has a leading position as a regulatory power worldwide in the policy domains of environmental and health protection and food safety, which constitute the fundamental determinants that ensure a significant comparative advantage for competitive high-quality EU agro-food goods. As an international organisation with unique nature and particular identity, the EU tends to be a predominant regulatory regime in regulating markets and setting global rules throughout several areas of law. Although various limitations deter the externalisation of EU norms, environmental protection, health and food safety are fields that demonstrate the EU's ability to exercise global regulatory authority. These policy domains distinguish the EU from the rest of the world and

offer significant competitive advantages in sectors of the economy involved in the agro-food supply chain, which could constitute an appropriate area for the clustering of SMEs.

The EU has a robust agro-food supply chain, which consists mainly of agriculture, food processing, and food distribution sectors. This study identifies new technologies, global opportunities, and balanced regional development as important factors for these sectors to support effectively, through agro-food SME clusters, socio-economic development in EU regions. In particular, agriculture is the sector of the economy that promotes competition and trade across the EU through the CAP's objectives that may serve as guidelines for agro-food SME clustering. Interestingly, the new CAP seems to strengthen the linkages between its pillars for a common organisation of agricultural markets and support the rural areas by identifying the particularities of EU regions in the context of balanced regional development. The agro-food supply chain comprises a diverse variety of businesses, which are affected by new technologies to effectively operate in several marketplaces and provide a diversified range of agro-food goods that distribute them to meet the demands of consumers. These businesses can be stakeholders of agro-food SME clusters that may benefit from high food standards ensured through compliance with EU food law for exports, thus offering high levels of external competitiveness.

Regarding new technologies in agro-food SME clustering, this study explores relevant legal aspects and socio-economic implications by considering technological devices in general as robot systems with varying degrees of autonomy and even with embodied artificial intelligence. Robotics is already playing a major role in the transformation of agriculture, food processing and food distribution systems. To address the matter of robot liability, however, robots should be given a special legal status by equipping them with an internal mechanism that combines sensor systems with law-enforcement algorithms. This mechanism can control the behaviour of robots to be legally and ethically compliant. In addition, agro-food SME clusters must deal with the socio-economic implications of labour market disruption caused by the advent of robots, especially in the EU where the European social model is in crisis. Ensuring a job guarantee, however, would be a socially efficient option because it would retain the social components of employment and reinforces everyone's fundamental right to work. This may be achieved by adopting regional basic dividends through blockchain-based trusts that could be financed from the returns of agro-food SME clusters for the creation of new social jobs in the EU regions.

This study also finds that high-quality European agro-food goods can enhance global opportunities for agro-food SME clusters. Since the agro-food supply chain is becoming

progressively global, and hence gradually expanding trade, the EU should increase its competitiveness and improve market access by eliminating any unjustifiable trade barriers. A multilateral trade agreement could lead to various benefits for the EU agro-food industry, but multilateralism is in trouble as the negotiations among WTO members are deadlocked. Accordingly, the EU has developed a negotiating agenda with several countries and regions throughout the globe in order to conclude bilateral and regional trade agreements concerning agro-food goods. Nevertheless, counterfeiting remains one of the most important issues for the EU agro-food industry as it violates intellectual property rights, mainly the protection of GIs. By reducing consumer confusion, a GI protection policy can play a vital role in preserving earnings for local businesses, ensuring the sustainability of rural economies, and supporting the internationalisation process of agro-food goods, as demonstrated by the *Feta* case. For this reason, the EU should pursue expanding GI protection to all agro-food goods under a harmonised multilateral system of registration that is a strong necessity for the global markets, in which agro-food SME clusters would be able to export GI products.

By taking into consideration the interaction between global and local geographical and socio-economic forces for the agro-food supply chain, this study identifies how high levels of balanced regional development can affect the establishment of agro-food SME clusters throughout the EU regions. As competition and economic activity become more global, competitive advantage can become local, and thus the agro-food SME clusters would be able to compete with large businesses through networking of SMEs, which should occur at all levels of the agro-food supply chain. Thus, the vertical integration of its sectors can include a vast array of economic activities and produce a broad range of goods. This collaborative environment may thrive via initiatives related to fostering social interaction in agro-food SME clusters, which would operate as community-based entities providing support to cluster stakeholders. However, EU institutions should address the significant disparities in prosperity levels across Europe. By adopting a more territorial approach, the EU cohesion policy could support EU regions in recognising their particular qualities and maximising their capacity to respond to local needs and challenges. After identifying the comparative advantages of each EU region in the context of balanced regional development, available support via a new EU cluster policy can be offered at every step of the process for the emergence of agro-food SME clusters. As regards their operational framework, professional support services provided through cluster management are necessary in order for cluster stakeholders to fully exploit the potential benefits in an appropriate business environment throughout the EU.

Based on the abovementioned findings, the thesis identifies an EU legal framework for the establishment of agro-food SME clusters across Europe and their contribution to achieving socio-economic development. By proposing a combined contractual and corporate legal structure for agro-food SME clustering, this study argues that SMEs should be connected via contracts with the network centre (cluster organisation), which can operate with a commons approach for the benefit of society and the economy. Specifically, one of the most important findings that emerges is that contractual networks can be regulated as a legal reaction when business networks as connected contracts, such as the agro-food SME clusters, would exhibit features of organised irresponsibility. Although conventional contract law approaches are insufficient for addressing disputes that emerge in the setting of networks, Section 358 BGB of German law introduces the concept of connected contracts as an economic unit. This should be generalised as a principle, which can be applied to networks of independent businesses, such as the agro-food SME clusters where cluster organisations operate as network centres that have signed bilateral contracts with every cluster member.

It is noteworthy that the DCFR adopts relevant principles for a common legal basis at a supranational level. To become a valid source of law, however, the lack of unification of EU contract law should be overcome via initiatives by EU institutions and the Member States. Accordingly, designing a CFR as a common legal system based on legal elements contained in Section 358 BGB and the DCFR is a proper way for the effective operation of contractual networks in the EU. This new instrument should be used as a legal basis to regulate the connected contracts for the networks of agro-food SME clusters, and thus address issues related to loyalty to the network, internal non-contractual liability in networks, and external liability of networks. Even though the connected contracts could address liability issues, they remain incomplete due to the absence of foreseeability at the time of contract drafting. However, this study finds that a suitable corporate form for cluster organisations of agro-food SME clusters may contribute to the completion of contracts, thus decreasing the levels of complexity and uncertainty among the stakeholders who may possess multiple and overlapping property rights. This means that agro-food SME clusters can be considered as commons which aim to produce a surplus for stakeholders and society as a whole.

The governance framework for cluster organisations should therefore include all affected stakeholders from the business activity who would be identified through social cost construction. In addition, legal implications of the law for the commons can be based on design principles set by the economic theory of commons in order to identify the legal form for cluster organisations. Legal diversity of Member States' company laws in the context of regulatory

competition, and particularly the model of reflexive harmonisation, can offer a high degree of flexibility in designing an EU-wide legal status for cluster organisations with a commons approach. This supranational form can be based on suitable legal elements derived from the legal forms of existing and proposed EU-wide business entities, such as the EEIG, SE, SCE, SPE, and SUP. To establish effective agro-food SME clusters as commons, the EU-wide legal form should be designed from the beginning of the business activity of the cluster organisation without cross-border requirements and in accordance with the referential technique of regulatory competition. The cluster organisation must be a social-oriented separate business unit with its own legal personality, by adopting a purpose-bound structure and establishing hybrid forums for efficient multi-stakeholder governance.

Implications and recommendations

The abovementioned findings demonstrate the opportunities for impact of boosting agro-food SME clustering. The thesis aims to contribute to knowledge in the field of economic analysis of law and business clustering, as well as seeking to provide insights about the legal challenges of business networks and supranational legal forms for businesses with a commons approach. In particular, the principal theoretical implication of this study is that the law for the commons, based on the design principles of the economic theory of commons, can be applied to business forms of networks, such as agro-food SME clusters. These findings complement those of earlier studies that examine the idea of the corporation as commons. Furthermore, as this study supports the idea of connected contracts as an economic unit, the proposed CFR may become an innovative instrument that could be used generally as a legal model for the regulation of networks. The findings regarding the EU-wide legal status for cluster organisations provide ideas to create a variety of supranational legal forms with a commons approach for achieving socio-economic development. This specific part of the research that relates to the identification of supranational legal elements adds to those studies of past comparative investigations on EU-wide business entities.

The thesis identifies opportunities for impact and contributes to the literature by providing insights about GIs protection, the effects of blockchain technology, and the regulation of robots. Specifically, it highlights the importance of GIs protection of agro-food goods for socio-economic development. This lends credence to the idea that research on GIs protection can be expanded to a broad range of products from different sectors to enhance the

economy of local communities. As regards the findings for the proposed adoption of regional basic dividends via a blockchain-based trust in each EU region, these could have significant implications for the understanding of how blockchain technology can facilitate the socialisation of the production of capital. This study also raises important questions about the proposed special legal status for robot applications. An implication of this is the possibility that robot behaviour can be made legally and ethically compatible with human expectations in workplaces and daily life. This can be achieved through an internal mechanism that incorporates advanced sensors based on law-enforcement algorithms.

Most importantly, this study seeks to make an original contribution to legal literature on business clustering. For this reason, it shows that there are opportunities for theoretical impact as an emerging area of legal scholarship on the nature of business clusters, their significance for economic organisation and their wider societal implications. It also addresses practical impact and demonstrates that agro-food SME clustering could become a new model of prosperity. Accordingly, this model would contribute to socio-economic development in the EU regions. Certainly, SME clustering could have a further practical impact since it may be applied in additional industries, sectors of supply chains, products and territories, and not only the agro-food industry, its sectors and agro-food goods in EU regions.

Nevertheless, for full implementation of the proposed agro-food SME clustering, there needs to be an entirely functional project in practice. Further research is needed, not possible within the spatial parameters of this thesis, to identify an EU economic framework for the emergence and effective operation of agro-food SME clusters in the EU regions. The proposed EU legal framework needs to be accompanied by an appropriate EU economic framework which could enable agro-food SME clustering to be implemented in the EU. Consequently, further research is recommended to design an overarching EU economic framework by exploring the ways to finance the emergence of agro-food SME clusters, the suitable stages for the production of their value, and a financial system for their effective operation.

In particular, it would be useful to initially examine a new economic strategy based on a reliable investment programme for agro-food SME clustering in the EU. This programme may be co-financed by bonds issued by the European Investment Bank (EIB) and the European Investment Fund (EIF).[1] Subsequently, research could be conducted to determine the circulation of capital and its value during the operation of agro-food SME clusters as commons. It might consider the stages of the circulation of capital, such as the production of value and its

[1] See Holland S. and Gioacchino G, (2017) Alternative Economic Policies in Europe: An Introduction, The European Journal of Comparative Economics, 14(1):3-12.

realisation and distribution in money form.[2] Furthermore, further research would be helpful to design a suitable financial system that may be relied on for the adoption of a digital currency for transactions among cluster stakeholders. The features of blockchain technology could enable authoritative sources of transactions to exist without trusted central intermediaries, such as financial institutions, to maintain them.[3]

To conclude, this thesis recommends a model for a new EU cluster policy under the European industrial strategy that could be taken forward by the European Commission. The findings of this study could be considered as policy elements for the emergence of agro-food SME clusters as commons under the proposed EU legal framework for achieving socio-economic development in the EU regions. Beyond the EU, intergovernmental regional organisations such as ASEAN, NAFTA, ECOWAS and others, may find this study useful as a source of discussion for business clustering in their territories with a high degree of specialisation in industries. Furthermore, the proposed agro-food SME clustering by the thesis could constitute a model for the design of national legal frameworks for establishing business clusters in country regions and drafting relevant projects. Consequently, this research presents a new model for prosperity based on the dynamism of SMEs located in agro-food business clusters under a specific legal framework that can contribute to achieving socio-economic development across regions in the years ahead.

[2] See Marx K (1867) *Capital: A Critique of Political Economy*, (1st ed).; Harvey D (2017) *Marx, Capital and the Madness of Economic Reason* (OUP).
[3] Commission Report (2016) 'Blockchains for Social Good' Brussels Workshop.

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