

## Importing Products, Exporting Standards?

Examining how the European Union diffuses sustainable process and production methods through trade restriction

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(30hp/credits)



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## **Abstract**

The production and consumption of material goods, and the expansion of globalised trade have led to an increased outsourcing of resource depletion and pollution by post-industrialised countries. Although governments with sustainability policies may have improved standards in process and production methods (PPMs) within their own territories, the consumption of imported goods continues to have negative social and environmental impacts in the countries of origin.

Consumers (as well as producers) should assume responsibility for these negative impacts of their consumption. I examine the European Union (EU) as a major global consumer and its efforts to address its responsibilities by using trade barriers to enforce higher PPM standards abroad. I use the theoretical concepts of Normative Power Europe (NPE) and Market Power Europe (MPE) to analyse the role of EU norms in addressing PPM standards through trade legislation and whether the EU's market power is sufficient to cause the diffusion of standards abroad. I do this by first analysing legislation that restricts trade based on a PPM, and then testing whether this has had an impact on global trade flows for the associated product.

My results show that the use of trade barriers to regulate PPMs is limited to highly salient and publicly debated topics. The instruments used to restrict trade have increasingly transferred the burden of control to the market participants' side, predominantly using certification schemes and labelling rather than permits and bans. Furthermore, contemporaneous international norms and foci reflect the concerns used to justify these trade restrictions. The EU's use of PPM requirements does have some effect on policy changes in the countries that it trades with, especially if these are small and highly integrated in trading with the EU through bilateral trade agreements. However, the EU's influence on other powerful economies is rather low. Producers will reorient their exports to alternative markets if trade barriers are too high. Concerning broader questions of governance and sustainability, I conclude that the use of trade restrictions is generally a controversial policy measure, and calls attention to social and environmental grievances amongst a wider audience than purely political negotiations do.

**Keywords:** EU, PPMs, Normative Power Europe, Market Power Europe, GMOs, biofuels

**Word count:** 13,870

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## Abbreviations

AB	Appellate body of the World Trade Organisation
CBD	Convention on Biological Diversity
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
CO <sub>2</sub>	Carbon Dioxide
EC	European Commission
EEA	European Economic Area
EFSA	European Food Safety Authority
EP	European Parliament
EU	European Union
FLEGT	Forest Law, Enforcement, Governance and Trade
FTA	Free Trade Agreement
GATT	General Agreement on Tariffs and Trade
GHG	Greenhouse Gas
GM	Genetically Modified
GMO	Genetically Manipulated Organism
GSP	Generalised System of Preferences
MEA	Multilateral Environmental Agreement
MPE	Market Power Europe
NGO	Non-Governmental Organisation
NPE	Normative Power Europe
PPM	Process and Production Method
RED	Renewable Energy Directive
UNCSD	United Nations Conference on Sustainable Development
USA	United States of America
WTO	World Trade Organisation

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# 1 Introduction

In this thesis, I address sustainability issues connected to production, consumption and international trade. More specifically, I examine the European Union's way of addressing the social and environmental pressures that its consumption of imported products causes abroad. My focus here lies on the EU's use of trade barriers to incentivise the adoption of higher process and production method standards by its trade partners. I analyse the extent to which it uses these, and the effects that they have, based on the theoretical concepts of Normative Power and Market Power Europe.

## 1.1 Background

Over the past decades, increased environmental awareness, high income and industrial transition have contributed to the improvement of environmental and social standards in post-industrialised countries. Simultaneously, globalised trade and the outsourcing of labour and production have led to an increase in imports of resource and pollution intensive products. Recent 'ecological footprint' research provides ample evidence on the impacts on land use (Weinzettel et al., 2013), water use (Hoekstra and Mekonnen, 2012), carbon emissions (Hertwich and Peters, 2009), biodiversity loss (Lenzen et al., 2012) and labour standards (Alsamawi et al., 2014) caused by international trade.

The concerns of consumers and civil society organisations in many post-industrialised countries over issues relating to health and safety, pollution, environmental conservation, and the use of child labour have made process and production methods (PPMs) a bone of contention in international trade discussions (Read, 2004). The most well known cases of extraterritorial PPM regulation have been attempts by the USA to enforce wildlife protection through import bans on tuna and shrimp which had not been fished using appropriate measures to protect dolphins and sea turtles. The measures were challenged by developing countries governments within the World Trade Organisation (WTO). The WTO's judiciary arm (the Appellate Body, AB) ruled that although environmental policies per se were not objectionable, they could be allowed to restrict trade (Gallagher, 2008).

In general, trade restrictions passed to enforce social or environmental standards must be compatible with basic WTO legal norms or else fall within its clause of general exceptions. These are usually interpreted in a way that maximises their compatibility with existing trade norms. If a measure does fall within such an exception, the country passing the restriction must prove that the measure is absolutely necessary; that it is the least restrictive measure available; and that it does not arbitrarily discriminate against any member of the WTO or present a disguised form of national market protectionism (Eckersley, 2004). Using trade barriers to address PPMs (rather than products)

is especially controversial, as they are outwardly directed and use government-set restrictions to transfer values on how things 'ought to be done' elsewhere in the world. The users of PPMs are almost always rich countries addressing grievances in developing countries.

This factor has led to the charge that environmental PPMs are a tool of eco-imperialism: the rich country may be viewed as trying to coerce the poor country into placing a higher value on the environment than the poor country considers appropriate. (Charnovitz, 2002, p. 63)

The European Union (EU) as a major importer with 13.3 per cent of global imports in 2012<sup>1</sup> is also a major perpetrator in the international displacement of environmental and social pressure. Steen-Olsen et al. (2012) estimate that 31 per cent of the EU's land and CO2 emission footprints, as well as 42 per cent of its blue water footprint, take place outside of EU Member States. The United Kingdom, France, Germany and the Netherlands are among the top 17 'master' states importing embodied labour (Alsamawi et al., 2014). Nevertheless, the formation of its common market, the associated regulatory harmonisation across its Member States, and its increase in decision-making competency have made the EU a prominent ambassador of social and environmental concerns in the international political arena (Kelemen, 2010). It also wields substantial economic power due to the sheer size of its market and its political legitimacy within the WTO, enabling it to use convincing 'carrots and sticks' to push for its own agenda in cases where political agreement fails (Buonanno and Nugent, 2013).

Although technically against the WTO agreement, the EU has been known to use unilateral trade restrictions to diffuse its own PPM standards. Some of the more prominent cases are the prohibition of hormone use in livestock farming (Bureau et al., 1998); the labelling of genetically modified organisms (GMOs) in food and animal feed (Davison, 2010); the sustainability criteria for biofuel production (Afionis and Stringer, 2012); and the ban on seal products (Howse and Langille, 2011). In this thesis, I examine the extent to which the EU has employed such trade restrictions and some of the effects this has had in more detail. I do this by first identifying and mapping legislation that affects trade due to PPM requirements in order to assess what types of products, PPMs, and concerns have been addressed. I also describe which trade restricting instruments have been used. I then analyse the changes in trade flows for two controversial cases – GMO labelling and the sustainability criteria for biofuel production – and discuss their impact on the diffusion of PPM standards.

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<sup>1</sup> Not all nations had submitted their statistics for 2013 to UN Comtrade at the time this thesis was written, therefore 2012 is the most recent number available (UN Comtrade, 2013).

## 1.2 Research question

The main research question that I want to answer is:

(How) does the European Union promote the extraterritorial diffusion of sustainable process and production methods through trade?

Broadly, the concept of PPMs covers several contentious issues that generate negative externalities in the form of unforeseen or ignored social and environmental pressures, such as health and safety aspects, resource depletion, environmental pollution, and the use of forced or child labour. The wish to regulate trade on the basis of PPMs is a concept that has been introduced by consumers and is arguably a direct consequence of trade liberalisation. The opening of markets and the consequential availability of goods enables more focus on qualitative issues such as alternative modes of production rather than quantitative issues related to product supply and prices (Read, 2004).

In analysing European PPM legislation and its use in the restriction of trade, I do not aim to cover the entire body of EU trade policy, as many aspects of it have been addressed elsewhere (Golub, 2013; Zvelc, 2012). Instead, I examine only legislative measures that set certain PPM standards for producers within the EU, which are then also required from non-European producers wanting to export to the EU's domestic market. I include both unilateral policies (i.e. unrelated to any international agreements) and policies with a multilateral basis (i.e. implementing an international treaty) in my analysis for comparison.

By examining extraterritorial diffusion, I intend to provide some insight on whether the analysed legislative instruments on higher PPM standards have had an impact on the EU's trade partners. More precisely, I am interested to find out whether these trade partners adhere to the EU's requirements in order to continue exporting to its market or whether they choose to trade with a different partner instead. In order to answer this research question, I divide my analysis into three stages, each relating to different sub-questions:

- Stage 1: Which of the PPM regulations that the EU has put in place restrict trade; what do they address; and why are they implemented?
- Stage 2: Are the EU's PPM regulations able to diffuse higher standards abroad?
- Discussion: What does this imply for global governance and sustainability?

## 1.3 Relevance for global governance

While the negative impacts of global production and consumption patterns on society and the environment are largely undisputed, ways of mitigating them are subject to controversy and

diverging interests. Governing PPMs at a multilateral level through international conventions and treaties is difficult to achieve, as differences in income, environmental concern, and industrial development cause variance in governance priorities and capacities from country to country. In the contemporary economic system, most countries focus on maintaining growth and increasing economic wealth rather than reducing environmental or social pressures. Due to international differences in labour and capital cost, industrialising countries, in particular, must fear that international PPM regulations would threaten their comparative advantage on the world market.

In cases where international governance of PPMs does exist, it is only effective where it has the power to enforce. As countries cannot be jailed or fined, the only punishment that a multilateral (environmental) agreement (MEA) can use is restriction in trade (Brack and Gray, 2003). However, this one effective ‘tooth’ is constantly threatened by the rulings of the WTO, which prohibit the discrimination between countries and ‘like’ products except in very specific, exceptional circumstances (GATT Article XX). Among others, these allow for trade restrictions in cases where it is

necessary to protect public morals, necessary to protect human, animal or plant life or health, . . . relating to products of prison labour, [or] relating to the conservation of exhaustible resources if such measures are made effective in conjunction with restrictions on domestic production or consumption. (GATT, 1986, p. 37)

“Judged in terms of size and teeth, we might regard the WTO as a large tiger and MEAs as a ragged collection of small cats” (Eckersley, 2004, p. 24). Balancing out this inequality calls for a reform in the international governance structure, but this will not happen from one day to the next. It requires changes in international norms, the security that producing countries will still be able to sell their products at a higher price, and strong international leadership. Examining the EU’s advances on tackling standards of extraterritorial PPMs may provide some insight on do’s and don’ts to ease the path toward more effective international governance of PPMs.

#### **1.4 Relevance for sustainability science**

Sustainability science concerns itself with the dynamics of society and nature, seeking to address cutting-edge questions with fundamental as well as applied science in a problem solving mode. It addresses questions of scale, non-linear processes and complexity, asking how to relate the global with the local and the universal with the particular (Kates, 2011). The relationship between production and consumption patterns and their impacts on local, regional and global ecological and social systems thus represent fundamental issues of interest, and can be allocated to any of the seven core questions of sustainability science. The question that my thesis contributes to is:

What systems of incentive structures – including markets, rules, norms, and scientific information – can most effectively improve social capacity to guide interactions between nature and society toward more sustainable trajectories? (Kates et al., 2001, p. 642)

By focusing on the governance of PPMs through trade, I address important sustainability issues such as the transboundary nature of pollution and resource depletion, questions of consumer-producer responsibility, the effectiveness of international environmental governance, and the side-effects that may occur when governing the complex system of international trade.

## **2 Theoretical & Conceptual Framework**

In the following section, I present two different theoretical approaches to explaining the EU's role and actions in international relations and particularly in its diffusion of social and environmental standards. The concept of 'Normative Power Europe' relies on explanations linked to European identity and norms, while the concept of 'Market Power Europe' relies on explanations linked to market size. I also present the 'California Effect', which has been used to explain the diffusion of product standards, but questions the possibility of diffusing PPM standards.

### **2.1 Normative Power Europe**

Since the 1970s, scholars have been discussing the EU in an international context and the type of power that best fits its identity, intentions and actions. The most influential approach that has been suggested in this context is 'Normative Power Europe' (NPE), a concept that may also serve to explain the EU's extraterritorial regulation of PPMs. NPE states that the EU is constructed on a normative basis, which predisposes it to encourage and secure certain types of values and ideals beyond its own borders. Its political identity and structure as a peaceful conglomerate of prosperous states provides it with the necessary legitimacy to do this (Manners, 2002).

While the central values listed as defining the EU's normative basis revolve around democracy, human rights, civil freedoms and the rule of law, sustainable development and environmental protection have been increasingly integrated into its identity and internal as well as external policy. These norms were first institutionalised in 1973 with the foundation of the EU's Environmental, consumer and health policy area (Hildebrand, 2005). They were further embedded in the EU's identity with their integration in the Maastricht Treaty, 1992. Article 130r thereof states that:

Community policy on the environment shall contribute to pursuit of the following objectives: preserving, protecting and improving the quality of the environment; protecting human health; prudent and rational utilisation of natural resources; [and] promoting measures at

international level to deal with regional or world-wide environmental problems. (European Community, 1992, p. 36)

Its efforts to spread high environmental and social standards worldwide have led observers to describe the EU as a leader in promoting environmental policy and sustainable development at the global level (Kelemen, 2010). Instances of European lobbying for sustainability goals have been analysed in the contexts of international conferences (Lightfoot, 2005), contributions to the formation of MEAs and international law (Morgera, 2012; Savaresi, 2012; Schulze and Tosun, 2013), integration of sustainability issues in bilateral agreements (Marín Durán and Morgera, 2012) and input into the WTO (Poletti and Sicurelli, 2012). However, probably the most powerful instrument that the European Union uses to implement its external policy remains its market.

## **2.2 Market Power Europe**

Through its extensive use of trade as a tool in non-trade policy areas, the suggestion has been made to reconsider the EU as a 'Market Power Europe' (MPE) (Damro, 2012). MPE aims to reconcile research on Europe as a power in international relations with comparative and international political economy literature, using empirical observations to make its argument. According to MPE, the main factor that incites other (especially smaller) economic powers to adopt the EU's internal standards and policies is the size of the European market. This can happen either intentionally through import restrictions on products that do not answer to European expectations, or unintentionally by creating the perception of a huge, independent and unshakeable market to which other actors have no choice but to adapt (Drezner, 2007).

With over 500 million inhabitants and 28 democratic states, the EU's market covered 13.8 per cent of global imports and 12.8 per cent of global exports in 2012, making it a world leader in global merchandise trade (UN Comtrade, 2013). Trade is the only policy area in which the EU as a conglomerate is recognised as a full member in the international arena (more precisely in the WTO), rather than maintaining an observer status as in the case of all other international organisations. It is also the reason why the European Commission (EC) places such an explicit focus on environmental policy, as varying environmental standards within the European Economic Area (EEA) present internal barriers to trade and constitute a threat to its market stability. Lowering environmental standards for the sake of free trade would be politically unviable amongst its Member States, so the EU has chosen to harmonise environmental standards at high levels instead (Kelemen, 2010).

High standards for European producers also imply high standards for non-European producers wanting to export their products to the EU. Its sheer market size serves as an incentive for exporters

to adhere to the EU's requirements, and its political legitimacy and power at WTO level enables it to pass and defend trade restrictions that would otherwise be overturned by the WTO's Appellate Body (AB) (Kelemen, 2001). Spreading norms through trade has become more and more frequent as international attempts to govern issues such as climate change, deforestation and resource depletion keep stalling and the global environmental governance architecture is becoming increasingly fragmented (Kulovesi, 2012). It is also one of the instruments that the EU knows and can use best, considering its long-term experience in using economic 'carrots and sticks' to implement non-economic foreign policy goals (Buonanno and Nugent, 2013). If truly effective, the EU's market power should also be visible in the impacts that its extraterritorial regulations have on trade and the diffusion of PPM standards.

### **2.3 The 'California Effect'**

The idea that trade can lead to an improvement of environmental standards is not new. The 'California Effect'<sup>2</sup> was described in the context of international markets by David Vogel in 1995, suggesting that wealthy states with large domestic markets and stricter product standards can force trade partners to meet those standards in order to maintain their export markets. This in turn encourages local consumers and NGOs in the exporting country to demand products with similar standards on their domestic market. Contrary to fears that liberalisation of trade generally leads to a down-spiralling of regulatory policy ('race to the bottom'), Vogel suggests that, in the majority of cases, the opposite effect takes place. A prominent example for this is the impact that Germany had on the raising of standards throughout the EU during the formation of the Single European Market. As a wealthy state with a large domestic purchasing power and comparatively strict regulations, it was able to export its environmental policies to other Member States rather than vice versa.

However, Vogel also argues that the effect of greener markets in raising standards applies mainly to products, and is less likely to strengthen domestic regulations governing the ways in which goods are produced. Accordingly, the deliberate use of trade restrictions to govern PPMs has been only sporadic and limited to largely 'symbolic' products. The WTO generally discourages such trade barriers, and even if a PPM barrier is transformed into a product barrier (therefore complying with WTO rules), the impact will still be modest. Prices for products would rise substantially if PPM standards were to improve at a widespread level, and neither policy makers nor consumers would be

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<sup>2</sup> The 'California Effect' was coined based on observations of how American automobile emission standards gradually improved across the North American continent because of a strict air pollution act passed in California, one of the more powerful economic states in the US (Vogel, 1997).

willing to bear such substantial economic cost. Finally, a large amount of global production is independent of rich and 'green' consumers, being either consumed domestically or exported to alternative markets with lower PPM standards (Vogel, 1997).

While NPE and MPE theories suggest that the EU is able to export its environmental and sustainability norms due to its political identity and market size, David Vogel cautions on the assumption of a 'California Effect' concerning regulations on PPMs. From a theoretical perspective, this thesis therefore also aims to contribute empirical data to further elucidate which position is more valid.

### **3 Methodology**

In the following section, I first describe the ontological and epistemological approach that I take within my research. I then explain the process of my research, and continue by defining more explicitly how I go about answering the research questions in the first and second stage of my analysis.

#### **3.1 Ontology & Epistemology**

I choose to conduct my research based on constructivist ontology. This means that I take the 'middle ground' between the realist and the relativist approach to understanding reality. From this point of view, actions are not simply behavioural responses to physical forces (as in realism), nor are they mere ideas open for debate and interpretation (as in relativism). International relations consist of social facts, rules and institutions. These are facts, rules and institutions only by human agreement. Simultaneously, a material world exists and offers resistance and reaction when acted upon (Adler, 1997). From a sustainability science point of view, it is essential to acknowledge this material world. Particularly if issues such as human induced environmental degradation, climate change and resource depletion are to be addressed in a productive and solution-oriented manner. In addition, it is important to understand that human interaction (also at the international level of interaction between states) is constructed upon ideas and frameworks of understanding that influence behaviour.

I focus on institutions and the diffusion of policies rather than actual impacts on the natural world (doing social science rather than natural science). Therefore, I take a mediative stance on epistemology rather than a reflective or a relativist one. Talking about socially constructed facts such as norms, ideas and power does not let me describe reality accurately using 'true' descriptions. This reflective approach is more appropriate for natural science endeavours. However, the influence that

norms and ideas have on the material world in form of production, trade, transport and environmental impacts makes the inclusion of such a 'real' world necessary. It eliminates the relativist approach, which states that only the organisation of discourse really matters, and refrains from making any statement about the real world (Woolgar, 1983). Instead, I will describe the reality of international relations mediatively, by referring to collective understandings through which we attach meaning and function to physical objects, giving them a purpose and therefore constructing a social reality (money, treaties, agreements, organisations, institutions etc.). This, in turn, influences material reality. Accordingly, "reality exists independently of our accounts, but does not fully determine them" (Fuchs, 1992, p. 27).

My research looks at policy developments over several years, aiming to identify explanations for events and motivations for action. My main goal is not to find covering laws across time and space. Using available data, I want to provide explanations for why the EU has addressed PPMs in the way that it did. For this reason, I use an explanatory narrative to build a coherent line of argumentation. The explanatory narrative is an epistemological approach that bridges international history and international relations. It includes components of explaining *and* understanding, using both historical events and theoretical explanations of world politics (Suganami, 2008). Accordingly, the goal "is to produce results that are verisimilar and believable to others looking over the same events" (Ruggie, 1998, p. 94). However, if this explanatory narrative allows for some expectations about future developments or about recurring patterns, I will address them.

Following the school of "modernist" constructivism, I use both standard (positivist) methods as well as interpretive methods (Adler, 1997, p. 335). Accordingly, I will use quantitative data in combination with interpretation of literature and legal documents to support my explanatory narrative and to validate my point.

### **3.2 Research process**

To assess how the EU uses its normative power and its market power to diffuse PPM standards abroad, I will adhere to the two stages suggested by DeSombre (2000) and referred to by Damro (2012)<sup>3</sup>.

In the first stage, the diffusion efforts of the EU become visible when its actors and institutions attempt to make external actors adhere to the standards that they deem appropriate through the

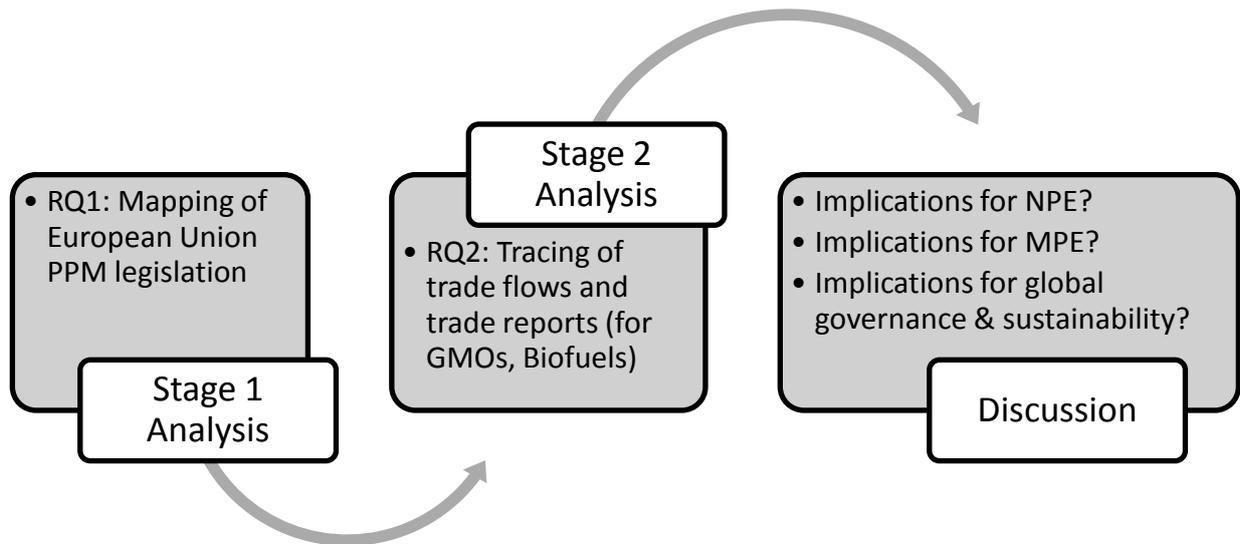
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<sup>3</sup> Although DeSombre (2000) and Damro (2012) both use the term 'externalization' to describe the process of spreading norms and standards through trade, I feel that this term is misleading as it implies a type of outsourcing (which is not the case). I therefore choose to adhere to the term 'diffusion' instead.

creation of law. Although the internal struggle in the legislative process that results out of conflicting interests is difficult to trace and often ends in compromises, the relevant outcomes are reflected in market-related policies and rules that are traceable through legal and technical documents. This enables a comprehensive empirical analysis. I analyse this first stage of (norm) diffusion by examining EU legislation that uses trade as an instrument to enforce more sustainable PPM standards abroad. I aim to find out which types of products and PPMs have been regulated; which types of trade-restricting instruments have been used; and which concerns have been named to justify the trade restriction.

The second stage of diffusion requires that the actors targeted by the EU actually adhere to the policies and rules that were set in the first stage, meaning that a 'California Effect' for PPMs takes place. As a detailed analysis of changes in PPM standards abroad in reaction to EU legislation is an overly complex process and would go beyond the capacity of this thesis, I chose to use a proxy variable instead. Considering that trade restrictions necessarily indicate a reduction in trade if the required standards are not met, this should be reflected in the trade flows between the EU and its trade partners. If producing countries visibly reduce the amounts of products that they export to the EU after a certain PPM law was enforced, this indicates that a shift in trade has taken place and that the PPM was not effective in changing standards abroad. If trade continues without incident, the trade partner in question was probably already producing at the level of standards required by the EU. If however, trade flows continued at former or higher levels after an initial reduction at the time the PPM was enforced, this indicates that process and production standards have been adapted to the EU's requirements.

My research is both deductive and inductive. The theories of NPE and MPE provide a theoretical basis to commence my narrative and define the issues that I choose to examine. The results of my analysis are then discussed in the light of these theories, and if observations and expectations do not match, I suggest alternative theoretical approaches that may better explain the actions of the EU when it comes to regulating PPMs. **Figure 1** illustrates my research process more visually.



**Figure 1. Research process** used to examine the diffusion of process and production method (PPM) standards by the European Union. GMOs: mandatory labelling of genetically modified food and feed in the EU (Regulation 1829/2003); Biofuels: certification requirements for the sustainable production of biofuels (Directive 2009/28/EC); NPE: Normative Power Europe (theory); MPE: Market Power Europe (theory). Source: Own illustration.

### 3.3 Stage 1: Analysing PPMs in EU trade legislation

In the first stage, I identify and analyse EU legislation that sets standards for the process and production methods of domestically and externally produced products. By doing this, I aim to provide an overview of how the EU has used non-tariff trade barriers in its PPM requirements over the last forty years.

#### 3.1.1 Methods

As my primary data source for the analysis of trade regulations, I used the EU's database on community law EUR-Lex (2014) to identify legislation referring to sustainability-related PPMs. An analysis of the complete body of EU law according to PPMs was not feasible within the time frame of this thesis project, so I restricted the universe of cases to legislation with the classification heading 'Environment, consumers and health protection', assuming that this classification covers a majority of EU law related to sustainability issues. Furthermore, I included only binding and universally valid (i.e. applicable throughout the entire Union) secondary legislation (i.e. regulations and directives authored by the Council) in my search. Within this subgroup, I selected the cases for my analysis according to the following criteria, all of which had to be met:

- a) The legislation concerns a sustainability issue
- b) The legislation regulates a PPM
- c) The legislation affects non-European countries (often called ‘third’ countries in the EU’s legal texts)
- d) The legislation uses a trade mechanism, i.e. it deals with the import or export of a product
- e) The legislation is independent and new, i.e. it does not solely build on or amend a previous law concerning the same issue

In cases where one independent law was repealed and replaced by another, only the first law was included, provided that the variables in question did not change. In cases where they did (e.g. regulations for organic agriculture), both laws were included in the analysis.

In a first run, a content analysis<sup>4</sup> was conducted in order to generate categories for six variables of interest. This was done by recording the terms within the regulation or directive that refer to the product and the PPM process affected, the type of governance instrument used, the concern supporting the legislation and whether the legislation implements commitments under an international treaty or not<sup>5</sup>. Similar or related terms were then summarised into categories. Additionally, the cases were matched with data on dispute settlement before the WTO<sup>6</sup> in order to determine whether or not there have been complaints on the case by other WTO members.

In a second run, the cases were coded numerically: for each variable, the legislation was assigned a number matching the category it belonged to. Additionally, the number and year of the law was recorded. For some variables (i.e. product, PPM & concern), multiple categories were mentioned in the legal text, making a distinct allocation difficult. In these cases, the primary (i.e. first mentioned/most important category) was coded for use in the following analyses. Due to the relatively low number of cases and the categorical nature of most variables, my final analysis restricts itself to descriptive statistics and interpretation of these using references from the literature.

### **3.1.2 Limitations**

The methods that I used for the analysis of EU PPM legislation are limited in the following ways: First of all, the initial restriction of the universe of possible cases through the use of one classification

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<sup>4</sup> According to Bryman (2012, p. 290), “content analysis is an approach to the analysis of documents and texts that seeks to quantify content in terms of predetermined categories and in a systematic and replicable manner.”

<sup>5</sup> Legislation that solely ratifies an international treaty (in the form of council decisions) is therefore excluded; what is meant by ‘implementing commitments under an international treaty’ is that the legislation or directive explicitly codifies trade procedures that are deemed necessary to fulfil commitments made under the auspice of an International treaty or convention.

<sup>6</sup> Available at [http://www.wto.org/english/tratop\\_e/dispu\\_e/dispu\\_by\\_country\\_e.htm](http://www.wto.org/english/tratop_e/dispu_e/dispu_by_country_e.htm)

heading implies that the identified number of cases is possibly biased towards environment-related issues, as other dimensions of sustainability (e.g. social standards and workers rights) may not be recorded under the directory code 'Environment, consumers and health protection'. However, as there is no other heading that clearly relates to sustainability, and as all European PPMs discussed in the literature were found using the search terms described above, I accept this limitation for the sake of my own data-processing capacity. Ideally however, all EU legislation (independent of the heading) should have been analysed.

Secondly, some of the criteria that I used for identifying relevant cases can be interpreted quite freely. The definition of a 'sustainability issue' remains rather vague, as the term sustainability itself is not clearly defined (Marshall and Toffel, 2005). The way that I used this term for identifying cases relied on the intent of the legislation, including laws that aim at improving an issue which is not purely market-related, but rather addresses deficits in environmental or social issues. The extraterritoriality of the legislation relates to the intent of wanting to regulate environmental or social deficits in other countries or international territory (such as the high seas), meaning that a PPM is not only addressed because it directly affects the EU, but because the EU has an interest in changing standards outside of its sovereign territory. For this reason, legislation on PPMs that is justified through dangers for the European market (e.g. health standards for imported animals due to danger of spreading disease) is not included, while legislation that relies on moral argumentation (e.g. concerns for animal welfare) is part of the analysis.

Thirdly, the way that I coded the cases in question may not be completely reproducible, as I relied on my personal and subjective interpretation when recording and summarising categories for the variables of interest. Another researcher may have identified different categories in the same process, but as this is an inevitable effect of content analysis, it is a limitation that cannot be avoided. The only amends I can make here are to refer to **Table 1** listing the variables, categories and their details for any reproduction of this study.

### **3.2 Stage 2: Analysing the impact on trade**

In this second stage, I attempt to provide some evidence on the adoption of the EU's PPM standards abroad by examining changes in trade flows and comparing the observed variances with trade monitoring reports and literature. The reasoning behind this is that once a PPM regulation is in place, trade can only continue with products that fulfil its requirements. By examining changes in the absolute amounts of products exported to the EU before and after the regulation took place, I attempt to deduce whether or not a country adopted the standards in question.

### **3.2.1 Methods**

Using the international trade database UN Comtrade (2013), the flows of every product group, broken down to a certain degree, can be traced through a universally used 'harmonised system' (HS) six digit trade code. As long as the product is not too specific or too broad, this database can be used to recapitulate how much of the product was exported from or imported to every country worldwide in every year between 1962 and 2013<sup>7</sup>. From the year 2000 onwards, the EU as a conglomerate of countries also reports as a single trade partner.

Analysing the impact of European PPMs on trade (and on extraterritorial PPM standards) is therefore possible for cases under the following conditions:

- a) The product in question must be identifiable and traceable via the international HS code
- b) Trade data is sufficient, ideally with annually available numbers for every examined trade partner and product
- c) Trade data for the EU is available, i.e. the legislation was enforced after 2000 and before 2012
- d) Trade to the EU can continue, i.e. the trade barrier does not consist of a complete product ban

I will analyse those cases which fulfil the criteria above and which have been challenged before the WTO (labelling of GMOs and sustainability criteria for biofuels), as their controversy signalises that regulating the product in question has had a visible impact on trade in the first place. I map the trade flows of the affected products for countries with the largest percentages of total exports destined for the EU and simultaneously among the 10 largest exporters of the product worldwide between 2000 and 2012. This results in a total coverage of at least 80 per cent of all exports to the European Market for each case. I then mark the relevant PPM directives and regulations on the generated trade flow graphs in order to trace whether they have had an impact on trade flows to the EU and to the world market. To ensure that any coincidental variations are not falsely attributed to the legislative measure in question, I use triangulation<sup>8</sup> by examining whether or not trade monitoring reports and news briefs available online make the same attribution.

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<sup>7</sup> Provided that the individual trading countries have recorded and delivered the corresponding data; currently, many records for the year 2013 are still missing, which is why the use of UN Comtrade restricts analysis for this particular year.

<sup>8</sup> According to Bryman, "triangulation or greater validity refers to the traditional view that quantitative and qualitative research might be combined to triangulate findings in the order that they may be mutually corroborated" (2012, p. 633).

### **3.2.2 Limitations**

Using changes in trade flows to deduce whether European PPM legislation has led to the adoption of higher PPM standards abroad is admittedly a rather bold step, and the analysis needs to be done with caution. Multiple other factors may additionally be responsible for observed variances. Nevertheless, they serve as an indicator to determine what kind of effect the regulations in question have had. A closer look at the total exports of producing countries and their reorientation to alternative markets could serve as a further indicator here.

Furthermore, the UN Comtrade database is sometimes problematic, as trade statistics are delivered by individual countries with different levels of preciseness. For some types of products such as biofuels, there is no specified universal HS code. For the case of biofuels, I am therefore forced to limit the analysis to EU data only and analyse impacts on global trade flows qualitatively through trade reports.

Finally, examining variances in trade flows provides no insight on whose actions have changed. Using this method, it is impossible to determine whether an entire country has adopted policies that match the EU's, or whether the change in standards takes place only at producer level. Furthermore, I cannot make any statement on whether or not producers only adopt the requirements for the products that they export to the EU (and maintain lower standards for products exported elsewhere). While my analysis may be able to give a general impression on the effects that PPM requirements have on trade flows, the details of this process need to be examined more closely in future research.

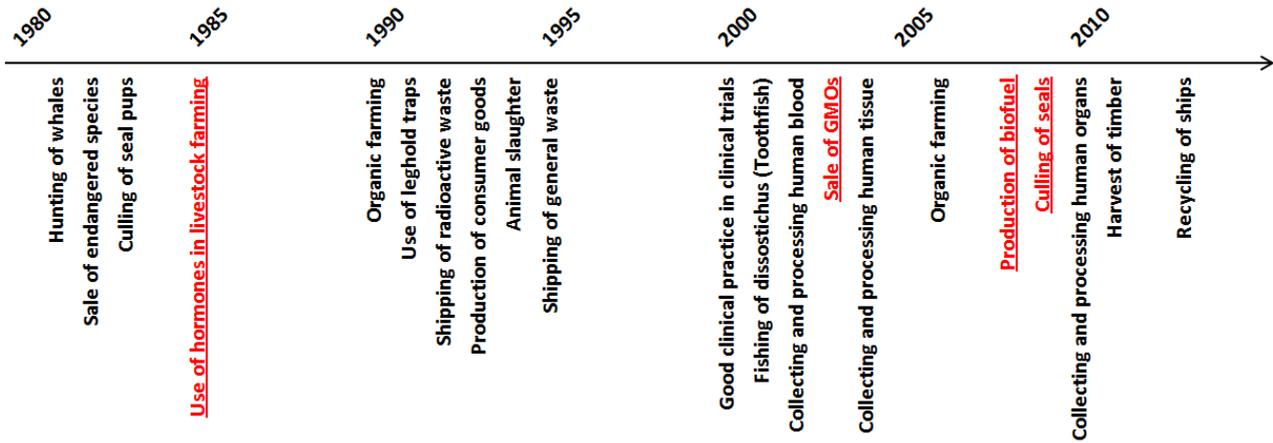
# 4 Results & Analysis

## 4.1 Stage 1: The use of trade barriers to regulate PPM standards

In Stage 1, my analysis focuses on the legal aspect of European PPMs and their normative foundations. I aim to find out which of the PPM regulations that the EU has put in place restrict trade; what products and PPMs they address; and why they were implemented.

### 4.1.1 Identification of cases

In total, the search for European legislative instruments concerning extraterritorial PPMs via the EUR-Lex (2014) database resulted in 21 identified cases. These are directives and regulations that discriminate the import or export of a product based on the impact that its production or dismantling method has on humans and/or the environment. Four have been subject to complaint within the WTO, although none were annulled on these grounds. Twelve of the identified cases are unilateral, meaning that the laws were passed without prior multilateral consensus in form of an international treaty or convention. The nine other cases contribute towards implementing an international treaty. PPM regulations based on multilateral conventions are marked with a triangle in the following analyses. A detailed list of the identified PPM legislation with identification numbers, dates and titles can be found in the **Table 2** (Annex).



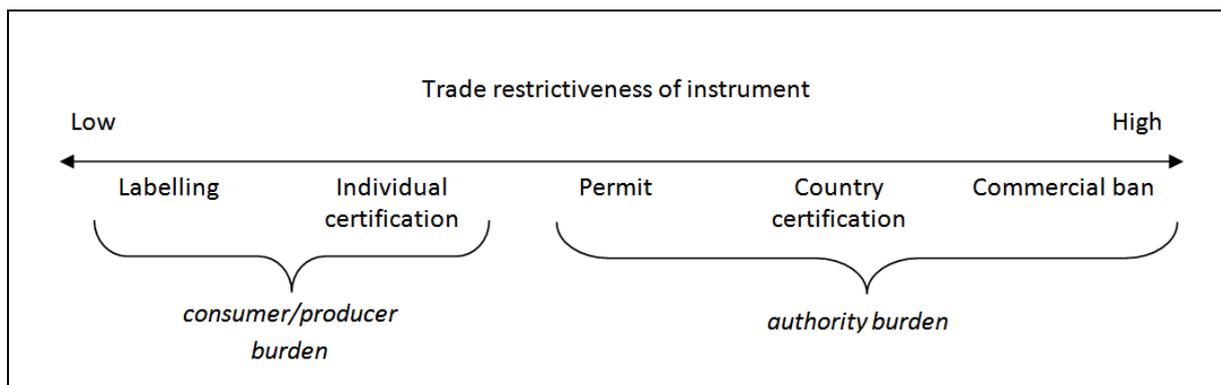
**Figure 2. Timeline of EU PPM legislation.** This timeline shows when the EU as a territory first legally addressed the PPM in question. (Individual Member States may have addressed the issues earlier). Underlined cases in red have been subject to complaint within the WTO. Source: Own illustration.

#### 4.1.2 Categorisation of variables

**Table 1. Categorisation of variables** Source: Own illustration, based on content analysis of EU PPM legislation.

Variable	Category	Details
V1 Product	1_Human	Human organs, tissues and cells
	2_Animal	Animals and primary products derived from them
	3_Plant	Plants and primary products derived from them
	4_Consumer	Processed products (non-food) for consumer use
	5_Industrial	Processed products (non-food) for industrial use
V2 PPM	1_Production	Rearing, breeding, cultivation
	2_Harvest	Hunting, slaughtering, harvesting, extraction
	3_Processing	Transport, industrial treatment before sale
	4_Disposal	Dismantling, recycling, disposal
V3 Instrument	1_Labelling	Use of a label to signify PPM standards
	2_Individual certification	Use of a certification scheme
	3_Permit	Issue of authorization to trade product by EU
	4_Country certification	Discrimination according to a country's legislation on PPM standards
	5_Commercial ban	Prohibition to buy or sell product on EU market
V4 Concern	1_Human health	Bodily or mental health of human individuals
	2_Animal welfare	Appropriate and humane treatment of animals
	3_Biodiversity loss	Threat to species and/or ecosystems
	4_Depletion/Pollution	Depletion/contamination of natural resources
	5_Sustainable development	Nexus between human & environmental systems
V5 Treaty	1_Multilateral	Refers to commitments in an international treaty
	0_Unilateral	Independent of an international treaty
V6 WTO case	1_Yes	Challenged within the WTO
	0_No	Not challenged within the WTO

V3 (instrument) and V4 (concern) constitute my central variables of interest, and are additionally the only variables that allow for an ordinal scale, whereas instrument is ordered from least to most restrictive in trade and concern is ordered from diffuse to distinct.



**Figure 3. Trade restrictiveness of instrument.** This scale shows the types of non-tariff trade instruments used by the EU to address PPMs, ordered according to their degree of trade restrictiveness. Consumer/producer burden implies that the burden of control lies on the market side, while authority burden implies that the burden of control lies on the government institutions side. Source: Own illustration, based on content analysis of EU PPM legislation.

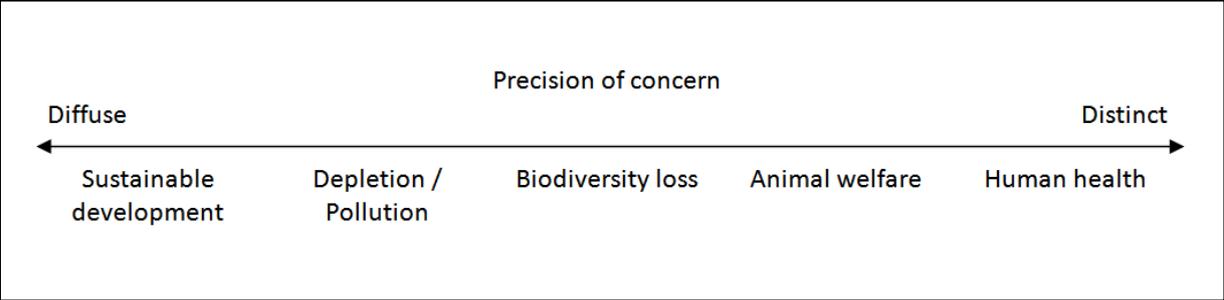
The ordering of ‘instrument’ in **Figure 3** reflects my own assessment of how difficult it is for an operator (i.e. individual producer or seller) to import a product to the European market<sup>9</sup>, based on the administrative details listed in the individual regulations and directives. It is purely ordinal, meaning that it makes no attempt to estimate how much more or less one instrument is restrictive compared to another.

Labelling leaves it open to the producer whether they want to adhere to certain PPM standards or not (and mark this with a label, e.g. the European Organic label), while non-labelled products continue to be admitted to the market without further requirements<sup>10</sup>. Although labelling as such does not technically represent an import barrier, I argue that, depending on the type of PPM in question, it does have an impact on sales through ‘naming’ and ‘shaming’. European consumers are quite particular when it comes to what they buy, especially when it comes to food. While the effect of organic labelling and eco-labelling may still be unclear, the mandatory labelling of GMOs has proven to be an outright barrier for such products to enter supermarket shelves and shopping carts (Gruère, 2006). Meanwhile, individual certification requires operators to accompany the product with proof that certain standards have been adhered to in the form of an approved certification scheme. Labelling and individual certification therefore place the burden of responsibility more on the consumer and producer side (i.e. the market participants).

<sup>9</sup> In some cases, the trade process concerns export of certain (European) products for further processing, e.g. in cases of disposal. Here, the restrictiveness describes how difficult it is for an operator to buy the exported products in question.

<sup>10</sup> This is provided that they have not been excluded from the European market for other reasons such as product safety.

Permits, on the other hand, require the operator to apply for authorisation to import or export a certain product based on its production method. Country certification means that only products from countries deemed capable of implementing the PPM standards required by the EU can be imported to the market, leaving the individual operator no choice (even if they were to adhere to the prescribed PPMs). Finally, a commercial ban means a complete ban of selling or buying the product on the European market<sup>11</sup>. These last three mechanisms place the burden of control on the national or border-control authority side.



**Figure 4. Precision of concern.** The scale shows types of concerns used by the EU to justify extraterritorial PPM legislation, ordered according to their degree of precision. Source: Own illustration, based on content analysis of EU PPM legislation.

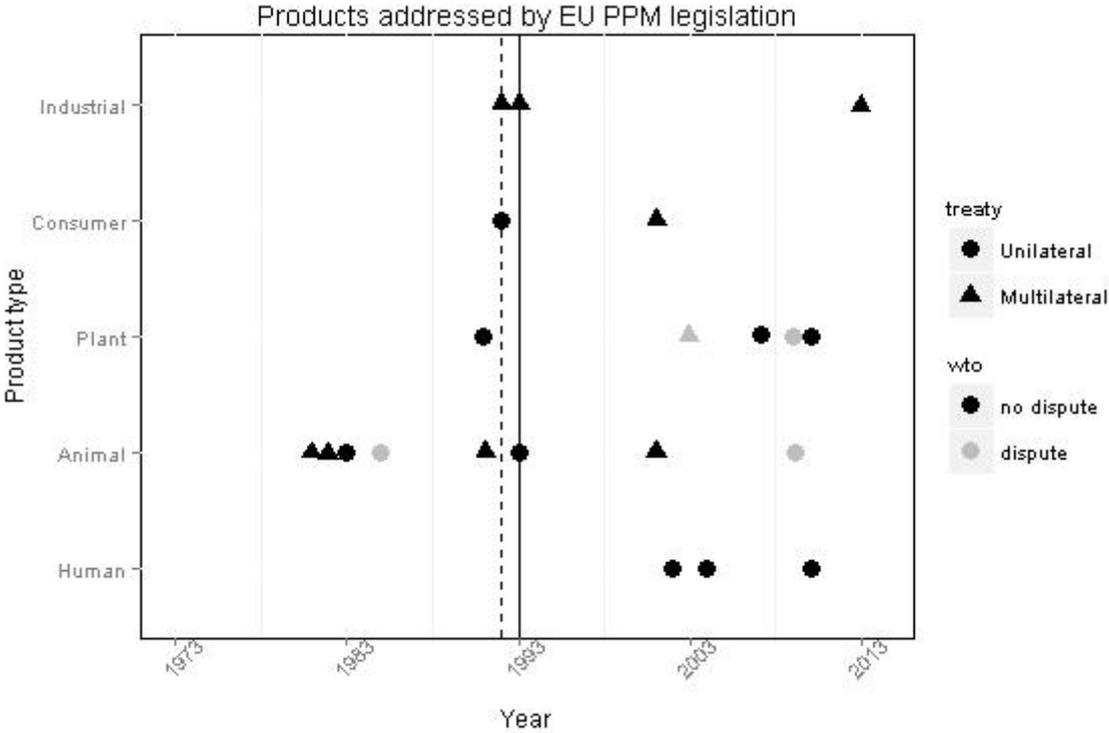
The ordering of ‘concern’ in **Figure 4** is my own assessment of how precise the reasoning used to justify a trade restriction is, based on content analysis of the regulations and directives. By using precision as a scale, I mean to order the concerns according to how specifically defined they are. The reason why I order the categories in this way is to trace any potential developments concerning how holistic and integrated the EU’s legislative rhetoric is in justifying its PPM standards. Again, the scale is purely ordinal.

In this context, I rank sustainable development as the most diffuse reasoning. It encompasses concerns on environmental degradation, resource depletion and poverty alleviation. Depletion/pollution leaves out the poverty component, but is still rather broad and can refer to any environmental system, be it atmospheric, oceanic or land based. Biodiversity loss concerns the depletion of flora and fauna and focuses primarily on the direct effects of hunting and fishing, rather than including more indirect factors such as pollution or land-use change. Animal welfare focuses

<sup>11</sup> In the case of commercial bans, the argument has been made that banning a product does not concern PPMs as there is no discrimination according to standards (Nielsen and Calle, 2013). Although I agree that this instrument is ostensibly directed at products and not PPMs, I have included them nevertheless if the intent of the ban was to improve an environmental or social deficit caused by a PPM. For example, a ban on dangerous chemicals is not included as it is the chemicals themselves that are objectionable. In contrast, the bans on seal or whale products were included as the products themselves do not pose harm inside the EU. Instead, it is the PPM of hunting seals or whales that is objectionable.

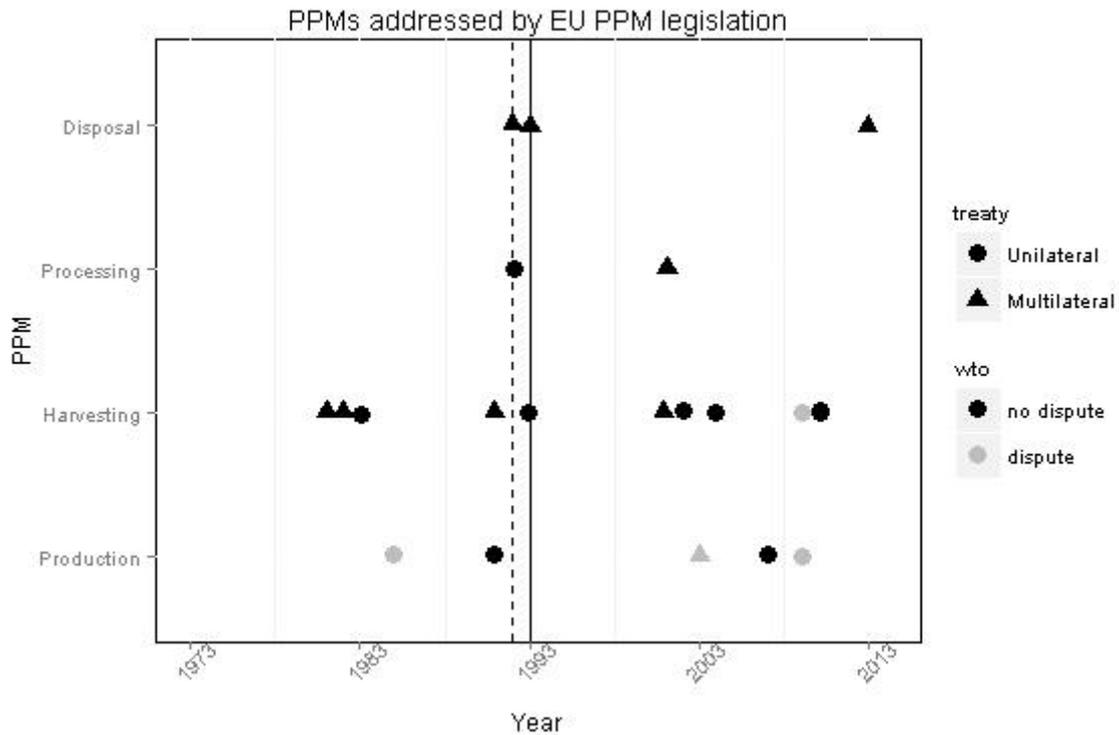
only on the wellbeing of a particular animal species or group of animal species. Finally, human health, concerning the mental and physical health of humans, is the most precise concern identified.

**4.1.3 Products and PPMs**



**Figure 5. Products addressed by EU PPM legislation.** The graph shows types of products that have been affected by European Union process and production method regulations between 1973 (the founding of EU environmental, health and consumer policy) and 2013. The vertical lines mark the adoption and the entry into force of the Maastricht Treaty in 1992/1993. Data points have been jittered to avoid overlap. Source: Own illustration, based on content analysis of EU PPM legislation.

In the history of European extraterritorial PPM regulation, animal products are those that have been addressed most frequently and most regularly. They are also the main products that were addressed before the Maastricht treaty entered into force. Plant products are addressed slightly less, while human, consumer and industrial products have been regulated quite rarely. One possible explanation for this is a heightened awareness and interest for animal rights and biodiversity issues amongst the general public in Europe, and their commonly ‘symbolic’ nature. Meanwhile, industrial products have been regulated only under the auspice of an international treaty, while human products (related to donation of organs, tissue or blood) are exclusively unilateral but all unquestioned before the WTO.



**Figure 6. PPMs addressed by EU PPM legislation.** The graph shows types of process and production methods regulated by the European Union between 1973 (the founding of EU environmental, health and consumer policy) and 2013. The vertical lines mark the adoption and the entry into force of the Maastricht Treaty in 1992/1993. Data points have been jittered to avoid overlap. Source: Own illustration, based on content analysis of EU PPM legislation.

The most commonly regulated PPM concerns a product at its stage of harvesting (including hunting, trapping, fishing, felling etc.). PPMs concerning production processes are also regulated quite often, but prove to be a lot more controversial with three out of five regulations (including one based on an international treaty) encountering challenges from the WTO. The two production regulations that have not been challenged do not actually restrict trade in a certain product, but rather encourage more trade in a similar product produced at higher standards (both concern organic agriculture). Processing has only been regulated twice, once under the auspice of an international agreement (concerning medical trials) and once using labelling as a ‘least restrictive’ instrument. The latter encourages more trade in a sustainably produced product rather than infringing trade of an unsustainably produced product (European Eco label).

PPM regulations concerning harvest/extraction seem to be an older phenomenon which initially relied on heavily on additional legitimacy from MEAs. Production, processing and disposal PPMs were regulated beginning around 1992/1993 (the notable exception being the controversial regulation on hormones in animal husbandry in 1985).

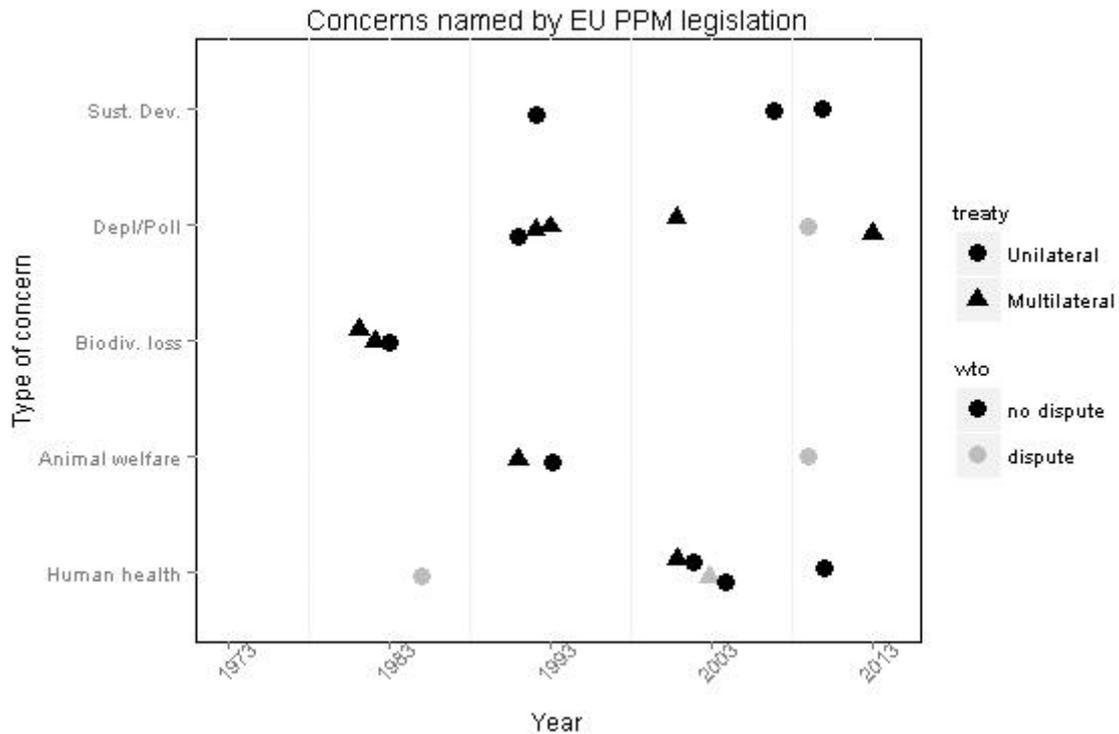


During the first half of EU environmental policy 'history' (i.e. from the introduction of the environment, consumers and health policy area at EU level in 1973 until the entry into force of the Maastricht treaty in 1993), the instruments used to regulate PPMs were mainly authority-burden and top-down, most of which were applied to implement an international agreement (top-left quadrant of graph in **Figure 7**). During this time, the only disputed case concerned legislation on the use of hormones in livestock husbandry and used individual certification as an instrument, falling out of the general trend of authority-burden approaches. The one other consumer-burden instrument applied in this period was the introduction of the EU's Eco-Label for consumer goods in 1992, representing the first use of a label open to all European and non-European producers alike but, as a 'positive' (naming) label, hardly restricting trade as such.

After 1993, the graph shows that the majority of cases are now situated in the bottom right quadrant, indicating a shift in the use of policy instruments towards increased producer/consumer-burden. Individual certification, in particular, became a very popular instrument, demanding from producers that they supply certification of the PPM standards required by European law if they wish to sell their product on the European market. Additionally, a majority of cases are now unilateral rather than based on an international agreement. One of the two authority-burden instruments in this period (the ban on seal products) was subject to dispute within the WTO. The one that was not challenged is the recent regulation on the recycling of ships under the Hong Kong convention.

Looking at disputes among the consumer/producer burden instruments, the 2003 case on GMOs challenged by the USA, Canada and Argentina did not dispute the process of labelling per se, but rather the de-facto moratorium on the import of GMOs caused by protracted approval of GM products for imports to the European market (WTO, 2008). Further, the 2009 case on the production of biofuels challenged by Argentina did not question the instrument of individual certification of sustainable production either, but rather addressed a discrimination of non-European biodiesel producers caused by a calculation method applied in Spain (WTO, 2012).

#### 4.1.5 Concerns



**Figure 8. Concerns named by EU PPM legislation.** This graph maps the types of concerns that have been named as primary reasons for restricting trade due to process and production methods between 1973 (the founding of EU environmental, health and consumer policy) and 2013. The y-axis is ordinal, ranging from human health (most precise reasoning) to sustainable development (most diffuse reasoning). Data points have been jittered to avoid overlap. Source: Own illustration, based on content analysis of EU PPM legislation.

Mapping the concerns named in EU PPM legislation indicates that concerns have been developing in two directions, away from biodiversity loss towards more general reasoning (depletion/pollution, sustainable development) on one hand, and more precise reasoning (human health) on the other. All of the unilateral PPM regulations that have been challenged by other WTO members lie quite far away from the observed trend, and the only unilateral PPM regulation outside of the movement which has not been subject to dispute uses a positive 'naming' label (EcoLabel). The one PPM regulation within the values trend line that was challenged concerns the tough authorisation and labelling process of GMO food and feed, which meant major losses for important economic actors (USA, Canada and Argentina) on the European market (Schneider and Urpelainen, 2013).

The most frequent concerns addressed in the EU's PPM regulations are depletion/pollution and human health (six cases each), although the latter has been used more frequently for justifying unilateral policies. Sustainable development also appears to be a popular concern in justifying unilateral PPM policies. Biodiversity loss has not been used as a principle concern since 1983;

however, this is slightly misleading, as many regulations have included some reference to biodiversity loss anyway, even though it may not have been the first concern mentioned.

## **4.2 Stage 2: Impacts on trade and diffusion of PPM standards**

In Stage 2, my analysis focuses on the diffusion of PPM standards abroad and the role that the EU's market power plays in this. I examine how EU PPM legislation has influenced trade in the cases of GMO labelling and the certification of biofuels. My aim is to provide some insight on how market systems react to unilateral PPM requirements set by a large economy such as the EU.

### **4.2.1 Labelling of GMOs**

The EU's regulations for dealing with GMOs in food and animal feed are some of the strictest worldwide. They involve a lengthy and expensive authorisation process that includes an application at the EC, scientific assessment by the European Food Safety Authority (EFSA) and a political decision by the European Council (Tiberghien, 2009). Once a GMO has been authorised for import to the European market, the respective product must be labelled if it contains more than 0.9 per cent of GMO presence. Non-approved GMOs are prohibited from entering the market, meaning that cargo which contains even the smallest traces of such must be returned to the port from which it came or destroyed (Davison, 2010). Although the approval of the GM itself by the EFSA is a science-based food safety assessment focused on the health impacts of the product, the mandatory labelling of GMOs is a purely political issue that relates to offering consumers information and a choice on the production process and any other ethical concerns. The corresponding EU regulation states that:

The labelling should include objective information to the effect that a food or feed consists of, contains or is produced from GMOs. Clear labelling, irrespective of the detectability of DNA or protein resulting from the genetic modification in the final product, meets the demands expressed in numerous surveys by a large majority of consumers, facilitates informed choice and precludes potential misleading of consumers as regards *methods of manufacture or production* [emphasis added]. (European Parliament and Council of the European Union, 2003, p. 5)

This implies that not only the actual presence of modified DNA in a product, but any use of GM technology along the production process triggers labelling. The resulting impact has been substantial, as European retailers and producers generally shun the use of GMO labels, and many labelled products never reach European supermarket shelves (Gruère, 2006).

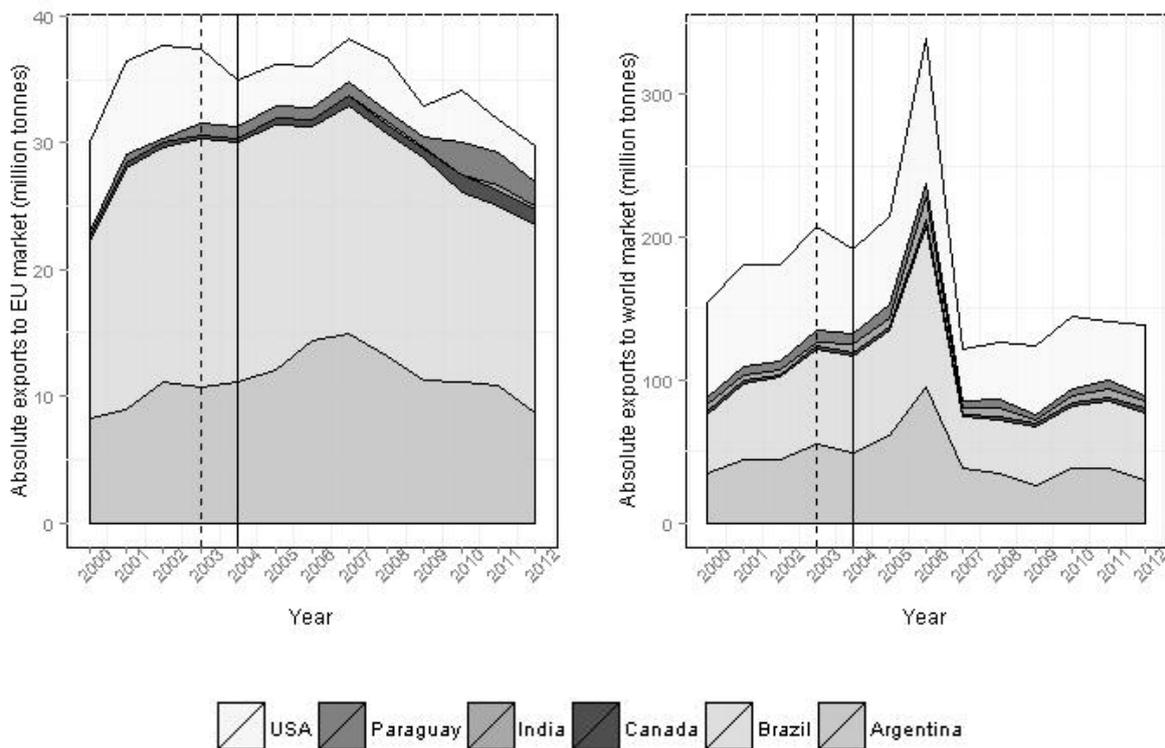
The EU's position as a leader on precaution towards GMOs started in 1999 when it introduced a de-facto moratorium on any new authorisations until a fitting legal framework to deal with biotech products was adopted. To protect its own regulatory approach from being challenged at the WTO level, it also pushed for endorsement of the precautionary principle at the international level, which resulted in the negotiation of the Cartagena Protocol on Biosafety in 2000 (Schneider and Urpelainen, 2013). Despite vehement resistance from major GM producers such as the United States, Canada and Argentina, the protocol entered into force on September 11<sup>th</sup> 2003, and now counts 103 signatory states. It requires the labelling of any shipments containing genetically modified products. The Cartagena Protocol also provides a legal basis for countries to ban imports of a GMO if they feel that there is not enough scientific evidence to assure its safety.

The effort that the EU has put into restricting the trade in GMOs has been attributed to various factors, ranging from the 'overly fearful' attitudes of European citizens to the institutional structure of the EU itself (Cantley, 2012; Skogstad, 2003). In any case, the role of civil society actors seems to have been central in promoting the politicisation and involvement of the public, therefore leading to 'regulatory competition' between the individual institutions of the EU and resulting in an upward spiral of regulatory strengthening (Tiberghien, 2009).

The EU's strict policies on GMOs led to one of the most controversial dispute settlement cases in the history of the WTO. Canada, the US and Argentina challenged the de facto moratorium of GMO authorisation on the European market. The complainants additionally questioned the un-proportional reaction of the EU to GMOs considering that their safety for human health had been approved by multiple authorities, including the EU's own EFSA. Interestingly enough, the EU countered that its precaution was not based on only questions of human health, but on a wider set of issues concerning the impacts that the production of GMOs has on environmental and social issues. But although the judicial panel ruled against the EU's moratorium, it did not affect the EU's legislation per se, as the moratorium had been lifted by the time the panel had made its decision (Winham, 2009).

To provide an overview of the impact that the EU's GMO policy has had on global trade, I examine the change in trade flows for soya, the most commonly planted GMO worldwide (GMO-Compass, 2014) and the most commonly imported feedstock to the EU (Kalaitzandonakes et al., 2014). The graphs below show exports of important soya producers to the EU as well as to the world market.

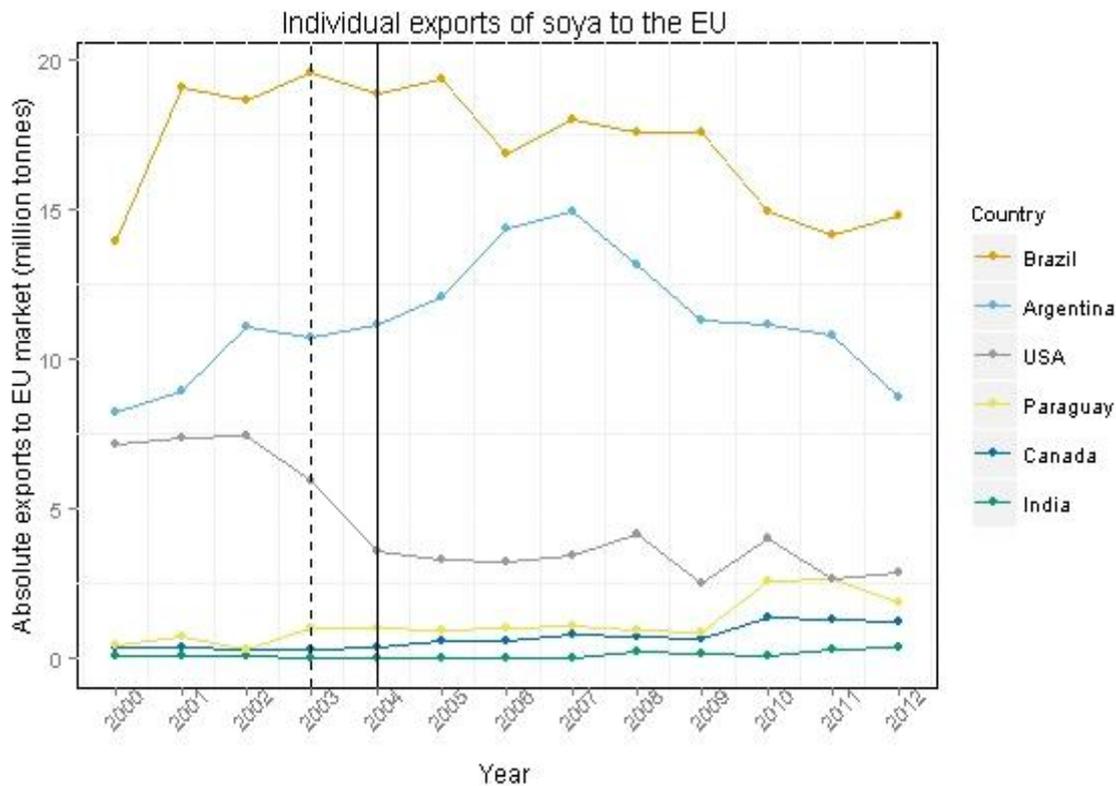
Stacked exports of soya to the EU and to the world market



**Figure 9. Stacked exports of soya to the EU and to the world market.** The graphs show exports of soya exports to the European Union market and to the world market between 2000 and 2012. Only major exporters are included. However, these cover nearly 100 per cent of soya exports to the EU and 90 per cent of soya exports to the world market. The vertical lines represent the adoption (2003) and implementation (2004) of regulations 1829/2003 and 1830/2003 on genetically modified food and feed. Source: Own illustration, based on data from UN Comtrade (2013).

In 2013, 79 per cent of cultivated soybeans worldwide were genetically modified, produced mainly in the USA, Brazil and Argentina. Approximately 20 per cent of all soya exports are bought by the EU, where three out of fifteen types of GM soya are authorised for import. While one type (MON4032, ‘RoundupReady’) had been admitted in 1996 under the previous food safety legislation, A2704-12 (‘LibertyLink’) and MON89788 (‘RoundupReady 2’) were authorised by the EC in September and December 2008 respectively (GMO-Compass, 2014).

**Figure 9** shows that regulations 1829/2003 and 1830/2003 did affect European and world trade flows, causing a slight reduction in exports to the EU and to the world market 2004. Exports to the EU continued relatively uniformly, but exporting countries experienced a peak in soya exports on the world market in 2006 due to record production in the USA, Brazil and Argentina, and increased demand from China. This was followed by drastic reductions in exports in 2007 caused by the world food price crisis (Ash and Dohlman, 2008).



**Figure 10. Individual exports of soya to the EU.** The graph shows exports of soya to the European Union market between 2000 and 2012. The individual horizontal lines depict absolute exports of major exporting countries. The vertical lines represent the adoption (2003) and deadline for implementation (2004) of regulation 1829/2003 on genetically modified food and feed. Source: Own illustration, based on data from UN Comtrade (2013).

In **Figure 10**, exports from Argentina (cultivating 98 per cent GM soya) to the EU show a positive reaction to the 2003 regulations, and exports from Brazil (cultivating 71 per cent GM soya) to the EU show only a slight negative reaction. By contrast, exports from the US (cultivating 93 per cent GM soya) to the EU fall steeply and remain relatively low. These different developments are explained by the introduction of a ‘zero tolerance’ policy for non-authorized GM products in the EU and the asynchronous GMO approvals in different countries. While Argentina and Brazil had both introduced only one variation of GM soya to their fields (namely the one that the EU had also authorised for import, RoundupReady), the US have authorised multiple GM soya types for cultivation, most of them not EU-approved (GMO-Compass, 2014). In trade, the separation of different types of GM soya is costly and impractical, and the zero tolerance policy means significant risk to trade operators. If traces of non-authorized soya are found in their cargo, it is refused entry to the EU territory or destroyed. This made reorientation to other markets on the event of the policy adoption a more attractive option to US exporters. Argentina correspondingly filled the gap that the drop in US exports to the EU created.

Interestingly, it seems that the authorisation of two new types of GM soya in 2008 did not lead to an increase of soya exported to the EU. Rather, exports to the EU steadily declined. At the same time, exports to the world market in general recovered and remained stable after the shock of the world food and financial crises. As described in the case of US exports, one possible reason for this may be the asynchronous authorisation of GMOs in the EU and its trade partners – not only for soya, but also for other products such as maize. This causes significant risk for trade operators and decreases incentives for GM producing countries to export to the EU (Kalaitzandonakes et al., 2014). One example for this is the EU's rejection of 180,000 tons of American non-GM soya flour containing small traces of (non-authorised) MON88017 maize in 2009 (Davison, 2010). These types of incidents cause disruptions in trade flows and seriously curtail the supply of the EU. The EC estimates that such trade disruptions with three or more of the major soya exporters would cause prices of soybeans and soy meal on the EU market to increase by 210 per cent (European Commission, 2010).

In reaction to the problems that the zero tolerance policy has caused, the EU accepted 18 additional maize variations and two additional soya variations for import between 2007 and 2010 (GMO-Compass, 2014). The EU also relaxed its policy in 2011 to allow animal feed containing up to 0.1 per cent of non-authorised GM crops to enter the European market (Commission Regulation 619/2011).

#### ***4.2.2 Sustainability certification for biofuels***

In the midst of discussions on how to fulfil the EU's climate commitments under the Kyoto Protocol, its concerns for gaining more independence from Russian oil imports, and its promotion of rural development, biofuels were identified by the EC as a key strategy for transforming the transport sector in 2001. The first biofuel directive was passed in 2003, but its voluntary commitments of using 2 per cent biofuels in the transport sector by 2005 were not reached in most Member States. In this period, concerns for the effectiveness and the sustainability of using biofuels grew, with NGOs and Member State governments alike warning of the use of biofuels without including further environmental requirements (Afionis and Stringer, 2012).

The EU set itself ambitious climate mitigation goals known as the '20-20-20' target in preparation for a leading role in the Bali climate change conference in 2007. The goal was to achieve 20 per cent reduction of greenhouse gas (GHG) emissions from 1990 levels; 20 per cent renewable energies in the EU's energy consumption; and a 20 per cent improvement in energy efficiency by 2020 (European Commission, 2014a). These targets were institutionalised in the 2009 climate and energy package, which included a directive on renewable energy (RED). The directive stipulates a mandatory goal to use 10 per cent biofuels in the transport sector by 2020, and, in reaction to concerns for the sustainability of their production, requires that any biofuels contributing to this 10 per cent goal be

produced according to certain sustainability criteria (European Parliament and Council of the European Union, 2009). Accordingly, the biofuel must save 35 per cent of GHG emissions compared to fossil fuel, and the feedstock is not to be derived from primary forests, lands with high biodiversity value, protected territories or carbon rich areas. Word by word, the directive states that:

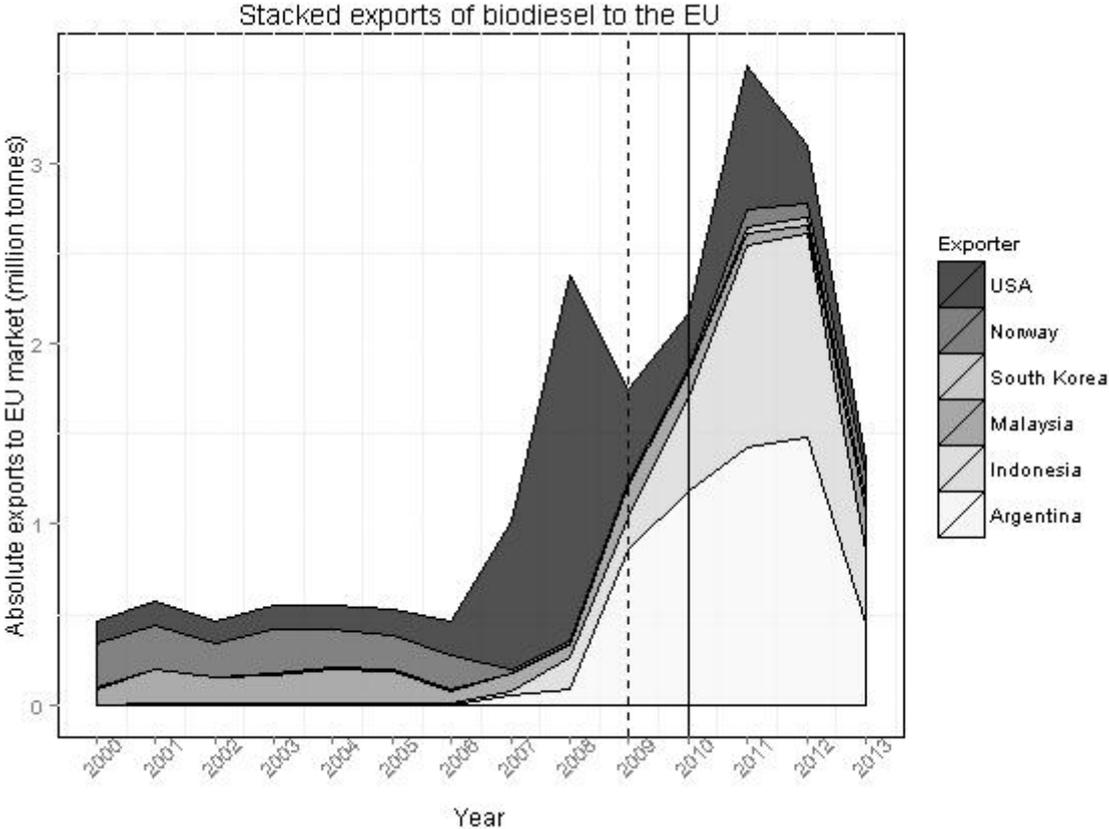
The increasing worldwide demand for biofuels and bioliquids, and the incentives for their use provided for in this Directive, should not have the effect of encouraging the destruction of biodiverse lands. . . . For these reasons, it is necessary to provide sustainability criteria ensuring that biofuels and bioliquids can qualify for the incentives only when it can be guaranteed that they do not originate in biodiverse areas or, in the case of areas designated for nature protection purposes or for the protection of rare, threatened or endangered ecosystems or species, the relevant competent authority demonstrates that *the production of the raw material* [emphasis added] does not interfere with those purposes. (European Parliament and Council of the European Union, 2009, p. 16)

To ensure that imported biofuels have been produced according to these sustainability criteria, the EC has approved 15 certification schemes that it accepts as valid indication for a sustainable production. Only biofuels certified by one of these certification schemes are eligible for government support and can count towards the Member States' (mandatory) national renewable energy targets (European Commission, 2014b).

The core sustainability criteria of 35 per cent GHG emission savings poses a de facto discrimination for countries producing biofuels which lie under this threshold. Especially palm-oil based production is affected, as the EU's default GHG savings for palm-oil biodiesel are listed at only 19 per cent (while rapeseed biodiesel, which is predominantly produced in the EU, is listed at 38 per cent). Palm-oil exporters such as Malaysia and Indonesia therefore have cause to question the EU's sustainability criteria before the WTO, as deliberations in May 2010 by the Malaysian minister of plantation industries showed (ICTSD, 2010). In October 2010, the EU launched negotiations on a Free Trade Agreement (FTA) with Malaysia (European Commission, 2014c) while preparations for FTA negotiations with Indonesia were started in 2011 (European Commission, 2014d). However, neither of the two countries has questioned the sustainability criteria so far. A complaint that was lodged by Argentina in 2012 concerned discrimination due to biodiesel accounting methods used by Spain, but did not address the sustainability requirements of the EU as such (WTO, 2012).

Analysing international trade flows in biofuels represents a challenge due to ambiguities in the use of harmonised system (HS) trade codes. Bioethanol is especially difficult to trace, as it is hardly differentiable from ethanol used for non-fuel purposes and is reported through multiple HS codes. I therefore restrict my analysis to biodiesel, coded as an industrial product under HS code 382490

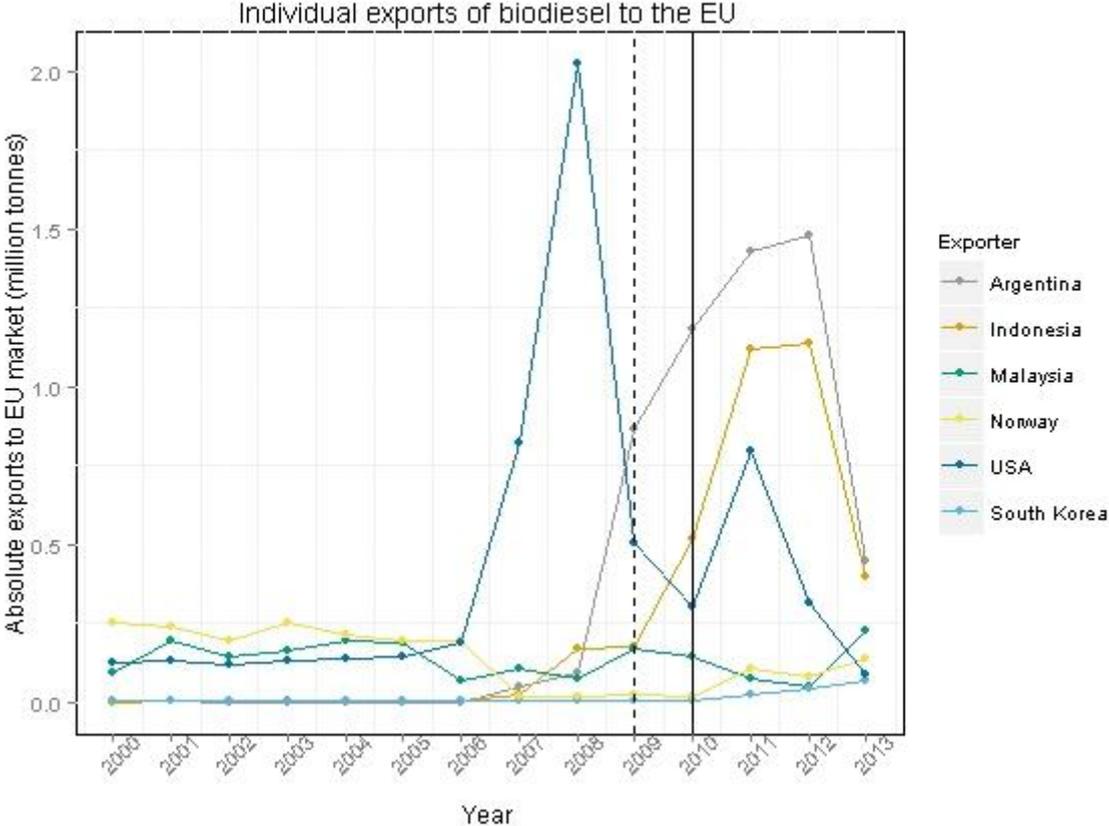
(until 2011) and 3826 as of 2012. It is the most commonly used biofuel in the EU (Junginger et al., 2011). Unfortunately, the UN Comtrade database does not include HS 3826 in its statistics database yet, which is why I use data from Eurostat (2014). The limitation of this is that it restricts judgement on whether biodiesel producing countries have redirected their exports to other buyers instead. To make up for this, I rely on information from trade reports.



**Figure 11. Stacked exports of biodiesel to the EU.** The graph shows exports of biodiesel (HS 382490 & HS 3826) to the European Union market between 2000 and 2013. Only major exporters are included. These cover approximately 80 per cent of biodiesel exports to the EU. The vertical lines represent the adoption (2009) and deadline for implementation (2010) of the Renewable Energy Directive 2009/28/EC. Source: Own illustration, based on data from Eurostat (2014).

**Figure 11** shows large fluctuations in the amounts of biodiesel exported to the EU between 2000 and 2013. Biodiesel imports from the US rose exponentially between 2006 and 2008 due to high US subsidies for the biodiesel mix B99. This severely damaged the European biodiesel market and was countered by an EU anti-dumping duty in March 2009, set to last until 2014. Consequently, biodiesel produced by US companies has been struck with import duties of 214€ to 409€ per metric tonne (ICTSD, 2009). While this had a severe impact on US biodiesel production in 2010, the industry recovered the following year and production continues to increase (National Biodiesel Board, 2014). The decline in US exports to the EU gave way to increases in Argentine and Indonesian biodiesel,

which were supported by national tax systems incentivising the export of processed biodiesel rather than primary material. These were again countered by the EU with anti-dumping duties in 2013 of 237€ and 179€ respectively, set to last until 2018 (Hart Energy, 2013).



**Figure 12. Individual exports of biodiesel to the EU.** The graph depicts exports of biodiesel (HS 382490 & HS 3826) to the European Union market between 2000 and 2013. The individual data lines depict absolute exports of major exporting countries. The vertical lines represent the adoption (2009) and deadline for implementation (2010) of the Renewable Energy Directive 2009/28/EC. Source: Own illustration, based on data from Eurostat (2014).

The developments in exports depicted in **Figure 12** show that the RED did cause an increase in biodiesel exports to the EU, not only by Argentina and Indonesia, but also by the USA (in spite of existing anti-dumping measures). Its sustainability criteria curbed imports to the EU in 2012, due to the fact that final rules and applicable certification schemes were only set in July 2011. Soy-biodiesel (31 per cent default GHG emissions savings) and palm-oil biodiesel imports (19 per cent default GHG emissions savings) did not qualify for admission to the 10 per cent goal, making imports of soya-biodiesel from the US fall again drastically while imports of soya-biodiesel from Argentina and palm-oil biodiesel from Indonesia declined. In addition, the anti-dumping measures introduced in 2013 further reduced imports from these two countries, raising the question of whether the EU will be able to meet its 10 per cent goal by 2020 at all (Hart Energy, 2013). In reaction to the EU’s trade

barriers, Argentina and Indonesia both raised their national fuel blends from 8 per cent and 7.5 per cent respectively to 10 per cent biodiesel. Trade reports show that this increase in domestic demand plus an increasing demand from other countries such as the US, India and China has ensured that the countries' national biodiesel production was not affected (McFerron, 2013; Nielsen and Gonzalez, 2013; Rusmana and Listiyorini, 2014).

## **5 Discussion**

In this section, I recapitulate the principle results from my analysis and place them in the context of theories on Europe as a power. Using my results, I discuss whether the concepts of Normative Power Europe and Market Power Europe are helpful in explaining the European Union's regulation of extraterritorial PPMs and suggest alternative concepts that may be helpful for further explanation. I also discuss the implications of unilaterally using trade barriers to regulate PPMs for environmental governance and sustainability. Finally, I reflect on the limitations of my research approach and suggest relevant topics for further scientific inquiry.

### **5.1 Adoption of PPM legislation – Normative Power Europe?**

Most of the PPMs that the EU has regulated unilaterally concern early stages in the production line of natural (biological) resources and have been subject to attention from civil society and media. Animal products addressed come from seal culling, whale hunting, animal trapping and questionable conditions in livestock rearing and slaughter houses. Plant products have received attention in the context of industrial vs. organic agriculture, deforestation, and biotechnology in food. Human products are subject to discussions on human rights and the (illegal) trade in organs.

In contrast, later stages such as processing or disposal are only sparsely addressed, and consumer products or industrial products have received a lot less attention than primary products. Use of the EU's normative power seems to be dependent on the nature of the topics and whether they are emotionally accessible and attractive to the average EU citizen. This influence of an idea's emotional quality on policy making has been termed "valence" by Cox and Béland (2013, p. 308), who claim that ideas with high emotional quality have a greater potential to influence policy change than ideas with low emotional quality. The increased attention directed towards such issues then leads to regulatory competitiveness between the institutions of the EU and other political actors – a struggle in the lime-light of media attention which causes a tightening spiral of regulation (Tiberghien, 2009). Meanwhile, other issues which may have more impact from a scientific point of view are not as

attractive to the public (e.g. industrial and transport emissions contributing to climate change or extraction of mineral resources) and thus are not addressed by PPM legislation.

The types of instruments used by the EU to restrict trade in commodities with objectionable PPMs have become increasingly reliant on consumer/producer burden rather than authority burden. The use of labels and certification schemes rather than permits or bans shows a shift towards more deregulation and the outsourcing of control mechanisms. It reflects an adaptation to what some scholars have identified as the rise of 'liberal environmentalism': a change in global norms away from the separation of environmental protection and economic growth towards the concept of sustainable development (Bernstein, 2001). Liberal environmentalism promotes market and other economic mechanisms over 'command-and-control' instruments (e.g. standards, bans, quotas) as the preferred method for environmental management. A similar development has also been observed in policy areas other than trade, for example in the EU's increasing 'self-censorship' in climate change negotiations (Zelli et al., 2013). It indicates that the EU is struggling with internal tensions between different interest groups and normative principles in its efforts to regulate PPMs abroad. As Anthony Zito (2005) has observed, sustainability is not only a late arrival in the group of core principles, it also competes with other and more dominant principles such as economic freedom and policy agendas such as trade liberalisation.

The concerns used to justify the EU's PPM legislation reflect developments in the focus of discussion at an international level. While wildlife conservation was a dominant international concern in the 1970s/1980s, a more anthropocentric focus on social issues, health, poverty and development was taken in the 1990s. Particularly, resource depletion, pollution and sustainable development are current topical issues on the international environmental policy agenda. Legislation that did not fall within this pattern was more prone to be challenged within the WTO. This observation reflects the importance of referring to internationally accepted norms in policy making if the policy is to be considered as legitimate (Checkel, 1997). Furthermore, the predominant framing of regulations as a health or depletion/pollution concern demonstrates a conscious effort to place PPM regulations under the general exceptions clause of the GATT to avoid challenge from other WTO members. It supports the argument that WTO rules serve as a frame of reference and rhetorical device for European regulatory politics (De Ville, 2012).

I therefore conclude that the portrayal of Europe as a normative power is only useful to a certain extent when it comes to internationalising PPM standards. For one, the EU's regulatory attention is placed primarily on publicly salient issues with high emotional accessibility. It thus leaves out larger problems that may be less attractive but would require more urgent international leadership. Rather than being an independent normative leader, it is careful to match its legislation with

contemporaneous environmental policy foci at the international level. Embedded in an international web of obligations and expectations, the EU is a conglomerate of actors with competing views on how things ought to be done rather than a single powerful actor with a concrete normative agenda.

## **5.2 Impacts on trade and diffusion – Market Power Europe?**

The EU's strict regulations of GMOs can be attributed to a path dependency that evolved through its market harmonisation policy and because certain Member States (with more concerned citizens) were better at pushing for their own governance model rather than from a concerted, normative perspective on GMOs. Its international promotion for the precautionary principle results from its domestic policies and the wish to protect these from challenges before the WTO (Falkner, 2007). Nevertheless, the EU leadership sent important signals to many developing countries. In particular those who were dependent on trading with the EU chose not to adopt GMOs for fear that their products would no longer be accepted by the European market (Clapp, 2006).

For the case of soya (the most commonly cultivated GMO), the total impact that this diffusion of norms had is ambiguous. Although the labelling policy may have resulted in more non-GM soya being sold in European supermarkets, the crop is mainly used as animal feed, and farmers buy GM soya because it is comparatively cheap. Global production of the crop is dominated by only three countries, all of which have adopted GM technology. Although two of them (Argentina and Brazil) have heeded to introduce only GMOs that are also authorised by the EU, the European 'zero tolerance' policy, in combination with unavoidable contamination during shipping, has led operators to reorient their exports towards other markets. This in turn is causing shortages in animal feed and a decline in animal husbandry, leading to more (GMO-fed) meat being imported from outside European borders (European Commission, 2010). The EU therefore had to increasingly relax its GMO policy by approving more variations for import and accepting a 0.1 per cent contamination level for animal feed imports in 2011.

The promotion of biofuels has led biodiesel producing countries to support this relatively new industry, with exports from the USA, Argentina and Indonesia rising exponentially. In reaction, the EU imposed anti-dumping duties on all three countries for fear of losing its own market share. The sustainability criteria for biofuels are therefore no longer of relevance to the three largest biodiesel producing countries. Instead, the prohibitive anti-dumping duties discourage any export to the EU at all. The affected countries have increased their domestic consumption and redirected their exports to alternative markets. As more and more countries are transferring to biofuels out of energy security reasons, there is no shortage of demand. Meanwhile, the reduction in supply threatens to undermine the initial climate change goals of the EU, as production in other countries complying with

the EU's sustainability criteria is not high enough to meet the import demands necessary for reaching the 10 per cent goal (Hart Energy, 2013). This makes an adoption of further sustainability requirements unlikely, but as the price for biodiesel on the European market rises, it might increase the attractiveness of smaller producers to comply with the existing criteria.

While the EU may be able to diffuse its standards to countries with low economic power and high dependence on its market (e.g. developing countries who have concluded bilateral FTAs or fall under the EU's Generalised System of Preferences<sup>12</sup>), its influence on large, independent producers is low. The EU's market power is also a weakness. Market size can influence producers to a certain degree, but high demand for imports also creates dependencies on available products, which forces the EU to relax its restrictions in the long term.

'Trading up' in PPM standards can only work if trade flows remain open. Barriers which are too high make any sustainability requirements ineffectual, as producers will reorient their exports to alternative markets (often with no sustainability requirements at all). In principle however, the EU remains an attractive market to export to despite its stiffer sustainability requirements; it offers the rule of law, comparatively low levels of corruption, and long term security under a number of bilateral and multilateral trade partnerships. Finding a middle range trade barrier which is not too strict and not too lax therefore presents the most effective way of unilaterally diffusing higher PPM standards abroad.

It may be more appropriate to speak of a 'pragmatic' power EUrope<sup>13</sup> instead of either NPE or MPE. This concept, suggested by Steve Wood (2011), refers to the EU's diplomatic actions and explains its relations to human-rights violating countries such as Russia and China. It describes the EU as an actor which perceives and accepts the "imperatives and limitations of temporal, spatial or relational circumstances" (Wood, 2011, p. 246). Its export of values is subject to continuous assessments of constraints and opportunities in any given context. Although primarily used in an international relations context, pragmatic power EUrope seems to be equally appropriate for explaining the EU's actions in the area of environment and trade.

### **5.3 Implications for environmental governance and sustainability**

The products that I have analysed are eventually used to meet consumer demands, either for direct consumption or indirectly for inputs to other consumer products. However, taking consumer

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<sup>12</sup> The Generalised System of Preferences is a scheme which gives developing countries and territories preferential access to the EU's market. For further detail see Zvelc (2012).

<sup>13</sup> The spelling of EUrope is deliberate as it makes an effort to explicitly refer to the political entity of the European Union (EU) rather than Europe as a geographical area.

responsibility for a product produced on the other side of the globe is difficult to do, as the individual consumer can hardly know about or influence the production process in question (Lenzen et al., 2007). Due to the prevalence of international trade, this physical disconnection from the production process applies to many consumer products worldwide. In order to apply consumer responsibility at the global level, it is essential to act as a critical mass. When a single or small group of consumers cannot take responsibility, an entire economy can. By raising sustainability demands for imported products, a country or region can reassure producers across the globe that their products will be bought, even if higher production standards entail higher prices. The larger the economy, the more assurance it can deliver. This raises the question whether large economies have the obligation to demand higher PPM standards for the sake of environmental and social welfare abroad.

The EU's single market is the 2<sup>nd</sup> largest economy worldwide. According to its legal and political rhetoric, it is actively trying to address its consumer responsibility by demanding higher standards for PPMs within and outside of its own territory. In addition to allegations of hidden market-protectionism, these attempts have been criticised for not being stringent enough or causing unsustainable side-effects. For example, the sustainability criteria for biofuels are not deemed all-encompassing (Switzer and McMahon, 2011); the restrictions in trade with GMOs are accused of causing trade disruptions and a shortage in animal feed; (Davison, 2010); the ban on seal products will result in EU consumers buying fur from caged animals instead (Nielsen and Calle, 2013); and the certification of timber will only redirect illegal timber towards being used in the paper and pulp industry (Bosello et al., 2013).

My results show that the EU's legislation focuses only on salient and popular topics while other, more urgent issues, are not addressed. The EU's will to improve environmental and social standards is subject to restriction by economic interests. Finally, the EU's power is constrained by its inherent dependency on what is supplied on the world market. All these shortcomings paint a bleak picture concerning the ultimate effectiveness of trying to address the impacts of PPMs through unilateral trade restriction. But while they indicate issues in need of improvement, they are no reason to abandon attempts at trying to take consumer responsibility for the negative social and environmental impacts caused by the production of consumer products abroad.

It is the obligation of sustainability scientists to take a step back from individual cases and look upon a system in its entirety. It is also in their obligation to provide solutions and answers, rather than being restricted to critical research and problem descriptions (Kates, 2011). Taking this step back from the criticisms of individual cases above, I argue that despite their shortcomings, the EU's unilateral efforts to improve PPM standards should not be prejudged. The use of trade barriers to address concerns for social or environmental protection of any kind (and especially the disputes

caused by this) draws attention to grievances at an international level amongst actors who may not normally have knowledge of or interest in such matters.

Furthermore, large economies with democratically elected governments represent many millions of citizens, therefore carrying the political legitimacy and power to push through 'unorthodox' approaches within the WTO. The more legitimacy a state (or, as in the singular case of the EU, a group of states) has, the more likely it is that the judiciary arm of the WTO will judge in its favour (Kelemen, 2001). If such an actor uses trade barriers to address social and environmental issues, this upgrades the legitimacy of these concerns vis à vis the dominant paradigm of economic growth and liberalised trade. Indicators for this are the change in legal baseline after the Shrimp-Turtle rulings pushed through by the USA (Howse, 2002), the adoption of the Cartagena Protocol through EU lobbying (Schneider and Urpelainen, 2013) and the recent ruling on the ban in seal products, where pure "public moral concern" was accepted as a legitimate reason for upholding a ban by the EU which would could effectively be considered as breaking WTO rules (WTO, 2014).

In sum, these developments lead to a gradual shift in norms at the international level and increase the acceptance of trade barriers in addressing social and environmental problems. Such a shift is necessary if PPMs are to be regulated multilaterally rather than unilaterally. From an international governance perspective, multilateral agreements carry more legitimacy than unilateral endeavours (Brack and Gray, 2003). However, they also need to be able to impose trade restrictions if they are to be effective in reducing social and environmental pressures (Eckersley, 2004). Although it may not reap a full harvest, the EU's efforts to push for extraterritorial PPMs by using trade barriers ploughs the field for stronger multilateral agreements in the future.

#### **5.4 Further reflections**

My results and conclusions are subject to certain limitations related to the approach and the methods that I chose to use. Taking a bird's eye perspective to identify general trends and developments in a complex system such as international trade is inevitably prone to some degree of speculation. Multiple and unaccounted-for variables may have had an influence on my observations. Individual case studies analysing the policy process towards the final PPM law as well as modelling its impacts on the markets and policies of trading partners are therefore needed to confirm the results of my thesis.

Additional questions for further research on PPM regulation through trade could address why some salient topics (especially connected to animal products) are more likely to be regulated than other topics which have also been subject to public debate (e.g. conditions in textile production). It would

also be interesting to examine more in depth how the EU uses certain rhetorical terms to justify its trade barriers at the international level and within the WTO. Future research could also analyse what effects 'leakage' through European trade barriers has, e.g. how a redirection of exports from major producers affects local markets of smaller economies. Finally, the question of how AB rulings on PPM disputes are changing norms on protecting non-economic interests through trade barriers should be addressed in more depth.

## **6 Conclusion**

In this thesis, I examined the European Union's use of trade barriers to diffuse standards for process and production methods outside of its own borders. I did this in the context of displaced social and environmental pressures through the import of labour and resource intensive products by post-industrialised countries. I tested theoretical claims of Europe as a normative power and Europe as a market power by examining which PPMs are regulated by the EU, in what way, and how this has impacted trade and the diffusion of PPM standards in the EU's trade partners.

My results show that the use of trade barriers to regulate PPMs is limited to highly salient and publicly debated topics. The instruments used to restrict trade have increasingly transferred the burden of control to the market participants' side, predominantly using certification schemes and labelling rather than permits and bans. The concerns used to justify these trade restrictions reflect contemporaneous international norms and foci. They also tend to fall within the general exceptions clause of the GATT to avoid challenge by other WTO members.

The EU is generally an attractive and large market to export to; therefore producers and producing countries will make efforts to adhere to its PPM requirements. This is especially true for smaller economies that have bilateral trade agreements with the EU. Countries with more economic power and independence will also (in part) align their policies to the EU's requirements, but only if trade barriers are not too high. If barriers prove to be too costly, producers redirect their exports to alternative markets and/or increase their own consumption of the product. This is exemplified by the Indonesian and Malaysian increase of biofuel mix in domestic fuels.

The normative power that is attributed to the EU seems to be used only in publicly debated, emotionally accessible issues when it comes to legally regulating the sustainability of PPMs. Other topics which may not be as salient or which could have significant economic impact on European producers and consumers are not addressed using unilateral trade restrictions. However, some more technical issues have been regulated under the auspice of international treaties.

The EU's market power is relevant in its ability to incentivise trade partners to adhere to its PPM requirements, as well as in its potential to enhance the legitimacy of social and environmental concerns vis à vis economic interests within the WTO. However, it is also limited due to its high demand for imports and its dependency on what products are available on the world market. NPE and MPE are therefore useful only to a certain extent in explaining the EU's actions in regulating PPM standards. Other factors such as market protectionism and market stability restrain its will and power to address its consumer responsibility in a comprehensive manner.

It may therefore be more apt to speak of a 'pragmatic power Europe', as this concept has greater scope and flexibility when explaining the actions of the EU. As Wood (2011) argues, "Europe has a pragmatic ethics, guided by what is considered possible in practice, and responsive to context and interests. This governs the influence of normative ambition in Europe's politics." (p.249). Although the concept has only been applied to international relations issues and not so much to environmental or economic topics, it seems to be an appropriate alternative for explaining action in these policy areas as well.

Concerning broader questions of governance and sustainability, I conclude that the use of trade restrictions is generally a controversial policy measure. It calls attention to social and environmental grievances amongst a wider audience than purely political negotiations are able to. Large economies, such as the EU, have the political power and legitimacy to push for the use of trade barriers in regulating social and environmental problems related to the production process of products. This leads to a gradual change in norms of what is acceptable by the WTO and adds to the legitimacy of non-economic interests within the international trade system. Such a development in norms can, in turn, prepare the ground for stronger multilateral agreements on PPM regulation.

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## Annex

**Table 2. List of identified regulations and directives that restrict trade based on the PPM of a product.**

	Year	No.	Topic	Treaty	V1	V2	V3	V4	V6
1	1981	348/81	Common rules for import of cetacean products	Int. Whaling Conv. (1948)	2	2	5	3	0
2	1982	3626/82	Implementation in the Community of the CITES	CITES (1975)	2	2	3	3	0
3	1983	83/129/EEC	Importation of skins of certain seal pups	0	2	2	5	3	0
4	1985	85/649/EEC	Prohibiting the use hormones in livestock farming	0	2	1	2	1	1
5	1991	2092/91	Organic production of agricultural products	0	3	1	4	4	0
6	1991	3254/91	Prohibiting the use of leghold traps	Bern convention (1982)	2	2	4	2	0
7	1992	92/3/Euratom	Shipment of radioactive waste	Basel convention (1975)	5	4	4	4	0
8	1992	880/92	Community eco-label award scheme	0	4	3	1	5	0
9	1993	93/119/EC	Protection of animals at time of slaughter	0	2	2	2	2	0
10	1993	259/93	Shipment of waste	Basel convention (1975)	5	4	4	4	0
11	2001	2001/20/EC	Implementation of good clinical practice in clinical trials	Helsinki declaration (1964)	4	3	2	1	0
12	2001	1035/2001	Catch documentation scheme for Toothfish	CCAMLR (1982)	2	2	2	4	0
13	2002	2002/98/EC	Standards for collecting, processing and distribution of human blood	0	1	2	2	1	0
14	2003	1829/2003 & 1830/2003	Genetically modified food and feed	Cartagena protocol (2003)	3	1	1	1	1
15	2004	2004/23/EC	Standards for collection, processing and distribution of human tissue	0	1	2	2	1	0
16	2007	834/2007	Organic production and labeling of organic products	0	3	1	1	5	0
17	2009	2009/28/EC	Sustainable production of renewable energy (biofuels)	0	3	1	2	4	1
18	2009	1007/2009	Trade in seal products	0	2	2	5	2	1
19	2010	2010/45/EU	Standards of quality and safety of human organs intended for transportation	0	1	2	2	1	0
20	2010	995/2010	Obligations for operators who place timber products on the market	0	3	2	2	5	0
21	2013	1257/2013	Ship recycling	Hong Kong convention (2009)	5	4	3	4	0

