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Title

The Global Governance of Trade in Agriculture: The Role of Tariff and Non-Tariff Measures Illustrated with an Example of Agricultural Exports from South Africa to the EU.

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List of Acronyms

AoA	Agreement on Agriculture
AVE	Ad-Valorem Equivalent
CMO	Single Common Market Organization
DDA	Doha Development Agenda
DSM	WTO Dispute Settlement Mechanism
EU	European Union
FAO	Food and Agricultural Organization
FAO	Food and Agricultural Organization
FTA	Free-Trade-Agreement
GE	General- Equilibrium
GI	Geography Indication
GMS	General Marketing Standards
HS	Harmonized System Classification of Trade
IMF	International Monetary Fund
ITC	International Trade Centre
LDC	Least developed countries
MAST	Multiple Agencies Support Team
MFN	Most Favored Nation Tariffs
NAV	Non-Ad-Valorem Tariff
NTL	National Tariff Line
NTM	Non-Tariff Measures
OECD	Organization for Economic Co-Operation and Development
PGE	Partial-General Equilibrium
SACU	Southern African Customs Union
SMS	Special Marketing Standards
SPS	Sanitary and Phytosanitary Standards
SSG	Special Safeguard Provision
TBT	Technical Barriers to Trade
TQR	Tariff Quota Rates
TRAINS	Trade Analysis and Information System
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
UN	United Nations
UN COMTRADE	United Nations Commodity Trade Statistics database
UNCTAD	United Nations Conference on Trade and Development
UNIDO	United Nations Industrial Development Organization
USA	United States of America
USD	US-Dollars
USDA	United States Department of Agriculture
WTO	World Trade Organization

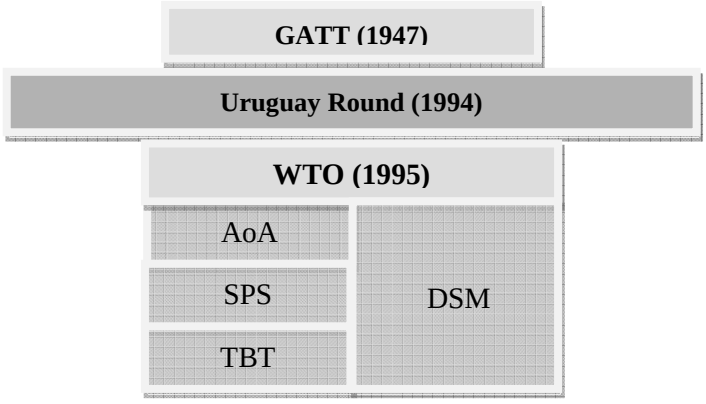
Introduction

Due to its importance to food security and employment, the agricultural sector is a source of international conflict and inherently vulnerable to shocks and insecurities in the past and present (Henson and Loader 2001: 86). Accordingly, nation-states view respective domestic agricultural sectors as an exception, which merits protectionism and which needs protection from the rigors of free market forces and international competition without incurring heavy social, economic and political costs. For that matter, states traditionally impose protectionist measures to guard domestic agricultural sectors from external shocks. Paradoxically, the implementation of widespread protectionist measures has led to increasing volatilities in the supply and demand of agricultural commodities, e.g. by causing subsidized surplus stock (Friedmann 1982: 86). Against the backdrop of deep structural frictions and the implementation of pervasive protectionist measures, intergovernmental organizations aim to liberalize the global governance[1] of trade in agriculture.

The conclusion of the Uruguay Round in 1995 of the General Agreement on Trade and Tariffs (GATT) and the consequent adaption of the Agreement on Agriculture (AoA), the Agreement on Technical Barriers to Trade (TBT Agreement) and the Agreement on the Application of Sanitary and Phytosanitary Standards (SPS Agreement), have increasingly institutionalized the global governance of trade in agriculture. The establishment of the AoA, with the replacement of GATT by the World Trade Organization (WTO) in 1995, constitutes a framework regulating the trade in global agriculture, placing a heavy emphasis on the liberalization of agricultural markets and the abolition of tariffs and export subsidies - predominantly invoked by developed countries (Gonzales 2002: 439). SPS and TBT Agreements regulate the administration of appropriate health and technical standards, which are subject to oversight by the WTO. The WTO also arbitrates international trade disputes and therefore hosts the Dispute Settlement Mechanism (DSM), enabling states to issue legal complaints against other states engaging in unfair trade practices (Josling et al 1999: 11).

[1]Here, global governance refers to the way in which global affairs pertaining to trade in agriculture are managed. As there is no global government, global governance typically involves a range of actors including states, as well as regional and international organizations. However, a single organization may nominally be given the lead role on an issue, for example the World Trade Organization in world trade affairs. Thus global governance is thought to be an international process of consensus-forming which generates guidelines and agreements that affect national governments and international corporations (adapted from http://www.who.int/trade/glossary/story038/en/).

Figure 1: **Global Governance of Trade in Agriculture**



The establishment of the WTO and the ratification of the AoA aimed at the re-construction of the global governance of agriculture and food by inducing a global level-playing field. Due to the implementation of policies geared towards the liberalization of international trade, overall tariffs are increasingly reduced (Henson and Loader 2001: 87, Hoekman et al 2003: 182, Cadot and Gourdon 2012: 4). Policy advocates accord the reduction of tariffs to the WTO and regard it as a victory. Although consensus exists that global tariffs on goods are widely disbanded, the agricultural sector appears particular resilient to tariff reductions, when compared with other sectors such as the manufacturing one (Tokarick 2003: 17, Gibson et al 2001: iii). With the decline of tariffs, literature suggests that states search for alternative mechanisms to substitute protectionist effects historically achieved with the application of tariffs. Scholarly research points to the implementation of non-tariff measures (NTMs) as one of the most important policy tools to do so (Limao and Venables 2001: 451, Weybrock and Xia 2000: 235, Basu et al 2012: 1). Thus, NTMs constitute an ever more important measure to deter imports from third parties invoked by national governments.

There are three shortcomings with this observation when addressing the global governance of agriculture and food. Firstly, evidence that the deployment of NTMs increases as a response of the decline of tariffs is not proven. States make continuous use of tariffs to protect domestic agricultural industries, especially within sectors that are of particular sensitivity[2] towards domestic industry interests. Secondly, methodologies to measure the effect of tariffs and NTMs predominantly analyze cases in aggregate and at the state level, ignoring any legal trade-frameworks that

[2]A sensitive import usually has a pivotal role in the domestic sector of the importing country. Imports represent a threat to sensitive products because they are very susceptible to competition. However, there is no pre-determined or official list on what sensitive products exist.

affect bilateral or regional trade mechanisms. Lastly, this narrative is state-centric and treats the evolution of NTMs as a given, with no alternative policy maneuvering possible but the substitution of tariffs by NTMs. An exclusively state-centric approach fails to account for the role of alternative actors, such as private actors in the form of transnational corporations, which exercise an increasingly important role in the regulation of agricultural trade, for example by issuing private standards.

In order to address the aforementioned three shortcomings (NTMs as substitute for tariffs; ignorance of contextualized legal frameworks; state-centralism) and to make a wider contribution to academic ideas pertaining to the global governance of food and agriculture, this study is divided into two distinct, but interrelated, parts. The first part consists of a quantitative case study of agricultural exports from South Africa to the European Union (EU) and addresses the criticism that NTMs act as a substitute for tariffs. It also advocates for methodologies to put a greater focus on the trade context as opposed to only performing studies in aggregate. South Africa is the EU's largest trading partner in Africa with substantial and varied agricultural exports (Gonzalles-Melado 2011: 28). As stated by Disdier et al (2008: 341), exports from developing or middle-income countries are widely subjected to NTMs by developed countries. Thus, a case study of the EU and South Africa is suitable to illustrate that, in this particular case, NTMs are not substituted for tariffs to act as protectionist tools. In addition, I illustrate that it is important to consider the legal dimension in any given trade context as trade does not take place in a vacuum or level playing field for all parties involved. South Africa and the EU trade under a free trade agreement (FTA) in place since 2000, aimed at phasing out tariffs and other measures impeding fair trade between both partners. Deploying the concept of the international food regime, I show that the legal dimension of the governance of global agricultural trade is geared towards institutionalizing historical advantages by the EU vis-à-vis South Africa. The EU continues to protect sensitive domestic industries in which South Africa also has a competitive advantage (e.g. in wine and spirit). Thus, I demonstrate that analyzing the legal trade dimension in context gives important insights into the governance of agricultural trade.

The second part of the study addresses the criticism that the global governance of trade in agriculture represents an issue area that is dominated by national governments only. Departing from my case study of South African agricultural exports to the EU, I introduce the argument that private entities in the form of transnational corporations are also important actors when it comes to the global governance of agriculture. Transnational corporations,

specifically agrofood corporations, exercise growing power and authority within this policy area via the issuance of private standards. I deploy the concept of "private authority" Hall and Biersteker (2002) propose, to illustrate that the issuance of private standards is a de facto policy tool available to private actors, which needs to be taken into consideration when conceptualizing the global governance of trade in agriculture. Thus, it is possible to account for wider trends within the global governance of agriculture and food. To give coherence to the overall study, and to link both parts to a wider conceptual framework, I deploy a common theoretical background throughout the entire study. The concept of the "international food regime", developed by Friedmann (1982) and McMichael (1994), is used to explain developments within the global governance of agriculture, away from the state and towards agrofood corporations.

The study proceeds as follows and begins with a literature review. The literature review initially outlines the theoretical entry point drawn from prevailing literature on the international political economy of agri-food systems, the concept of the international food regime. This approach is then used throughout the study to map out how public institutions (i.e. the EU) deploy trade policy tools available to them in a fashion that benefits domestic industries, rather than due to pressure to liberalize via the WTO. Having established a theoretical background applicable to the entire study, the literature review proceeds to look at the importance of tariffs and NTMs in regulating agricultural trade. Hereby, I particular scrutinize methodologies to measure the role of tariffs and NTMs as protectionist tools.

Following the literature review, I execute a case study of agricultural exports from South Africa to the EU. In order to do so, I start the second chapter with a brief description of the Common Agricultural Policy (CAP) regulating EU-internal and external agricultural trade by positioning its mechanism within the wider theoretical framework deployed (international food regime). The second part provides a brief historical overview of trade relations, specifically agricultural ones, between the EU and South Africa. The third chapter consists of a quantitative analysis assessing whether the EU uses tariffs and/or NTMs to protect sensitive domestic industries and concludes that only tariffs are used as protectionist tools, with the deployment of NTMs being non-discriminatory. Within the fourth and last chapter, I propose the argument that the issuance of private standards by agrofood corporations is consistent with the theoretical background deployed throughout the study and that the global governance of trade in agriculture should not be conceptualized as exclusively state-centric. This section consists of an introduction to the argument that the issuance of private standards by agrofood corporations is a legitimate angle to demonstrate that private

entities act as key players in the global governance of agri-food systems. It primarily aims at pointing to future research needs in the study of the global governance of agriculture that departs from an exclusively state-centric view, rather than giving an exhaustive account of this argument. Moreover, the chapter finishes with a summary highlighting the main study findings and concludes that deploying the concept of the international food regimes helps to generate insights into the global governance of trade in agriculture that is consistent with empirical findings.

Literature Review

A Theoretical Entry Point: the International Food Regime

Friedmann (1982) and McMichael (1989, 1984) developed the concept of the international food regime in the 1980s and offer a trajectory of capitalism by looking at the historical construction of the international food order (Richardson 2009: 676). Friedmann (1982: 31) defines a *food regime* as "the rule-governed structure of production and consumption of food on a world scale." According to Friedmann (1982: 31), the creation of an institutionalized international food regime took place in 1947 with the establishment of GATT enabling the agricultural sector to largely self-regulate. Self-regulation takes place via implicit rules shaped by the exercise of power and property across nations, reflecting changing balances of power among states, organized national lobbies, classes (farmers, workers, and peasants) and capital. Established rules governing the international food regime lead to the production of a stable pattern of power, which prioritizes regulations by national governments and focuses on the US and Europe (Friedmann 1982: 32). Trade-distorting mechanisms, such as export subsidies and import controls, are manifestations of power integral to the global food regime (Friedmann 1982: 32). Henceforth, the US and Europe managed to produce surplus stock of many staple crops during the 1970s, such as grain and wheat, which in return they sold cheaply to developing nations, posing difficulties for the construction of domestic industries which could not compete with artificially low prices (Friedmann 1982: 31).

Historically, the international food regime marks periods of crisis (conflict) and transitions. The first crisis affecting the international food regime coincided with the Oil Crisis of the early 1970's. During this crisis there was a sudden and unexpected shift from surplus agricultural products to scarcity due to the sustained increases in the price of agricultural inputs. The culture of exports subsidies and import bans led, yet again, to the return of excess surplus stock from the early 1970's onward, and the disposal of overflow stock in foreign markets continued (Friedmann

1982: 70). The period following the 1970's constitutes the rise of transnational corporations outgrowing national regulatory frameworks that gave rise to them in the first place, by controlling international value chains inherent to the large-scale industrialization of the agricultural sector (McMicheal 2002: 4). Agrofood corporations became the major agents attempting to regulate conditions of the international food regime in order to maximize planning security, investments and profits (Friedmann 1982: 52). In addition, the 1980s are characterized by the phase of Détente between the US and the Soviet Union, the rise of large-scale agricultural production in individual countries of the "Third World", such as Brazil, as well as increased competition between surplus stock of the US and Europe (Friedmann 1982: 35). McMichael locates the third and last crisis to date within the global Financial Crisis of 2008 (McMichael 2009: 1). The confluence of a number of factors sparked this most recent crisis. Most importantly, the continued dependency on fossil fuel and the newly established push for biofuel produce inflation and financial speculation and are the substantial factors cited to contribute to the last crisis (McMichael 2009: 2). Additionally, McMichael (2009: 2) argues that transactions pertaining to trade in agriculture and international trade in general, continue to take place under a regime of neoliberal policies and monopolies of price mechanisms (McMicheal 2009: 2).

Friedmann (1993: 29) argues that the establishment of the WTO extends corporate power vis-à-vis national governments and public institutions. This study takes this theoretical assumption as a starting point and develops the idea that the establishment of an international legal trade framework, administered by the WTO, constitutes a crucial conjecture in the formation of a modern-day international food order and regime. The international food regime allows for the implementation of tariffs under the regulation of the WTO, as well as the management of NTMs. States issue NTMs and tariffs and I demonstrate that the deployment of tariffs constitutes an important policy tool to deter agricultural imports from third parties. At the same time, I use the concept as a method to illustrate how the provision of a public good, such as the regulation of quality and safety measures, is not a policy space limited to the state, but that corporations also yield influence within this policy space.

History of Tariffs and Non-Tariff Measures

This study concentrates and contributes to aspects of the international food regime that deal with the establishment of an international food order and the role of the implementation of the legal trade framework in which private actors are important agents. The precursor to the WTO, the GATT, was established in 1947 and demarcates the start of the first phase of the international food regime, according to Friedmann (1982: 84). The transformation of the

GATT into the WTO takes place during the second phase of the international food regime. The establishment of the WTO is a pivotal landmark in re-stabilizing global agricultural markets via the reform of trade rules (McMichael 2009: 294). The inception of the WTO accelerated the abolition of tariffs and also institutionalized the administration of public NTMs, such as health and safety standards. The aim was to harmonize standards globally in order to prevent abuse and facilitate transparency of trade between nations (Cadot and Gourdon 2012: 3). The TBT Agreement ensures that technical regulations, i.e. standards, testing and certification procedures are applied on a scientific basis without unnecessary obstruction of trade. The SPS Agreement relates to the assurance of animal and plant health, i.e. controlling for bacteria, pesticides used, inspection and labeling. Oversight of the implementation of the TBT and SPS Agreement lies with three intergovernmental bodies, the Codex Alimentarius Commission (Codex), the World Organization for Animal Health (OIE) and the Secretariat of the International Plant Protection Convention (IPPC).

Definition of Non-Tariff Measures

Scholars propose various definitions for NTMs over the last decades. The most basic definition of NTMs entails so-called "border effects". Border effects refer to regulations which goods need to fulfill to cross borders, such as SPS and TBT standards (Disdier et al 2008: 339). The deployment of publicly issued border effects is supervised by the WTO and its corresponding agreements. In addition, the most inclusive definitions of NTMs include so-called "beyond-the-border-effects." Domestic shortcomings, such as poor infrastructure and inefficient administrative capacities, constitute beyond the border effects and refer to impediments to exports (Cadot and Gourdon 2012: 3). The establishment of the Multiple Agencies Support Team (MAST) in 2007 is an institutional effort to set up a common taxonomy for NTMs with. An array of international agencies (World Bank, UNCTAD, International Trade Centre, Food and Agricultural Organization, Organization for Economic Cooperation and Development, United Nations Industrial Development Organization, International Monetary Fund, and WTO) set up MAST to harmonize research and analysis on the impact of NTMs. The MAST team proposes that NTMs are measures that affect imports (such as regulations and standards) and subsidize exports. Hereby, NTMs are largely divided into technical (e.g. sanitary and phytosanitary standards) and non-technical measures (e.g. intellectual property rights, rules of origin[3], etc.). However, this approach classifies any regulation in place as a NTM, although most regulations relating

[3] Rules of origin are the criteria needed to determine the national source of a product. Their importance is derived from the fact that duties and restrictions in several cases depend upon the source of imports. (http://www.wto.org/english/tratop_e/roi_e/roi_info_e.htm).

to health and safety concerns are put in place due to genuine concerns that are backed by scientific research. Beghin and Bureau (2001: 109) acknowledge that for a regulation or a standard to act as a NTM, it must be deployed with the primary intention to protect national producers. Thus, NTMs are tools predestined to be protectionist measures due to a lack of transparency regarding their legitimacy. Dell'Aquila et al (2007: 270) acknowledge that there are often disputes in regards to determining which NTMs are necessary and legitimate and which are not.

Mahé raises another issue concerning a broad definition of NTMs (cited in Beghin and Bureau 2001:108). Mahé suggests that only NTMs that have a welfare distorting effect[4] should classify as trade barriers and NTMs that do not cause welfare distortions should not classify as barriers. Hereby, it is irrelevant whether NTMs are issued due to legitimate concerns or whether they are deployed with the sole intention to restrict imports, as long as overall welfare distortions do not occur. Disdier et al (2008: 336) go as far as to say that certain regulations and standards can actually have a positive effect on exports because they signal to consumers that products are safe. This effect, however, is only valid as long as accompanying regulations and standards in question do not have a trade impeding effect, i.e. prohibiting greater imports.

This study deploys a definition of NTMs that is more restrictive in its application by referring to NTMs solely as "border effects", i.e. by referring to measures that are imposed by the importing country on exports of third-parties. Hillman (1991) and Beghin and Bureau (2001: 108) support this definition in stating that NTMs are all restrictions other than traditional tariffs (cited in Beghin and Bureau 2001: 108). A more restrictive definition of a NTM is deployed in this study because I am only interested in so- called "border effects" and not "beyond the border effects." In addition, this study has a limited scope and it is unfeasible to determine which NTMs are issued solely as protectionist measures and which are not. Similarly, welfare distorting effects are irrelevant to the scope of my study, which is why I do not accommodate Mahé's criticism of NTM's effect on welfare distributions.

[4]Welfare economics is a branch of economics that focuses on the optimal allocation of resources and goods and how this affects social welfare. Welfare economics analyzes the total good or welfare that is achieved at a current state as well as how it is distributed. Welfare economics uses the perspective and techniques of microeconomics, but they can be aggregated to make macroeconomic conclusions. Because different "optimal" states may exist in an economy in terms of the allocation of resources, welfare economics seeks the state that will create the highest overall level of social welfare.

Table 1: Classification of NTMs

	Technical Measures		Examples
Imports	**A**	Sanitary and Phytosanitary Measures	Restricted use of certain substances
	B	Technical Barriers to Trade	Traceability information required
	C	Pre-shipment Inspections and other Formalities	Requirement to pass through specific port
	Non-Technical Measures		
	D	Contingent Trade Protective Measures	Antidumping duty
	E	Non-Automatic Licensing, Quotas	Licensing for pre-specified use
	F	Price-Control Measures Incl. Additional Taxes and Charges	Voluntary export price restraints
	G	Finance Measures	Regulations on foreign exchange mechanism
	H	Measures Affecting Competition	Compulsory use of national services
	I	Trade Related Investment Measures	Trade balancing measures
	J	Distribution Restrictions	Restrictions on resellers
	K	Restrictions on Post-Sales Services	Post-sales need to be administered by local entity
	L	Subsidies	Financial support
	M	Government Procurement Restrictions	Buying national products only
	N	Intellectual Property	Trademark restrictions
	O	Rules of Origin	Proof that product originated in specified county
Exports	**P**	Export-Related Measures	Export prohibition

Source: UNCTAD 2012

Defining Tariffs

The definition of a tariff is straightforward, as a tariff is a widely used protectionist trade tool. In the most basic sense, a tariff is a customs tax levied on imported commodities based on the monetary value of the import (*ad-valorem* tariff) (MAcMap Glossary). Next to ad-valorem tariffs, there are four other types of tariffs called non-ad-valorem tariffs (NAs), which are all more complicated to administer and quantify than an ad-valorem tariff. For example, a specific tariff is related to the measures of weight, volume, and surface or similar. It sets out how many units of currency are to be levied per unit of quantity (e.g. 5EUR per liter) (MAcMap Glossary). A compound tariff, on the other hand, is comprised of an ad-valorem duty to which a specific additional duty is subtracted or added (e.g. 5% plus 5EUR per liter) (MAcMap Glossary). A mixed tariff is based on a conditional choice between an ad-valorem duty and a specific duty subject to an upper (ceiling) and/or lower bound (floor) (e.g. 5% or 5EUR per liter, whatever is highest) (MAcMap Glossary). Technical tariffs are based on technical details of a product (e.g. alcohol

or sugar content) (MAcMap Glossary). The Uruguay Round of 1994 recognized the need to standardize tariff measurements in order to be able to compare the magnitude of different tariff types deployed (Gibson 2006: 5). As a consequence, non-ad valorem tariffs were converted to ad-valorem tariffs. This process is commonly referred to as "tariffication" (MAcMap Glossary).

Table 2: Overview of Tariffs

Tariff	Description	Example
Ad-valorem Tariff	Tariff reflects percentage of monetary value of imports	10%
Specific Tariffs	Tariff is related to measures such as volume, weight, surface (as opposed to the monetary value of imports)	5% per 5 liter
Compound Tariffs	Tariff comprising ad-valorem duty in addition to specific duty which is subtracted or added	5% plus 5EUR per liter
Mixed Tariffs	Tariff is based on conditional choice between an ad-valorem duty and a specific duty, subject to upper (ceiling) and/ or lower (floor) bound	10% or 5EUR per liter, whatever is higher
Technical Tariffs	Tariff is determined by specific technical factors	Alcohol content

Source: Information compiled from MAcMap.org, Author's Own

Unlike a NTM, a tariff is always deployed with the sole intent to protect domestic producers (Gibson et al 2001: 3). Gibson et al (2001: 3) point out that tariffs always have two negatives. Firstly, they raise the price of imports, leaving it uncompetitive with domestically manufactured commodities. Secondly, tariffs at times deter exports all together, which leaves the potential exporter with exports forgone (Gibson et al 2001: iv). Tokarick (2003:14) confirms this observation by asserting that tariffs always have substantial effects on distorting bilateral trade.

Prevalence of Tariffs and Non Tariff Measures

There is scholarly consensus that with the conclusion of the Uruguay Round in 1994, and the establishment of the WTO in 1995, the gradual liberalization of global trade takes place. Literature suggests that the deployment of tariffs has lessened over the last decades due to the institutionalization of multilateral trade agreements (Limao et al 2001: 451, Henson and Loader 2001: 91, Weybrock and Xia 2000: 235, Cadot and Gourdon 2012: 4). A majority of scholars agree that, concurrent with the global decline of tariffs; the issuance of NTMs increases and equally impedes free trade flows (Henson and Loader 2001: 85; Weybrock and Xia 2000: 235). Additionally, there is strong

support within the literature suggesting that NTMs are used as substitutes for tariffs in deterring imports (Henson and Loader 2001: 91, Weybrock and Xia 2000: 235, Gonzales-Mellado et al 2011: 11, Roberts et al 1999: i). Analogous with these findings are views of the Trade Report of 2012 of the WTO, which reports that NTMs are almost twice as restrictive as tariffs (WTO 2012: 136), thus acting as an efficient tool to deter imports.

While there is a consensus that the establishment of the WTO caused a reduction of applied tariff, scholars single out the agricultural sector as one of the most resistant sectors to wide-ranging and all-encompassing tariff reductions (Gonazales-Mellado et al 2011: 87). Gibson et al (2001: iii) executes a survey of global tariffs and finds that tariffs are on average 62% higher in the agricultural sector than in the manufacturing sector. Hereby, ad-valorem tariffs add an average of 58% to the price of a commodity, whereas non-ad-valorem tariffs raise the price of a commodity by 123%. Love et al (2009: 57) corroborate this account by stating that "tariffs on agricultural products are on average higher than those on industrial products." However, there are considerable fluctuations in the applications of tariffs in general and in agriculture in particular, depending on the country (Love et al 2009: 57). Although numerous accounts attest to the exceptional perseverance of tariffs in the agricultural sector, a study by Henson and Loader (2001: 87) finds that with the implementation of the "Agreement on Agriculture" (AoA), the curbing of tariffs in the agricultural sector takes place across product groups. According to Henson and Loader (2001: 87) the average reduction in tariffs on agricultural products by developed countries ranges from 26% in the case of dairy products to 48% for cut flowers, plants and vegetable materials, leading to an average overall tariff reduction of 37%.

The concept of the international food regime proposes that power and control over production of the agricultural sector takes place on a global scale and lies at the state level. National governments with the aim of protecting domestic industries issue tariffs and NTMs (Friedmann 1982: 83). There are explicit (e.g. SPS and TBT agreements) and implicit (e.g. prohibitively high tariffs) rules that govern trade in agriculture. The WTO essentially acts as the nominal body to govern the global dimension of trade in agriculture and sanctions the legal use of tariffs and NTMs. Although research indicates the progressive decline of tariffs in world trade, a stable pattern of production and power emerged and only encourages the slow dismantling of protectionist policy tools.

Friedmann (1982: 83) attests that highly industrialized nations skew the global governance of trade in agriculture in their favor, specifically the US and the EU, to engrain historical trade advantages in the agricultural sector gained since the end of the Second World War. This manifests with long-running disputes, which less industrialized nations

have brought to the WTO. A study by Moenius (2004: 2) finds that SPS and TBT regulations have a strong negative effect on the agricultural sector, hampering trade. However, this effect cannot be found in the manufacturing sector, where standards have a positive effect (Moenius 2004: 2). It is difficult to distinguish between legitimate regulations and ones that are put in place with the primary purpose of deterring imports from third parties. The Group of 33 (G33)[5] requesting WTO members to show restraint in the application of TBT and SPS standards to products originating from the G33 epitomize this ambiguity (Disdier et al 2008: 336). The average export structure of developing countries makes them particularly vulnerable to protectionist regulations in the agricultural sector. Henson and Loader (2001: 86) find that from 1980-1997, agricultural and food products composed roughly 25% of total merchandise exports from sub-Sahara Africa. This notion is supported by Disdier et al's (2008: 341) findings that developing countries' exports are proportionally more affected by SPS and TBT standards, than developed countries' exports, due to the fact that they largely export agricultural products.

A substantial amount of research deals with the question which country, or group of countries, deploys the largest amount of regulations and standards in a protectionist manner. In order to establish which countries are the biggest offenders, it is common to analyze trade disputes put forward with the WTO Dispute Settlement Mechanism (DSM). The WTO DSM permits countries to file formal complaints in regards to unfair trading practices by other countries (Roberts et al 1999: 11). Disputes regarding the deployment of NTMs are frequent and take place between developed and less developed countries, but also among developed countries themselves. However, literature suggests that highly industrialized countries receive most complaints, and that the majority of complaints pertain to the agricultural sector. Hoekman and Nicita (2008) substantiate this finding and show that the impact of NTMs' restrictiveness for agricultural trade is especially valid for developed countries.

Moreover, in terms of SPS and TBT regulations, the EU, next to Japan and the US, receive the most complaints in regards to deploying NTMs. Geography Indication (GI) measures upheld by the EU constitute a large amount of complaints. GI measures restrict the use of certain names for products that are not originating in a particular area, or that are not processed according to a particular standard, such as champagne or cheddar. The EU contests that the unauthorized use of GIs harms consumers and legitimate producers, which in return need to be protected (Dell'Aquilla 2008: 348). This is notably applicable for regional and bilateral trade agreements that the EU

[5] The Group of 33 consists of 46 developing countries that streamline demands made during trade negotiations at the WTO.

concludes with third parties and which include intellectual property rights clauses that firmly regulate labeling procedures, predominantly in the wine and spirits market (Dell'Aquilla 2007: 272).

Review of Methodologies

The majority of methodologies analyze the effect of tariffs and NTMs in aggregate, whereby the local trade context and applicable trade concessions are ignored. I argue that this can lead to egregious policy recommendations and enables the construction of models that misrepresent fundamental realities on the ground. Methodologies concerning the study of tariffs and NTMs differ in their approaches. Most studies focusing on the study of the effects of tariffs use a partial or general equilibrium model[6], which makes it possible to assess welfare gains and losses caused by tariffs. A study by Tokarick (2003) deploying a partial and general equilibrium approach finds that tariffs on imports are a far greater cause for distortion of welfare effects than domestic subsidies. Hoekman et al's (2003) study confirms this finding by stating that reducing tariffs by 50% has a larger positive effect on developing countries' exports than reducing domestic subsidies by 50%. Gibson (2006), on the other hand, generates a catalogue of bound[7] and applied tariffs[8] of product groups and finds that while the US and the EU have the lowest overall agricultural tariffs, specific product groups such as dairy and beef are subject to 'megatariffs', i.e. tariffs that are particularly high. Also, Hoekman et al (2003) find that while the EU and the US might have the least tariffs applied, the impact of their tariff restrictions is much more intense than that of other countries.

Several studies give an overview of current methods in place to account for the role of NTMs in general. Institutions with policy relevance, such as the OECD, UNCTAD and the WTO are at the forefront to assess different methodologies. Among the first surveys on the quantification of NTMs is the study of Bora et al (2002), published by UNCTAD. Similarly, Ferrantino (2006) published a survey of methods on the quantification of NTMs with the OECD. More recently, the World Trade Report of 2012 by the WTO dedicates an entire chapter to the cataloguing

[6]General equilibrium theory studies supply and demand fundamentals in an economy with multiple markets, with the objective of proving that all prices are at equilibrium. The theory analyzes the mechanism by which the choices of economic agents are coordinated across all markets. General equilibrium theory is distinguished from partial equilibrium theory by the fact that attempts to look at several markets simultaneously rather than a single market in isolation. A partial equilibrium theory only looks at the clearing of a particular market.

[7]Bound rates or bound tariffs represent the upper threshold to which a country is allowed to raise its tariff on an item, as committed under the GATT. This commitment is called tariff binding.

[8]Applied tariffs or applied tariff rates are considered to be the tariff rates applied by a customs administration on imported goods. They are the rates published by national customs authorities for duty administration purposes. These rates are often considerably lower than the bound rate established as a result of trade negotiations or than the rate listed in the national tariff schedules. They can also be lower than the MFN rate. Applied tariff rates also include the preferences that a country may apply to certain trading partners as a result of a bilateral or regional trade agreement.

of measures on how to quantify the impact of NTMs and UNCTAD issued a review of methods in 2013, executed by Fugazza. Aforementioned surveys identify a wide array of studies and findings on the methodology of the quantification of NTMs, which are largely consistent with each other.

In addition, there are several studies that specifically survey methodologies concerning the quantification of NTMs in the agricultural sector. Most notably, Beghin and Bureau's study (2001) lays the groundwork in accounting for existing methodologies. Among others, Disdier et al (2008) and Gonzales-Mellado et al (2011) draw on the survey conducted by Beghin and Bureau (2001) when analyzing most widespread methodologies to quantify NTMs. Most common methods concerning the quantification of NTMs in general, and for the agricultural sector in particular, largely match and are classified as the price-wedge approach, the gravity model approach, the survey-approach, and the inventory approach.

The price-wedge approach provides an ad-valorem tariff equivalent (AVE)[9] towards measuring trade impacts. It compares domestic prices, including tariff equivalents, with international prices and attributes discrepancies to NTMs (Beghin and Bureau 2001: 113, Fugazza 2013: 9). A number of limitations, such as the assumption that domestic and international commodities are perfect substitutes (Fugazza 2013: 9), render this model less suitable for the quantification of the effects of NTMs.

In contrast, scholars consider the gravity-approach as one of the most appropriate methodology to measure the impact of NTMs (Anderson and Wincoop 2003: 171, Disdier et al 2008: 341). The gravity model approach relates bilateral trade flows to GDP, distance and related data that affect trade barriers. It includes information on NTMs as explanatory variables and compares predicted trade flows in the absence of NTMs (Disdier et al 2008: 337). Thus, foregone trade caused by NTMs can be measured. Gebrehiwet (2007: 30) cites the limited amount of data one needs to compute it as one of the major advantages of the gravity model approach. In addition, the popularity of this approach has led to the elaboration of theoretical considerations, making it a robust choice (Gebrehewit 2007: 30).

[9] "An AVE is a tariff presented as a percentage of the value of goods cleared through customs. It is the equivalent of a corresponding specific tariff measure based on unit quantities such as weight, number or volume. There are several methodologies for calculating AVEs. The method chosen depends on the intended application of the data. Most important to the process of calculating an AVE is the way the Unit Value of the product is calculated. The unit value is the value of each unit quantity imported of a product. It is based on the total value of imports of that product divided by the quantity of import" (MAcMAp Glossary).

The majority of studies involve large n-samples which aggregate information at the state level. Gebrehiwet et al (2007) use the gravity model and find that SPS measures have a severely restraining effect on South African food exports. In addition, Otsuki et al (2001) find that 10% tighter aflatoxin[10] standards will reduce imports by 11% and that new EU regulations, that are tighter than international standards, will lead to 63% lowers trade flows of groundnuts. Bellanawithana et al (2009) find that the deployment of NTMs characterizes agricultural trade between developed countries, whereas exports from developing to developed countries still face greater tariff obstacles.

The survey approach, on the other hand, does not aim at quantifying the size of the impact of NTMs as much as understanding the relative importance of different NTMs (Beghin and Bureau 2001: 115). The survey-approach usually comprises structured interviews, or questionnaires, for relevant export businesses to answer (Fugazza 2013: 10). Few studies deploy a survey approach due to the fact that conducting surveys is relatively time and resource-intensive (Fugazza 2013: 11). However, the EU commissioned a major study utilizing a survey approach in 2011 to assess the importance of different NTMs (Gonzales-Mellado et al 2011). The study draws ninety-five questionnaires from five African countries and evaluates them in order to establish views on NTMs by exporting businesses (Gonzales-Mellado et al 2011: 30). General findings suggest that regulations and standards generate mixed reviews, generating positive views in the horticultural sector, and negative ones in the bean exporting industry (Gonzales-Mellado et al 2011: 30).

The most basic approach to the analysis of NTMs is the inventory-approach. The inventory approach is used in both quantitative and qualitative analysis. Unlike the gravity-model approach and the price-wedge-method, the inventory approach omits to quantify the effects of NTMs and instead catalogues the existence of them. Most often, inventory-approaches convert the number of restrictions into frequency- and coverage-ratios (Beghin and Bureau 2001: 6). Ratios computed are subsequently used in further econometric analysis, such as the gravity model (Disdier et al 2008: 335). Amongst the advantages of this approach is that it is possible to distinguish between prevalent and less-prevalent NTMs. Being aware of the anatomy of NTMs provides an indication of the importance of the problem (Beghin and Bureau 2001: 113). One of the major drawbacks of this approach is that the recording of frequencies and ratios cannot give insights into the severity or trade impeding effects of NTMs; however, studies deploying an inventory approach usually do not aim at doing so. An early study by Nogues et al (1986) illustrates that 27% of all

[10] Aflatoxins are any of a class of toxic compounds produced by certain moulds found in food, which can cause liver damage and cancer.

imports and 34% of imports from developing countries are affected by NTMs and that the usage of NTMs in general is on the rise. Fontagné et al (2005) also use an inventory approach and establish that around 88% of imports are affected by environmental NTMs, estimating that of those around 39% are deployed with protectionist intentions. Studies by Walkenhorst (2004) and Henson et al (2001) both find that technical barriers to trade, such as SPS measures, are major factors in reducing the ability of developing countries to export to developed countries. More specifically, Henson et al (2001) find that exporters to the EU face greatest NTMs in the agricultural food sector.

The Context of the Legal Trade Framework

The Common Agricultural Policy

The six founding members of the European Union (Germany, Italy, France, Luxembourg, Netherlands and Belgium) ratified the Treaty of Rome (1957), which led to the establishment of the European Economic Community (EEC) and created a common market. The creation of a common market envisioned deeper integration of constituent economic policies between the member states. Prior to the creation of the common market, national governments in isolation administered agricultural trade policies. The subsequent creation of the Common Agricultural Policy (CAP) in 1962 sought to counter inefficiencies created by conflicting national policies within agricultural sectors by deferring responsibilities to the European Commission, and away from national governments (EC(b) 2012: 4). Since then, the CAP constitutes one of the most pivotal cornerstones of EU policies, receiving around 73% of the EU budget at the time of its inception, which was reduced to 43% in 2012 (EC CAP History).

In the past various Common Market Organizations (CMO) administered technicalities of the CAP (DG Agriculture, Trade in Agriculture), with a designated CMO, e.g. CMO Sugar, managing the corresponding agricultural sector. CMOs overseeing the management of agricultural product groups cover around 90% of agricultural products, while market forces regulate the remaining 10% (DG Agriculture (b), Common Agricultural Markets). To guarantee farmers' income, an array of protectionist measures is available. Among others, market intervention in the form of buy-backs of surplus produce, direct payments to farmers, limiting production, custom duties and tariff quotas, are all commonly deployed methods. The degree of protectionist measures each CMO deploys is dependent on product type (DG Agriculture(b), Common Agricultural Markets). Thus, not all product groups are regulated to the same extent, with some being more heavily regulated, i.e. protected, than others.

The primary purpose of the creation of the CAP was to guarantee a certain level of income to farmers, to maintain stable prices and to contribute to rural development within the European Community (DG Agriculture(c), CAP History). Uncoordinated national support policies prior to the creation of the CAP had led to the overproduction of many agricultural goods, such as grain and milk, which is why the CAP introduced the allocation of production quotas across the European Community. In order to guarantee a minimum wage to farmers, the CAP set internal reference prices, which were historically above the world price (EC(a) 2012: 6). With internal reference prices set, the European Community obliged itself to purchase any surplus stock of domestic farmers and to stock it, which led to the creation of the famous "mountains of butter" and "lakes of milk." In addition, farmers received payments in form of "income support", which were tied to production quota and land distribution. The tight regulations of the EU-internal agricultural market had direct consequences to its external trade in agriculture, because internal production quotas determined how many imports from third parties are required. Imports of particularly sensitive goods, e.g. such as sugar or dairy products, are subject to quota allocations and high tariffs, in order to prohibit entry of competitive commodities that otherwise would disrupt the planned internal agricultural sector.

According to Friedmann (1982: 31), the EU designed an agricultural regime similar to that of the US, due to historical circumstance following the Second World War. Immediate food shortages after the end of the Second World War led to a system of subsidized agricultural production in the US. Heavily subsidized agricultural industries within the US caused the production of surplus stock, which was initially absorbed by the European Community and encouraged with the Marshall Plan (Friedmann 1982: 37). Around 40% of Marshall Aid was used to purchase surplus stock from the US, mainly fertilizer and feedstock (Friedmann 1982: 37). However, this changed in 1954 when the US started to offload the majority of surplus stock to developing countries in the form of food aid (Friedmann 1982: 37). The US tacitly sanctioned the creation of a heavily subsidized agricultural industry within the European Community, because the European Community agreed to privileged market access of US soy and maize, the two agricultural sectors that overtook the importance of exports of livestock and feedstuffs (Friedmann 1982: 38). As such, regulation of the food regime reflected a shifting balance of power towards US hegemony (Friedmann 1982: 31).

A stable pattern of production and power emerged (Friedmann 1982: 31) and manifests with the administration of the CAP, which has only seen slow transformations away from subsidies towards a more liberal framework.

Reforms to the CAP focus on the liberalization of EU agricultural markets and an on the introduction of sustainability measures in the farming industry (ODI 2012: 2). Among landmark reforms is the MacSharry reform of 1992, which initiated a shift from product support (through prices, i.e. via guaranteeing the buy-back of stock to an intervention price much higher than the world price) to producer support (through income support, i.e. via the direct payment to farmers) (Binfield et al 2005: 3). Another major modification occurred in 2003 (Fishler Reform) and constitutes the decoupling of income support payments to farmers, following substantial reforms in the sugar, fruit, vegetables and wine sectors (DG Agriculture(c), History of CAP). Reforms taking place in the 2000s also introduced administrative ones to simplify procedures and regulations concerning the management of the CAP itself. Instead of hosting multiple CMOs managing corresponding agricultural sectors, a single CMO replaced them (DG Agriculture(c), History of CAP).

Friedmann (1982: 29) acknowledges that domestic reforms have gone further than anyone imagined possible during the talks of the Uruguay Round. However, Friedmann (1982: 29) concedes that new forms of governance of the international food regime are not necessarily between "free trade" and "regulation" but between new forms of implicit or explicit regulation. Richmond (2009: 4) illustrates this argument, with an example of the EU Sugar Regime reform. According to Richardson (2009: 4), the dismantling of the heavily protectionist Sugar Regime of the EU in 2006 was not necessarily a product of pressure exercised by calls to reform from the WTO. In contrast, Richardson (2009: 4) argues that EU sugar processors, which benefitted from the Sugar Regime historically, had a great influence on shaping EU reforms in their favor by reducing domestic competition. Additionally, these companies established institutionalized advantages, such as financial and human capital, under the pre-existing Sugar Regime. Accordingly, they diversified production into new value-added markets and multi-nationalized production and thus, are in support of the liberalization of the Sugar Regime. This example is cited as an illustration of Friedmann's argument that rules are shaped implicitly through national lobbies, and not only via international pressures from explicit bodies, such as the WTO.

The creation and long-lasting administration of the CAP can be understood and critically analyzed when deploying the concept of the international food regime. The US and EU dominate global trade in agriculture since the end of the Second World War, enabled via heavy subsidies of the local agricultural industry. National governments and intergovernmental bodies representative of the EU (i.e. the Commission) shape policies explicitly and agrofood

corporations steer them implicitly. The implementation of the CAP has taken place out of concerns for food security, stability and the creation of competitive advantages. Path dependence of initial policies causes reforms to take place at a very slow pace. Initial policies set out an intricate and wide-reaching system of agricultural trade regulation, which is difficult to dismantle as each decision has huge political, economic and social consequences. Thus, the reproduction of power within the global agricultural trade regime manifests with the CAP and remains very stable.

Overview of European Union- South African Trade Relations

The Legal Trade Framework between the EU and South Africa

The concept of the international food regime, which Friedmann (1982) and McMichael (2004) developed, illustrates that the US and the EU firmly dominated the governance of trade in agriculture in the 1970s and 80s. Ideas favorable to the creation of an international food regime supporting US and EU interests dictated the emergent international balance of power following the end of the Second World War. The creation of bodies, such as the WTO, and agreements, such as the CAP, SPS and TBT in the 1990s, are direct manifestations of that power. The EU undertook several deep-running reforms to its agricultural sector; however, they did not prove to be exceptionally beneficial to South Africa thus far. The following chapter demonstrates that liberal policies, such as the signing of the FTA between both parties and CAP reforms taking place in the background, have not led to greater agricultural competition from South Africa to the EU. To the contrary, since the Financial Crisis of 2008, agricultural exports from South Africa to the EU have yet to reach pre-crisis levels, whereas agricultural imports from the EU to South Africa have grown at a faster rate than any other product group. This is illustrative of the argument that legal trade frameworks sanctioned by the WTO are not beneficial to all parties involved, but mainly towards states that were pivotal in creating them in the first place, i.e. the US and constituent states of the EU.

Following the end of Apartheid and the first democratic elections held in South Africa in the early 1990's, the EU was keen to establish a formal trade relationship with South Africa (Gonzales-Mellado et al 2001: 46). At that time, the EU managed the majority of economic relations with Africa via the "Lomé Convention." The Lomé Convention is a trade and aid agreement between the EU and its former colonies in Africa, the Caribbean and the Pacific (ACP). Signatories to the Lomé Convention benefit from a wide range of trade preferences, such as duty-free access to the EU market and direct development aid, which is why South Africa wanted also sign the Lomé Convention (Bilal and Laporte 2004: 3). The EU, on the other hand, did not classify South Africa as a de-facto developing state and refused South Africa admittance to the Lomé Convention (SAIIAS 1997: 1). Instead, it agreed to sign a separate FTA, called

the Trade, Development, and Cooperation Agreement (TDCA) with the EU, which would grant South Africa additional development aid (SAIIAS 1997: 1). The conclusion of the TDCA in 1999, capped four years of negotiations, and constituted the most ambitious FTA the EU dato had ever agreed to.

Evidently, EU preferences to enter into an FTA with South Africa, rather than allowing it to trade under the Lomé Convention, are a concrete example of how both parties envisioned a different development approach for South Africa and how the EU was more powerful than South Africa in realizing its views. According to WTO guidelines, a FTA has to be based on the guarantee of mutual market access with 90% of products being duty-free (SAIIAS 1997: 2). When the FTA was signed, 83% of products originating in South Africa could enter the EU market duty-free, whereas around 64% of EU-products could enter the South African market duty-free. Thus, the EU had to scrap additional duties of 7% of commodities, whereas South Africa had to abolish duties on 26% of products (SAIIAS 1997: 3). Both parties agreed to open up markets according to different time frames, with the EU allowing 95% of products from South Africa to enter its market duty-free within ten years. South Africa agreed to allow 86% of EU exports duty-free entrance to South Africa within twelve years (Lee 2010: 88). In 2012, South Africa exports 92% of products duty-free to the EU, whereas the EU exports 86% of products groups without facing tariffs (EU Memo 2012). The EU was successful in securing the gradual granting of market access to South Africa over a period of twelve years. Access to EU markets was already largely available to South Africa, as the EU only had to open up an additional 7% of its markets.

While WTO regulations call for the liberalization of "substantial trade", the EU was also keen to protect sensitive domestic industries from potential competition by South African products. In order to protect the most important domestic industries, the EU placed certain product groups on a "reserve-list" and excluded them from liberalization all together (Fenyes et al 2008: 139). The EU barred bananas, sugar, beef, rice, maize, starches and many fruits and vegetables, whereas South Africa excluded fresh meats, dairy products, some cereals and sugar products from liberalization (Fenyes et al 2008: 138). Thus, the WTO sanctions rules favoring EU interests, because it allows to legally protect industries via its reserve list, but it forces South Africa to open up substantially, including sensitive industries.

Next to the overall FTA, the EU and South Africa decided to exclude two contentious sectors from being included in the FTA, the fishery sector and the wine and spirit sector. Both parties put negotiations on hold once it surfaced that

no agreement could be reached during the already long-running talks (Lee 2010: 89). Instead, both parties agreed to defer talks on both sectors by signing separate agreements on fisheries and wine and spirits at a later point (Lee 2010: 89), and subsequently signed an "Agreement on Trade in Wine" and an "Agreement on Trade in Spirits" in 2002. Both agreements establish that South Africa will phase out the usage of certain names, e.g. sherry and port, over the next five years across all exports (Agreement on Trade in Wine 2002, Agreement on Trade in Spirits 2002), because the EU is one of the strongest advocates for the implementation of "Geographic Indications" (GI). The GATT (1947) introduced the GI- issue with the establishment of the Uruguay Round (1994) (Kerr 2006: 3). Similar to rules concerning FTAs, rules that the WTO established following the Uruguay Round work privilege EU interest, as the protection of its domestic industry becomes legally binding on an international level and with legal enforcement from the WTO.

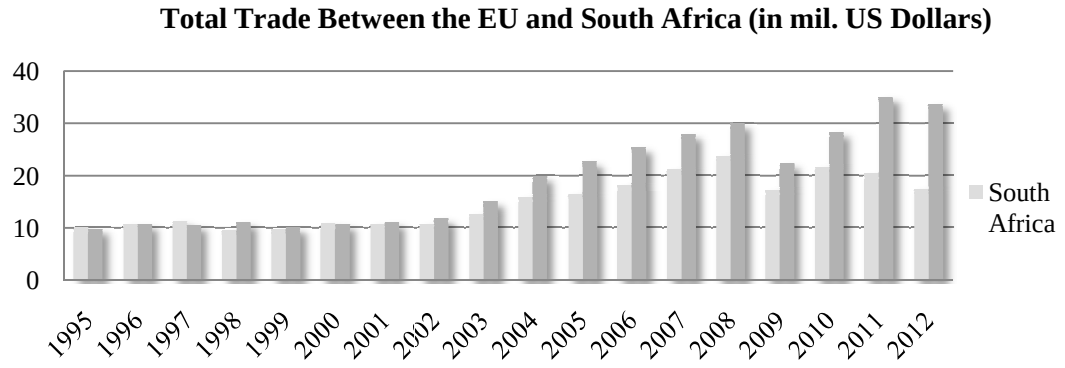
In contrast to the agreements on wine and spirits, the EU and South Africa failed to sign a proposed fishery agreement as the topic became increasingly contentious during negotiations. The EU, especially Spain and France, demanded access to South African waters, which was unacceptable to South Africa, who prefers to operate its own vessels in its waters (Bilal and Laporte 2004: 21). This leaves the fishery sector as the only one not liberalized in a fashion that is palatable to the EU. Apart from this, the EU constructed a bilateral legal framework between itself and South Africa that cemented its position of superiority vis-à-vis South African trade by deploying mechanisms, such as an FTA and GI, enabled by the WTO.

Ex – and Import Trends

The production of stable patterns of power and property in the trade in agriculture are key ideas to the international food regime. I analyze direct expressions of power and property in trade relationships between the EU and South Africa by looking at ex- and imports of both parties. EU- South African trade relations largely flourished since the political and economic liberalization of South Africa in 1994. The EU is South Africa's most important export market, when excluding exports to the Southern African Customs Union (SACU). In addition, the EU is also South Africa's greatest source of imports (EU Memo 2012). South Africa is the EU's largest trade partner in Africa and 17th largest trade partner when excluding EU-intra trade, accounting for 17.6% of overall exports in 2012 (EU Memo 2012). A direct comparison of trade between South Africa and the EU reveals that since the signing of the FTA in 2000, exports of both partners are growing, but experienced a sharp decline with the Financial Crisis of

2008, while recovering from it the following years. However, EU exports to South Africa are growing at a much faster rate than vice versa, a trend that has been magnified following the Financial Crisis of 2008.

Figure 2: Comparison of Trade between EU and South Africa (1995- 2012, in Million US Dollars)



Source: UNCTAD

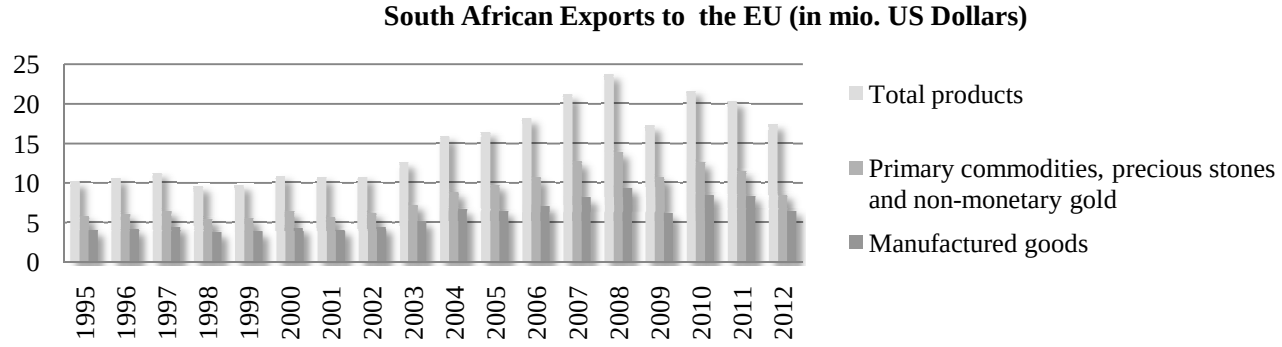
Total exports from South Africa to the EU tripled since 1995, from 10mil USD to more than 30mil USD in 2012. Hereby, exports of primary commodities (such as food and live animals, beverage and tobacco) as well as manufactured goods (such as chemicals, machinery and transport equipment) both increased proportionally over the last decades. The Global Financial Crisis of 2008 had a profound impact on South African exports to the EU, causing a substantial drop in exports for the year of 2009. Since then total exports experienced a peak in 2010 and have been declining ever since, never to reach pre-crisis level again.

In comparison, EU exports to South Africa in 1995 exhibited a similar value to South African exports to the EU, around 10mil USD. As with imports from South Africa, exports from the EU to South Africa increased sharply with the conclusion of the FTA in 2000 and decreased following the global Financial Crisis of 2008. Unlike South African exports to the EU, EU exports to South Africa surpassed pre-crisis levels totaling around 35mil USD in 2011, compared to 30mil USD in 2007. Manufactured goods constitute the vast majority of exports from the EU to South Africa with around 90% of exports being manufactured goods. However, since the Financial Crisis of 2009, agricultural commodities are the fastest growing export group from the EU to South Africa. This is a symptom of a wider trend in regards to EU agricultural exports following the Financial Crisis of 2008. The EU recorded a surplus balance in agricultural trade for the first time in 2011, increasing agricultural exports to all its destinations (EC(d) 2012: 2). Particularly, this growth is spearheaded by exports in wines and whiskeys (EC(d) 2012: 2), a sector dominated by its stringent GI protection and the institutional marginalization of competition from states such as

South Africa, which is also a leading wine producer. Wine remains the EU's top agricultural export in general, totaling 8.3bn US Dollar in the year of 2011 (EC(d) 2012: 3).

Friedmann (1982) and McMichael (1994) argue that periods of transition and crisis characterize the international food regime. McMichael (1994) specifically addresses the Global Financial Crisis of 2008 as the latest crisis to reform the international food regime and states that during periods of crises and transition, actors with historical economic advantage, such as the EU, consolidate power during periods of crisis (McMichael 2009: 5). The aftermath of the Global Financial Crisis of 2008 induced a shift in agricultural exports from the EU to developing countries, including South Africa, which is unprecedented. While the Global Financial Crisis of 2008 affected world trade negatively on the whole, parties, like the EU, which enjoyed competitive advantages in the trade of agriculture due to extensive subsidy regimes, have gained from the external shock in the long-run and recovered from it at a quicker pace than the majority of developing countries, including South Africa.

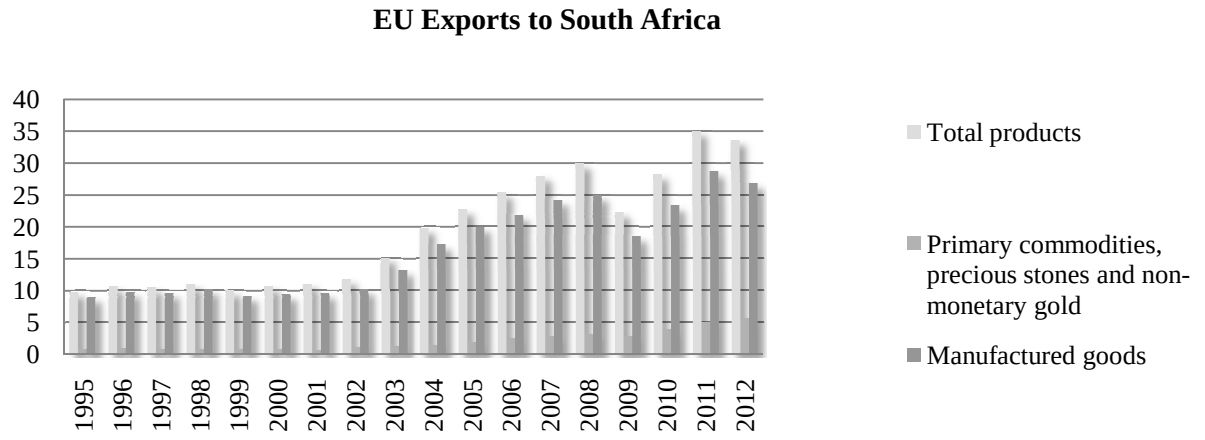
Table 3: South African Exports to the EU (1995- 2012, in Mio. US Dollars)



Source: UNCTAD

Findings of the literature review point out that exports by developing countries are especially susceptible to the imposition of tariffs and NTMs, due to the fact that they are largely composed of agricultural products. This statement proves valid in the context of exports from South Africa to the EU, in that the bulk of South African exports have historically consisted of agricultural products.

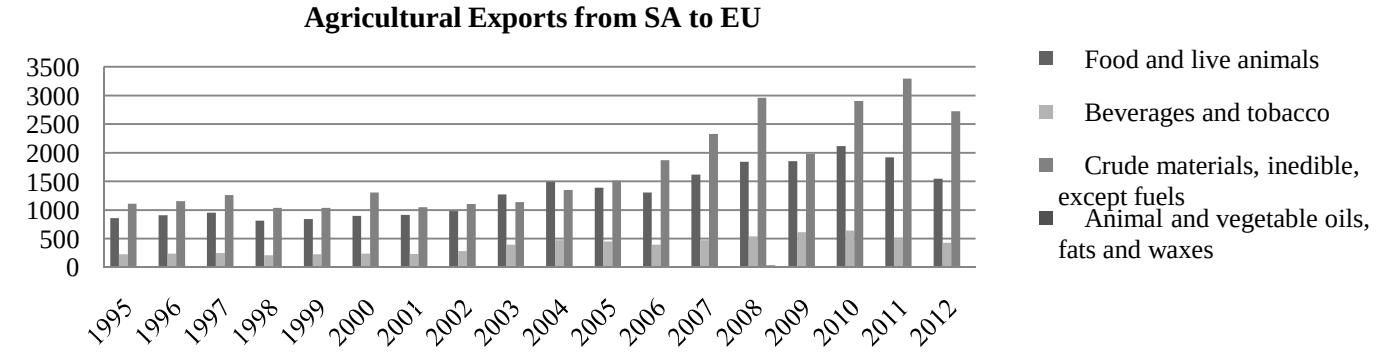
Table 4: EU Exports T o South Africa (1995- 2012, In Mio. Us Dollars)



Source: UNCTAD, Author's Visualization

Crude materials, such as hides, skins and oil- seeds, constitute the largest exports to the EU, while the second largest sector within agricultural exports constitute food and live animals; however, the importance of this group has declined especially since the global Financial Crisis of 2008. South Africa remains one of the most important exporters of fresh fruits, such as table grapes and apples, to the EU, accounting for around 20% of EU imports within this sector (EC(b) 2012: 7). There is no competition between South African and EU fresh vegetable products due to the fact that seasons are off-set (e.g. apples are imported to the EU between April and July, whereas domestic production starts in September) (EC(b) 2012: 7). Concurrently, exports of fruits made up 30.8% of South African overall agricultural exports in 2002 (Vink et al 2002: 8).

Table 5: Agricultural Exports from South Africa to the EU (1995- 2012, in Thsd. US Dollars)



Source: UNCTAD, Author's Visualization

The Role of Tariffs and Non-Tariff Measures in Agricultural Trade

Tariffs vs. Non-Tariff Measures

The literature review outlines that tariffs and non-tariff measures (NTMs) are the most important protectionist tools available to the state. Findings of the literature review state that the deployment of tariffs is gradually substituted by the deployment of NTMs. Having established that the bilateral legal trade framework between the EU and South Africa privileges EU interests over South Africa's, the next section analyses whether NTMs and tariffs are used in a discriminatory fashion to protect EU domestic industries. It fits into the wider scope of the study, by analyzing how far the international food regime is shaped by the deployment of the most important protectionist tools available to the state.

Research Design

The quantitative part of my study probes whether NTMs and tariffs are used in a strategic fashion to protect sensitive domestic industries of the EU agricultural market. It does so by analyzing agricultural exports from South Africa to the EU. The population of the study consists of agricultural exports from South Africa to the EU. Agricultural products are classified according to the definition set out by the WTO in its "Agreement on Agriculture" (AoA), as well as including fishery products. Cases are analyzed in a cross-sectional fashion, with each case being represented by a tariff line at the HS-six digit level of the Harmonized System of Classifications of Trade[11], the most commonly disaggregated level, in order to generate differentiated observations about industry groups.

Prior to analyzing data on tariffs and NTMs, South African agricultural exports, I classify three distinct categories, i.e. levels of sensitivity: highly sensitive products, sensitive products and non-sensitive products. I categorize

[11] "The Harmonized System is an international nomenclature for the classification of products. It allows participating countries to classify traded goods on a common basis for customs purposes. At the international level, the Harmonized System for classifying goods is a six-digit code system. The HS comprises approximately 5000 article/product descriptions that appear as headings and subheadings, arranged in 97 chapters, grouped in 21 sections. The six digits can be broken down into three parts. The first two digits (HS-2) identify the chapter the goods are classified in, e.g. 09 = Coffee, Tea, Maté and Spices. The next two digits (HS-4) identify groupings within that chapter, e.g. 09.02 = Tea, whether or not flavoured. The next two digits (HS-6) are even more specific, e.g. 09.02.10 Green tea (not fermented) in immediate packings of a content not exceeding 3 kg. Up to the HS-6 digit level, different countries classification codes are identical. Beyond this, countries are free to introduce national distinctions for tariffs by adding more digits to make the HS classification of products even more specific. This greater level of specificity is referred as the national tariff line level. For example the United States of America adds another four digits to its exports and imports to classify them in greater depth. The Harmonised System was formally known as the Harmonized Commodity Description and Coding System. It was developed by the World Customs Organization and has been adopted by most trading nations" (MAcMap.org Glossary).

products grouped under the safeguard clause in the FTA between South Africa and the EU as 'highly sensitive.' Products subject to safeguard clauses are allowed to have higher tariffs than the average tariff agreed upon with the AoA, because they are of an especially sensitive nature to the importing country (Rudloff and Simons 2004: 1). In addition, I categorize product groups covered by virtue of geographic indication (GI), such as wine and cheese, regulated with the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), as moderately sensitive products. I classify them as highly sensitive products, because they fail to be sensitive enough to be covered by a safeguard clause. Remaining product groups I classify as non-sensitive, unless literature suggests otherwise for specific product groups.

I deploy an inventory- approach to catalogue the existence of tariffs and NTMs. Furthermore, I acknowledge that the mere presence or absence of NTMs or tariffs does not provide information on the magnitude or trade diverting effect it may have. However, the focus of this study does not lie with the quantification of the impact of tariffs and NTMs, but instead with the testing of the relationship between the existence of tariffs and NTMs and the degree of sensitivity of a product group.

The variable "degree of sensitivity" acts as independent variable with three different categories (highly sensitive, sensitive, and non-sensitive). Tariffs and NTMs act as dependent variables. Due to the fact that there are two dependent variables, I execute two separate models. The first model tests whether there are statistically significant differences between groups (highly sensitive, sensitive, and non-sensitive) when controlling for the deployment of tariffs. I measure tariffs in terms of applied tariffs in the year 2011, expressed in ad-valorem equivalent tariffs[12] (AVE) in form of percentage of import value in USD. As findings of the literature review suggest, different types of tariffs can be converted to be expressed as AVE tariffs (AVE), which makes the comparison between different tariffs straight-forward. The second model tests whether there are statistically significant differences between groups (highly sensitive, sensitive, and non-sensitive) when controlling for the deployment of NTMs. Each NTM constitutes a compulsory guideline or form when exporting to the EU.

[12] In Market Access Map, all non ad valorem (NAV) applied tariffs are converted to ad valorem equivalents (AVEs) according to the unit value (UV) based method. This means that AVEs are calculated by dividing a given NAV tariff per unit by the value of the product per unit.

The null-hypothesis of the first model states that there are no differences in the application of tariffs when controlling for degree of sensitivity. Thus, I expect to find that on average the same amount of tariffs are applied to highly sensitive goods as to non-sensitive goods. The alternative hypothesis states that there are statistically significant differences between the applications of tariffs when controlling for degree of sensitivity, with all three groups being different from each other. It states that highly sensitive products are subject to greater tariffs than sensitive and non-sensitive ones. The null hypothesis of the second model states that there are no differences in the application of NTMs when controlling for degree of sensitivity. Thus, I expect to find that on average the same amount of NTMs are applied to highly sensitive goods as to non-sensitive goods. The alternative hypothesis states that there are differences in the application of NTMs when controlling for degree of sensitivity, with all three groups being different from each other.

The statistical database of the United Nations Commodity Trade Statistics database (UN COMTRADE) provides data on exports from South Africa to the EU. Here, data is listed according to the Harmonized System Classification on Trade. The HS classification of commodities is widely used when comparing trade data between different countries and has undergone major revisions (1992, 2007 and 2012) since its establishment in 1988. Reasons for revisions vary, e.g. the desire to reflect new product groups or to account for specific products in greater detail (MAcMaporg Glossary). The UN maintains different databases, which diverge on trade classification deployed.
Comprehensive data on tariffs and NTMs are found at the TRAINS (Trade Analysis and Information System) database, which UNCTAD administers in conjunction with the International Trade Centre (ITC). TRAINS is a comprehensive database at the most disaggregated level of the Harmonized System (HS), covering tariff and non-tariff measures as well as import flows by origin for more than 150 countries. The TRAINS database lists tariffs according to the HS.2012 nomenclature, whereas the same database hosts information on NTMs according to the HS.2007 nomenclature. The database on exports, managed by UN COMTRADE, also hosts information according to the HS.2007 nomenclature, which is why I convert applicant products from HS.2012 to HS.2007. In order to translate tariffs and product lines from the HS.2012 to the HS.2007 one, I use the conversion tool at MAcMap.org (hosted by UNCTAD) and align HS.2012 product groups with HS.2007 ones. In the case that the HS.2012 nomenclature hosts multiple product groups where the HS.2007 hosts only one, I compute the average of all relevant product groups at the HS.2012 level to reflect the HS.2007 equivalent by using spreadsheets. Thus, I ensure that all

data is consistent with each other and reflect the same product groups, minimizing the risk of mismatched information and subsequent errors.

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The TRAINS database records data concerning NTMs at the national tariff line level (NTL), [13] which extends the most detailed international level of the classification of product groups (HS-six). The HS-six level displays a maximum of six-digit codes, but states are able to record more detailed levels of product groups, e.g. at the HS-ten level. Therefore, I convert the HS-ten- level to reflect equivalents within the HS-six level. To do so, I group relevant NTLs with identical HS-six headings into HS-six product groups. Once I convert all NTL product groups to reflect HS-six product groups, I check for duplicates to make sure that none of the NTMs within one HS-six product group is entered more often than once, as this would lead to an upward bias in regards to the amount of NTMs present via duplication. Apart from removing duplicate entries of NTMs, NTMs in place on the HS-six level remain unweighted in relation to affected NTLs. Weighting adjusts the amount of NTMs to account for the number of relevant NTMs in place. I decide against the weighting of NTMs because this would lead to a downward bias when recording NTMs in place, caused by adjusting for NTLs. Some HS-six product groups display three NTLs, whereas others display as many as 200 NTLs. I argue that the amount of NTLs accorded to specific HS-six groups gives an implicit indication of how sensitive the entry of a good is to the EU. Thus, highly sensitive product groups will exhibit greater amounts of NTLs than product groups that are less sensitive. To adjust for the amount of NTLs in place would mean that a HS-six product group with 200 NTLs and 200 different NTMs in place would reflect the same amount of a HS-six product group with one NTL in place and one NTM accorded to it. In order to retain the absolute amount of NTMs in place for a specific HS-six group, I only adjust for duplicates and keep the number of NTMs without weighing.

Categorization of Degree of Sensitivity

Prior to the ratification of the AoA, central GATT obligations to limit tariffs exempted the agricultural sector (Burrell et al 2011: 3). However, with the ratification of the AoA in 1995, the successor organization to the GATT, the WTO, recognized that the agricultural sector should no longer be regarded as a special case meriting protection from liberalizing trade policies. The AoA, for the first time, set out concrete steps to liberalize the global agricultural

[13] National Tariff Line codes refer to the classification codes, applied to merchandise goods by individual countries, that are longer than the HS six digit level. Countries are free to introduce national distinctions for tariffs and many other purposes. The national tariff line codes are based on the HS system but are longer than six digits. For example, the six digit HS code 010120 refers to Asses, mules and hinnies, live, where as the US National Tariff line code 010120.10 refers to live purebred breeding asses, 010120.20 refers to live asses other than purebred breeding asses and 010120.30 refers to mules and hinnies imported for immediate slaughter.

industry. The regulation of export subsidies, which highly industrialized states largely issue to domestic farmers; market access; quota restriction and direct payments to farmers, are pertinent issue areas (IATRC Working Group: 2). The AoA defines agricultural products in terms of the HS system of product classification with its Annex I (Product Coverage). Annex I delineates which product groups are covered under the AoA and thus classified as agricultural products. Because the AoA is the most authoritative source on the classification of agricultural products and widely adopted, this paper deploys the same definition. The classification of agricultural commodities covers basic agricultural products such as wheat, raw animal skins, cotton and live animals. In addition, it covers products that are derived from them such as bread, butter and meat. Moreover, the AoA stipulates that processed agricultural goods, such as chocolate and sausages, are also defined as agricultural products.

However, two product groups- fish products and forestry products- that I expected to find covered under the AoA are not listed. While the AoA does not cover fish products, this study includes fish and fish products in its scope, because the fishery industry exhibits similar features to the agricultural industry. The fishery industry, as a part of the agricultural industry more widely, represents a major industry contributing to food security and employs a large number of people, ranging from an industrial to artisanal scale. Similar to the agricultural industry, the fishery industry contributes significantly to rural development, pre-empting rural flights to urban areas due to a lack of opportunities. In addition, regulations and standards, such as SPS and TBT measures, in place guiding the health and safety-compliant handling of agricultural products are also covering the fishery industry. Not only is the fishery industry subject to the same health and safety regulations as the agricultural sector, but it is also subject to the same agreements concerning safety guard clauses (Agreement on Safeguard Clauses) and intellectual property rights (TRIPS) (FAO Fishery). Due to this, the fishery sector is included in this analysis.

Table 6: Commodities Covered in this Study According to the HS Classification System

HS Code	HS Chapter Title
01- 05	Animal and Animal Products
06.-15	Vegetable Production
16- 24	Foodstuffs
2905.43	Mannitol
2905.44	Sorbitol

33.01	Essential Oils
35.01- 35.05	Albuminoidal substances, modified starches, glues)
3809.1	Finishing Agents
3823.69	Sorbitol n.e.p.
41.01- 41.03	Hides and Skins
43.01	Raw Furskins
50.01- 50.03	Raw Silk and Silk Waste
51.01- 51-03	Wool and Animal Hair
52.01- 52.5103	Raw Cotton, Waste and Cotton Carded or Combed
53.01	Raw Flax
53.02	Raw Hemp

Source: Agreement on Agriculture (1995, WTO)

Degree of Sensitivity

Prior to testing the relationship between degree of sensitivity with tariffs and NTMs, I qualify which products belong to which group (highly sensitive, sensitive, and non-sensitive). To do so, I review common trade mechanism deployed to protect sensitive industry and by identifying which products are subject to it. I start by determining which products belong to the highly sensitive group. In order for a product to classify as a "highly sensitive", it must be either subject to a safeguard clause, subject to internal reference prices, a quota allocation system or currently negotiated at the WTO Dispute Settlement Mechanism (DSM). Products belonging to sensitive goods are either subject to stringent marketing or trademark rules. Lastly, I classify remaining products groups as non-sensitive by default.

Identifying Highly Sensitive Product Groups

Commodities of which production is entirely regulated according to a system of internal quota allocation, I classify as 'highly sensitive' goods. These commodities belong to the category 'highly sensitive', because they are not subject to any liberal market forces, such as supply and demand, determining price, but instead are subsidized to ensure a minimum price and allocated quotas to reflect a maximum supply, as stipulated by the CAP and executed with the CMO. In order to guarantee the effectiveness of designated quotas, imports by third parties are also subject to quota allocations. Quota allocations ensure that only a pre-mediated amount of imports enters the EU market, thus it guarantees that imports do not directly compete with domestic commodities. Once quotas are fulfilled, automated

"price triggers" take effect. Price triggers cause prohibitively high tariffs and render any imports exceeding quotas uncompetitive with the aim of deterring them altogether. The sugar, fishery, rice, cereal, rice and grain sectors are all subject to a quota allocation system.

In addition, these sectors are not only subject to quota allocation systems, but the establishment of intervention prices. Intervention prices are higher than the world price and set by the CMO. The EU issues direct or indirect payments, covering the discrepancy between world prices and intervention price. While the EU adjusted its CAP reform over the last decades to accommodate such concerns, e.g. lowering intervention prices to be closer to the actual world price, it nevertheless continues to issue intervention prices within certain sectors. Due to the fact that the sugar, cereal, rice and grain sectors are all heavily regulated, I confirm the classification as 'highly sensitive' commodities. Moreover, milk and milk products qualify for a range of stringent support measures according to the CMO (DG Agriculture(f), Agricultural Products). For that matter, I classify all aforementioned product groups as 'highly sensitive' goods.

Moreover, I categorize product groups reported to the WTO DSM (Dispute Settlement Mechanism) due to protectionist measures with the EU as the defender as 'highly sensitive' product groups. The DSM provides a forum to alert the international community to unfair trade practices by fellow states. Unfair trade practices refer to the issuing of protectionist measures by an offending state, which limits market access of commodities from third parties (SIDA 2004: 3). The majority of cases brought in front of the DSM are resolved within the initial stage, called the consultation stage, and never progress to secondary stages, such as initiating panel proceedings which mark the beginning of the formal litigation stage (SIDA 2004: 4). While consultations are supposed to be resolved within 60 days via mutually satisfactory solutions, a minority of cases remains within the consultation stage for years or even decades. Aforementioned product groups have in common that they are not, or at maximum only moderately, exposed to liberal market forces(SIDA 2004: 4).

To date, the WTO records 469 disputes.[14] Of these, 23 disputes remain unresolved (WTO Current Status of DSM). In 2007, the EU involved 41 ongoing WTO disputes, of which it was the respondent (i.e. defendant) in 19 cases and the complainant in 22 cases (DG Trade 2007: 1). For the purpose of this study, I only classify product groups

[14] This does not entail disputes brought to the GATT, prior to the establishment of the WTO.

concerning open disputes as 'highly sensitive' and omit past disputes. Having undergone an exhaustive audit of all currently ongoing 23 disputes involving the EU as a respondent, I identify 12 cases that are related to agriculture, as stipulated with the AoA.

Thailand, Argentina, Brazil, Uruguay and the US brought forward cases relevant to the agricultural sector, concerning rice, grain, coffee, processed cheese and wine. In addition to third parties, Denmark and Norway of the European Union also filed a complaint against the EU in regards to unfair treatment of fishery products (farmed salmon, herring and mackerel). Reasons for complaints range from disputing SPS and TBT measures as well as opposing countervailing measures and the allocation of tariff quota rates (TQR). The rice and grain sector are already classified as 'highly sensitive' commodities due to the fact that they are heavily regulated by the CMO. In addition, I classify following commodities as 'highly sensitive': processed cheese, wine, coffee, fish, and garlic.

Table 7: Overview of Current Complaints at WTO Against the EU in Agriculture

Product	Complaint	Referred By
Grain, Rice	High Tariffs, SPS, TBT, Import Licensing	Uruguay, India
Processed Cheese	Subsidies, Countervailing Measures	US
Wine	TBT	Argentina
Coffee	Preferential Treatment to Third Parties	Brazil (2x)
Fish	Safeguard Measures	Denmark, Norway
Garlic	TQR to China	Argentina

Source: Author's Survey of WTO Dispute Settlement Mechanism

Another source of identifying 'highly sensitive' product groups is the FTA signed between the EU and South Africa. In order to attain the goal of full market access, both parties agreed to gradually lower Most Favored Nation tariffs,[15]

[15] "MFN tariffs are the tariffs applied by WTO members to goods from other WTO members. In the case of WTO non members, the application of these rates may be a requirement of a bilateral trade agreement. Article 1 of the General Agreement on Tariffs

at a rate specified with Annex I of the FTA (TDCA 1999: Annex I). List 5 of Annex IV explicitly deals with provisions relating to trade liberalization for agricultural products (TDCA 1999: Annex IV). However, the FTA concluded by both parties failed to generate an agreement in regards to the treatment of trade in fishery products. Annex V sets out technical details in regards to the liberalization of the trade in fishery products, as fishery products are not usually classified as agricultural products. While the agricultural products covered with Annex IV are not subject to the ratification of an additional agreement, product groups specified with Annex V are due to be revised once an official fishery agreement has been signed. Thus, both parties agreed to negotiate an individual agreement at a later point in time, which, as of now, has not been concluded. Due to its contested nature during the FTA negotiations and the failure to produce an agreement ten years later, I have sufficient evidence as to reasonably classify fishery products as a 'highly sensitive' product group. South Africa and the EU negotiated bilateral trade in wine and spirits separately from the more comprehensive FTA. Large annexes accompany the agreements on wine and spirits, which identify product groups subject to GI by the EU. Because wine and spirit products are subject to extensive scrutiny when it comes to trade-marking, I classify respective product groups as 'highly sensitive.'

In addition, I specify 'highly sensitive' commodities based on products that are currently covered under the Safeguard Agreement (SG Agreement) issued in 1994 with the Uruguay Round (WTO Safeguard Clauses). The SG Agreement allows countries, for a maximum of four years, to apply so-called 'emergency safety measures' in exceptional circumstances to protect domestic industries under threat (WTO Safeguard Clauses). A safety measure can commonly be applied when an import 'surge' (absolute increase) takes place, or when imports are subject to a dwindling market, even though the actual import quantity remains static (relative increase) (WTO Safeguard Clauses). Countries wishing to deploy a safety clause need to notify the WTO of their intentions, which records the initiation of relevant safeguard measures. Thus, it is possible to trace any current safety clauses in place by the EU. Consulting the WTO databank, I establish that the EU has currently no safeguard measures reported to the WTO (Sim 2012: 5). Three had been issued in 2002, 2003, and 2004 respectively, but all have expired. Furthermore, it has notified the WTO of a safeguard pertaining to strawberries in 2005 and to wireless modems in 2010, which were

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and Trade (GATT) lays down the principle of Most Favoured Nation treatment (MFN). The MFN clause states that a member of the GATT must treat all GATT members equally. The WTO is the successor of the GATT and the WTO's rules derive from the outcome of the 1986-94 Uruguay Round negotiations which included a major revision of the original General Agreement on Tariffs and Trade (GATT). So the application of the MFN principle is required of WTO members. Every time a WTO member improves the benefits that it gives to one trading partner, it has to give the same "best" treatment to all other WTO members, so that they remain equal. Countries are to grant equal treatment - not more favorable or discriminatory - to goods and services from all WTO members. The MFN principle applies to all tariffs - whether or not they have been subject to negotiations between GATT members - as well as to all policy measures affecting imports or exports" (MAcMap.org Glossary).

both terminated before the four-year expiration period (Sim 2012: 5). Hence, the analysis of safeguarded clauses fails to generate any additional 'highly' sensitive products.

Analysis of the different criteria reveals that often the same products are cited within different contexts. For example, fishery and wine products are cited within the WTO Dispute Settlement Mechanism and were so controversially debated and subsequently excluded from the comprehensive FTA altogether. Similarly, sugar and sugar products are subject to stringent quota allocation and interference prices, as well as disputed at the WTO. Triangulation of this kind merits the assumption that proxies used to identify "highly sensitive" products, are appropriately chosen.

Table 8: Overview of Highly Sensitive Goods

Name of Product Group	Reason for Classification
Sugar, Rice, Grain, Cereals	System of quota allocation, interventionist measures allowed (e.g. buy-outs and export subsidies), Subject to multilateral trade disputes at WTO
Fishery products, wine and spirits, processed cheese	No agreement reached with FTA, Fishery products are subject to strict quota system, Subject to multilateral trade disputes at WTO
Milk and Milk Products	Fixed intervention price, subsidies for produce storage
Beef and Veal	Granting of private storage aid, Customs tariffs for importers, direct payments to farmers

Identifying Sensitive Goods

Sensitive goods, I classify as product groups that are not covered by any formal safeguard clauses or stringent domestic regulation, but that exhibit a proven record of being sensitive to the EU by different means. In order to determine which product groups are historically sensitive to the EU internal market, I analyze provisions set out by the CAP. As previously stated, not all agricultural products groups covered by the CAP are subject to the same degree of protectionist measures. For example, some product groups are entirely regulated by the policies set out within the CMO, while others are only subject to stringent marketing measures. Because I classify product groups that CMO regulates heavily regulated as 'highly sensitive' goods, I classify product groups that are subject to a lesser degree of protectionism, issued under the CAP, as 'sensitive' commodities. As mentioned above, for a product group to be classified as 'highly regulated', i.e. 'highly sensitive', CMOs must cover at minimum one of the

following criteria: the setting of intervention prices, sanctioning the buying of surplus stock, be able to issue export subsidies and set production quotas within that particular agricultural sector.

In contrast, product groups that I classify as 'sensitive' are neither subject to internal and external quota regulations nor does an intervention price regulate them. Criteria pertaining to the classification of 'sensitive' commodities are less market-invasive than the identification of 'highly sensitive' commodities. Thus, I identify 'sensitive' product groups by looking at the application of 'soft' measures, such as regulations and standards, which are applicable to specific product groups. Soft measures take various forms and I define marketing standards, crisis management measures or environmental standards as soft measures. All remaining agricultural product groups, neither classified as 'highly sensitive' nor 'sensitive,' I categorize as 'non-sensitive' product groups by default.

Fruit and vegetables are among the product groups subject to strict marketing regulations, but a system of quota allocation does not regulate them. While there are general marketing standards setting out guidelines on how to promote fruit and vegetables accurately, there are ten product groups that are subject to specific marketing standards (SMS) (EC (a) Fruit and Vegetables). EU Regulation 1221/2008 reduced fruit and vegetables subject to specific marketing standards, rather than general ones, from 36 to ten. Specific marketing standards are stricter than general market standards (GMS) (DG Trade and Agriculture 2009: 5). For that reason, the ten product groups covered under the SMS regime, I categorize as 'sensitive' product groups. Similar to fruits and vegetables, live plants and products of floriculture (i.e. flowers) are subject to 'soft' regulatory measures, encouraging the regulation of internal flower production as well as exports (EC(e) Flowers) and also categorize them as 'sensitive' commodities.

Table 9: Overview of Sensitive Product Groups

Name of Product Group	**Reason for Classification**
Apples, Citrus Fruit, Kiwifruit, Lettuce, Peaches and Nectarines, Pears, Strawberries, Sweet Peppers, Table Grapes, Tomatoes	Specific Marketing Standards apply
Flowers	Improve quality, better organize production, processing and marketing; make it easier to track price trends

The group 'non-sensitive' constitutes any commodities not subject to measures applied to the sensitive or highly sensitive group. It entails commodities of animal origin, such as hides and skins, and also includes vegetable products such as salads, table grapes and sweet potatoes.

Table 10: Overview of Non-Sensitive Product Groups

Name of Product Group	Reason for Classification
Hides, Skins, Sweet Potatoes, Beans, Peas, Salads, Brussels Sprouts, Table Grapes, Nuts, Dates, Dried Apricots	Not subject to particular regulations

Results and Analysis

Results

The population of both models is identical and consists of agricultural commodities exported from South Africa to the EU within the year of 2011, being aggregated at the HS-six digit level. The population and sample are identical due to the fact that all agricultural exports from South Africa to the EU are known and recorded, which is why the possibility of sampling error is zero. The sample consists of 330 cases in total and is sub-divided into three categories: non-sensitive commodities, sensitive commodities and highly sensitive commodities. All three groups vary in size with the non-sensitive category being largest (*n=161*), followed by the category highly-sensitive (*n=106*). The category sensitive (*n=61*) is almost roughly two and a half times smaller than the largest group, non-sensitive.

Model 1: Tariffs

The entire sample exhibits a wide range of tariffs applied with r: 0%- 61.1%. Thus, the overall lowest tariff is 0% and the largest is 61.1% (*M= 3.09%, SD=7.45%*). Different categories vary in their range of tariffs applied, with the category non-sensitive having the smallest range (r: 0%- 16.9%) and the category highly sensitive having the largest range, which is identical to the range of the entire group (r: 0%- 61.1%). The mean and standard deviation of each category are proportionally larger with degree of sensitivity. The category non-sensitive has the lowest mean and deviation (*M=0.6%, SD=2.35%),* the category sensitive has the second lowest mean and deviation *(M=3.04%, SD=8.33%),* and the classification highly sensitive has the highest mean and deviation *(M=6.91%, SD=9.81%*).

Table 11: Descriptive Statistics of Tariffs

Sensitivity	N	Range	Minimum	Maximum	Mean	Std. Deviation
Non- Sensitive	162	16.90%	0.00%	16.90%	0.60%	2.35%
Sensitive	61	55.00%	0.00%	55.00%	3.05%	8.33%
Highly Sensitive	106	61.10%	0.00%	61.10%	6.91%	9.81%

Individual histograms[16] for all three categories reveal that frequency distributions of tariffs are extremely leptokurtic and positively skewed across categories, with observations clustering around low values and especially 0%. The category non-sensitive is non-normally distributed with kurtosis of 24.54 (*SE*= 0.38) and skewnesss of 4.75 (*SE*=0.19). The category sensitive is non-normally distributed with kurtosis of 26.32 (*SE*=0.60) and skewness of 4.71 (*SE*=0.31). Similar levels also hold true for the category highly sensitive with kurtosis of 13.28 (SE=0.465) and skewness of 3.12 (*SE*=0.24). A Q-Q plot is run for each category in order to corroborate the account that all distributions are non-normal. Analysis of individual Q-Q plots[17] confirms the existence of a non-normal distribution with observed scores deviating greatly from scores that would be expected if frequencies were distributed normally. Evidence of the histogram and Q-Q plot suggests that transforming scores to reflect a normal distribution would not be adequate as distortions are not caused by outliers. Because the assumption of non-normality is clearly violated, I deploy non-parametric tests to analyze the null-hypothesis.

The Kruskal- Wallis[18] one-way analysis of variance by ranks tests whether tariffs are applied as a condition of degree of sensitivity. It is the most suitable non-parametric test to deploy because it is the most powerful one available and my data also fulfills assumptions required to run a Kruskal-Wallis test. It assumes samples to be independent and ordered categorical independent variables, as is the case with my data. My independent variable consists of three different categories that represent varying degrees of sensitivity. Samples, i.e. groups, are assumed

[16] See Appendix for individual histograms.
[17] See Appendix for individual Q-Q Plots.
[18] The Kruskal–Wallis one-way analysis of variance by ranks (named after William Kruskal and W. Allen Wallis) is a non-parametric method for testing whether samples originate from the same distribution. It is used for comparing more than two samples that are independent, or not related. The parametric equivalent of the Kruskal-Wallis test is the one-way analysis of variance (ANOVA). When the Kruskal-Wallis test leads to significant results, then at least one of the samples is different from the other samples. The test does not identify where the differences occur or how many differences actually occur. It is an extension of the Mann–Whitney U test to 3 or more groups. The Mann-Whitney would help analyze the specific sample pairs for significant differences.

to be independent because they do not have an effect on one another. Moreover, the Kruskal-Wallis test assumes continuous distributions and allows for the comparison of more than two samples at the same time, which is also the case with my model because tariffs can assume any number and I have three distinct groups. Also, the Kruskal-Wallis test allows for different sample sizes, whereby the shapes of samples have to be similar, which is also true for our model (see Appendix for histograms).

Table 12: Ranks and Test Statistics

Ranks

Degree of Sensitivity	N	Mean Rank
Non- Sensitive	162	127.1
Sensitive	61	160.26
Highly Sensitive	106	225.65
Total	329	

Test Statistics

Chi-Square	**Degrees of Freedom**	**Asymp. Sig.**
100.146	2	0

According to findings of the the Kruskal-Wallis test, there is a statistically significant difference between the application of tariffs ($H(2)=100.146$, $p=.0$), with a mean rank of 127 for the non-sensitive group, 160.26 for the sensitive group and 225.65 for highly sensitive group. Henceforth, I reject the null-hypothesis that tariffs are applied irrespective of degree of sensitivity and accept the alternative hypothesis, that tariffs are applied as a condition of sensitivity. The Kruskal-Wallis test only allows us to test whether there are statistically significant differences; however, it falls short of establishing where exactly these differences lie. In order to establish which groups are actually different from each other, deploy the Mann-Whitney U test.[19] While the Kruskal-Wallis test is deployed when we have sample groups that are greater than two, the Mann-Whitney U test can be deployed to test differences between two groups only. Like the Kruskal-Wallis test, the Mann-Whitney U test stipulates that our samples are

[19] The Mann–Whitney U test (also called the Mann–Whitney–Wilcoxon (MWW), Wilcoxon rank-sum test, or Wilcoxon–Mann–Whitney test) is a non-parametric test of the null hypothesis that two populations are the same against an alternative hypothesis, especially that a particular population tends to have larger values than the other. The parametric equivalent of the Mann-Whitney U test is the t-test.

independent, with at least ordinal measurement and distributions that are shaped the same, assumptions my sample fulfill.

I test each combination of groups against each other, resulting in three overall tests. Conducting multiple comparisons leads to an increased possibility of committing a Type I error.[20] To control for the increased likelihood of rejecting a true null-hypothesis, I readjust α via the Bonferroni correction.[21] The Bonferroni correction is deployed, as opposed to other measures, because it is the most conservative one and yields most robust results.

All three tests exhibit a statistically significant difference between groups being tested. The first test confirms that differences between the non-sensitive and sensitive group are statistically significant, $U(241)$=3944.00, Z=-3.711, p<.02. The second test confirms that there is a statistically significant difference between the groups non-sensitive and highly sensitive, $U(266)$=3443.50, Z=-9.93, p<.02. The third test confirms that there is a significant difference between the groups sensitive and highly sensitive, $U(165)$=1947.00, Z=-4.50, p<.02. Thus, I reject the null-hypothesis, that tariffs are deployed irrespective of degree of sensitivity across groups and accept the alternative hypothesis that the deployment of tariffs is a condition of sensitivity across all categories.

Table 13: Ranks and Test Statistics (Non-Sensitive And Sensitive Group)

Degree of Sensitivity	N	Mean Rank	Sum of Ranks
Non-Sensitive	162	105.85	17147.00
Sensitive	61	128.34	7829.00
Total	223		

Test Statistics

	Tariffs
Mann-Whitney U	3944.000
Wilcoxon W	17147.000
Z	-3.711
Asymp. Sig. (2-tailed)	.000

[20] The multiple comparisons, multiplicity or multiple testing problem occurs when one considers a set of statistical inferences simultaneously. Errors in inference, including confidence intervals that fail to include their corresponding population parameters or hypothesis tests that incorrectly reject the null hypothesis are more likely to occur when one considers the set as a whole.

[21] The Bonferroni correction sets the significance cut at α/n. In my case: 0.05/3~0.2.

Table 14: Ranks and Test Statistics (Non-Sensitive And Highly Sensitive Groups)

	N	Mean Rank	Sum of Ranks
Non-Sensitive	162	102.76	16646.50
Highly Sensitive	106	183.01	19399.50
Total	268		

	Tariffs
Mann-Whitney U	3443.500
Wilcoxon W	16646.500
Z	-9.928
Asymp. Sig. (2-tailed)	.000

Table 15: **Ranks and Test Statistics (Sensitive And Highly Sensitive Groups)**

	N	Mean Rank	Sum of Ranks
Sensitive	61	62.92	3838.00
Highly Sensitive	106	96.13	10190.00
Total	167		

	Tariffs
Mann-Whitney U	1947.000
Wilcoxon W	3838.000
Z	-4.501
Asymp. Sig. (2-tailed)	.000

Model 2: NTMs

Descriptive Statistics

As with my first model, the second model consists of 330 cases, which are agricultural exports from South Africa to the EU at the HS-six digit level in the year 2011. The entire sample displays an overall range of NTMs of 42, r: 2-44 (M=14.75, SD=5.34). Different groups vary in range, with the group non-sensitive displaying the largest range of 42 and the groups sensitive and highly-sensitive displaying similar ranges of 18 and 20 respectively. Means of groups

are very similar with the non-sensitive group displaying a mean of 14.71 (*SD*= 6.71), the sensitive group displaying a mean of 14.21 (*SD*=5.19) and the highly sensitive group displaying a mean of 15.10 (*SD*= 3.41).

Table 16: Descriptive Statistics NTMs (Total)

	N	Range	Mean	Std. Dev.	Skewness	Std. Error	Kurtosis	Std. Error
NTMs	330	42	14.745	5.5397	-0.197	0.134	1.905	0.268
Valid N	330							

Table 17: Descriptive Statistics NTMs (By Group)

Degree of Sensitivity	N	Range	Minimum	Maximum	Mean	Std. Deviation	Skewness	Std. Error	Kurtosis	Std. Error
Non-Sensitive	163	42	2	44	14.712	6.7079	0.018	0.19	1.07	0.378
Sensitive	61	18	2	20	14.213	5.0961	-1.039	0.306	0.023	0.604
Highly Sensitive	106	20	2	22	15.104	3.4057	-0.472	0.235	1.57	0.465

Analysis of individual histograms reveals that frequency distributions of all three groups are bi-modal, displaying a major and minor mode. To be rigorous in establishing that my data is non-normally distributed, I execute Q-Q Plots for individual categories, which confirm the assumption that frequency distributions are non-normal. Having established non-normality, I execute a non-parametric test. Unlike with my first model, a Kruskal-Wallis test is not suitable to deploy because not all assumptions are met. The Kruskal-Wallis test assumes that the dependent variable follows a continuous distribution; however, with my second model my dependent variable, NTMs, follows a discrete one as only integers represent the variable. For that reason, I execute a slightly less powerful test, but the most appropriate one available to me, which is an extended median test.[22] Thus, it is again possible to check if there are statistically significant differences in the application of NTMs when controlling for degree of sensitivity. Analysis of

[22] An extended median test is a special case of Pearson's chi-squared test. It is a nonparametric test that tests the null hypothesis that the medians of the populations from which two or more samples are drawn are identical. The data in each sample are assigned to two groups, one consisting of data whose values are higher than the median value in the two groups combined, and the other consisting of data whose values are at the median or below. A Pearson's chi-squared test is then used to determine whether the observed frequencies in each sample differ from expected frequencies derived from a distribution combining the two groups.

medians across categories reveals that they are the same with p>.05. Therefore, I retain the null-hypothesis that NTMs are deployed regardless of degree of sensitivity.

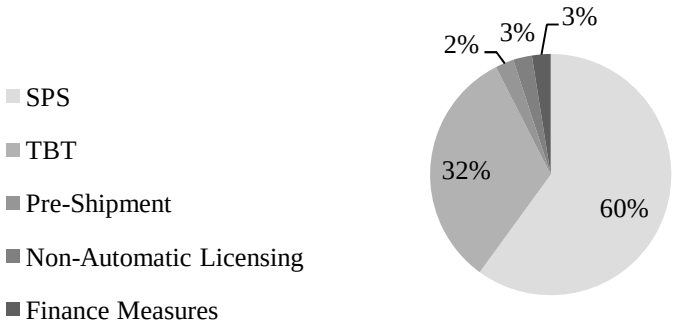
Table 18: Hypothesis Test Summary

Null Hypothesis	Test	Sig.	Decision
The median of NTMs are the same across categories of Degree of Sensitivity.	Independent Samples-Median Test	0.63	Retain the null hypothesis.

Results of the extended median test reveal that the degree of sensitivity has no impact on the application of NTMs and I accept the null hypothesis. The extended test of median differences provides insights into whether the amount of NTMs applied to different commodities is the same; however, it cannot tell us about the type of NTM deployed. For that reason, I look in depth at the distribution of NTMs deployed by the EU in the given context by computing a contingency table (see Appendix V).

There are in total 4805 NTMs applied to a selection of 330 product groups. However, in total there are only 40 different NTMs applied across all product groups. Thus, the same NTMs are consistently applied to multiple product groups. According to the classification of NTMs by UNCTAD, 60% of NTMs deployed by the EU is related to SPS measures (category A). TBT measures (category B) are the second most prevalent group with 32% of measures deployed relating to TBT. The deployment of measures other than TBT or SPS related, such as pre-shipment inspections (category C), non-automatic licensing and quotas (category E), as well as finance measures (category G) are not widespread.

Figure 3: NTMs in Place According to Category



Source: Author's Compilation

The group non-sensitive hosts the most NTMs, because it is the largest, almost three times as large as the group sensitive and the group highly sensitive being roughly 35% smaller than the largest group (non-sensitive). To assess the distribution of types of NTMs across product groups, I account for the size of group by weighting them. Analysis of the weighted values reveals that, indeed, the application of NTMs is very similar and irrespective of type of NTMs or degree of sensitivity. Analysis of the weighted averages of each NTM applied confirms that the same amount NTMs are applied to each product group, which is around 11.5 per product group at the HS-six digit level.

Table 19: Weighted Averages of Application of NTMs by Category

	Non-sensitive	Sensitive	Highly Sensitive
SPS	11.61	11.92	11.48
TBT	3.14	2.57	2.54
Pre-Shipment Insp.	0	0	0.07
Non-Automatic Licensing	0.08	0.03	0.11
Financial	0.07	0.03	0.11

Source: Author's Compilation

Analysis of Results

Introduction

Tariffs

Dividing overall products into categories of sensitivity proves to be an appropriate tool to generate refined results about the role of tariffs and NTMS in the agricultural sector. Results of statistical tests reveal that the deployment of tariffs is strategic, with highly sensitive commodities being subject to greater tariffs than sensitive and non-sensitive commodities. I conclude that tariffs are used as a means of protectionism. Literature suggests that the application of tariffs in the agricultural sector is more predominant, when compared to other sectors, such as the manufacturing one. The finding that 68% of products are not subject to a tariff contradicts this assumption. Contrary to the findings of the literature review, the average tariff across all groups is extremely low, with 3.10%. However, the frequency distributions of tariffs are non-normal, which is why it is more appropriate to take the value of the median as a representation of tariffs. Due to the fact that 68% of products are not subject to a tariff, i.e. a tariff of 0%, the median is 0%, which contradicts findings of the literature review even stronger.

As stated with the literature review, particularly sensitive products are protected by "megatariffs." The large range of 0% to 63% of applied tariffs in my sample substantiates this finding. The occurrence of few megatariffs also explains the fact that there is such a low median and a slightly higher mean. Infrequent, but extremely high megatariffs cause an upward bias when computing a mean, which is not reflected when computing the median. In addition, within the categories non-sensitive and sensitive, 50% of commodities are subject to no tariffs at all. A similar picture is true for the group of highly sensitive products, where 50% of commodities have a tariff lower than 4% applied to them. These findings contradict the assumption that tariffs are applied extensively across product groups.

This confirms my general assumption that there are large discrepancies in the application of tariffs and to understand the application of tariffs as a function of degree of sensitivity. The deployment of tariffs based on degree of sensitivity is consistent with theoretical assumptions outlined with the concept of the international food regime. Tariffs have been an integral part of EU trade policies to guard its domestic agricultural market and advance advantages within this sector. As Friedmann (1982: 82) suggests, this has led to a stable pattern of production and re-production of power, which is slow and difficult to dismantle. EU agricultural policies aim at the controlled ex- and import of products to maximize domestic net benefits. The majority of agricultural imports constitutes primary commodities are of no direct competition to domestic products and enters European markets without barriers. The few, but extremely important sectors, such as sugar and beef, which are of great domestic relevance to the EU, the EU protects extremely with carefully crafted policies. Thus, trade benefits and economic advantages are protected through a web of extensive and discriminatory trade barriers.

The deployment of different methodologies is a powerful explanation as to why findings of my study differ so greatly from expectations raised with the literature review. Findings of the literature review state that the EU deploys extensive prohibitively high tariffs on products from the agricultural sector. Gozallet (2003: 1) finds that estimates of the average tariff applied by the EU within the agricultural sector range from 40% as the highest and 10% as the lowest. My findings are still lower with the average tariff being 3.81% on agricultural imports to the EU from South Africa. Tariffs issued with agricultural exports that are not part of EU imports from South Africa are omitted from my study, which explains the low average of tariffs applied.

The discrepancy of findings produced with the literature review and empirical ones computed with this study also stem from the fact that the majority of studies deploy 'bound' tariffs as a measure of calculating the impact of tariffs as opposed to 'applied' tariffs. Bound tariffs represent the upper threshold to which a country is allowed to raise its tariff on an item, as committed under the GATT. However, I deploy 'applied' rates within my study. Applied rates, as opposed to bound rates, are the tariff rates customs administrations apply to imported goods. These rates are generally considerably lower than bound rates, due to the fact that preferential trade agreements between two or more partners exist (MAcMap Glossary). This is true for trade relations between the EU and South Africa, which are guided by a bilateral FTA. Thus, it becomes evident that studies disregarding the context of particular trade agreements might contribute to the literature that exaggerates the prevalence of tariffs applied by the EU by using bound rates when looking at tariff flows in aggregate.

An additional explanation is that South Africa does not export products with the highest tariffs to the EU, because the imposition of very high tariffs increases the price to such an extent that the commodity becomes uncompetitive. After all, the reason to issue tariffs is to deter imports from third parties. As shown with Table 21, product groups, such as bovine (107%), are subject to the highest tariffs and are at the same time not exported by South Africa to the EU. When analyzing product groups with the highest tariffs (top ten), South Africa only exports products two products, products of the sugar sector and bovine cuts.

This is consistent with assumptions of the international food regime and substantiates the account that tariffs deployed by the EU have the capacity to completely deter agricultural exports from South Africa. According to Friedmann (1982: 79), the postwar international food regime is about international trade in food and agriculture. The implicit and explicit administration of the food regime regulates trade flows and underpins the current balance of power. The EU, with the help of the US, constitutes one of the most important trading blocs across the globe and reflects its dominant position in policies shaped with the WTO, which have direct consequences on its administration of tariffs and ultimately ex- and imports. South Africa, a power yielding less influenced on an international trade scale than the EU, has to make do with policies, i.e. tariffs, dictated by the EU and condition exports to the EU accordingly.

Table 20: Highest Tariffs Deployed By EU (Top Ten)

Product code	Product description	Tariff Applied
20629	Frozen edible bovine offal (excl. tongues and livers)	106.70%
20230	Frozen, boneless meat of bovine animalsLo	83%
20110	Carcases or half-carcases of bovine animals, fresh or chilled	71.40%
170250	Fructose, chemically pure	71%
20210	Frozen bovine carcases and half-carcases	68.60%
40590	Fats and oils derived from milk, and dehydrated butter and ghee (excl. natural butter, recombined butter and whey butter)	66%
20220	Frozen bovine cuts, with bone in (excl. carcases and half-carcases)	63.60%
170240	Glucose inc syrup cntg in dry state min 20% but <50% by wt of fructose	61%
20120	Fresh or chilled bovine cuts, with bone in (excl. carcases and 1/2 carcases)	58.40%

Source: TRAINS Database. Author's Visualization

Analysis of NTMs

This is in contrast to what the results of the statistical tests reveal in regards to the deployment of NTMs. I show that NTMs are deployed irrespective of their degree of sensitivity, which contradicts findings of the literature review. All commodities are subject to at least two NTMs at a time, covering 100% of commodities. This finding comes as no surprise as health and safety, as well as quality assurance, is guaranteed via regulations and standards, i.e. NTMs. Given findings of the literature review, I expected to find that the application of NTMs, similar to the application of tariffs, would be based on the degree of sensitivity. However, this was found to be incorrect as each commodity group is subject to the same amount of NTMs, which are 15 on average. This means that highly sensitive commodity groups are not protected to a greater degree by NTMs than non-sensitive commodities.

Dell'Aquilla (2007: 270) raises the concern that disputes surround the necessity of NTMs and that it is difficult to establish which NTMs are deployed out of necessity and which are issued with the sole purpose of deterring imports. My study finds that the EU deploys NTMs indiscriminately; however, it lacks the scope to determine whether the uniform deployment of NTMs in itself constitutes an overly protectionist or appropriate issuance of

NTMs. Due to the fact that NTMs are deployed in the same fashion across product groups, I argue that they are not used in a protectionist fashion. The majority of commodities in question are not subject to any tariffs, thus, the EU reveals no immediate interest in deterring regular imports of commodities that are not subject to stringent internal regulation. For that reason, I argue that the uniform application of NTMs across categories reflects non-protectionist policies. The deployment of tariffs is one of the most efficient way to manage imports of third parties and Friedmann (1982: 82) states that the dismantling of established rules only takes place at a slow pace, with infrequent interruptions or accelerations caused by periods of crisis. Thus, I provide a credible explanation as to why, contrary to the findings of the literature review, NTMs do not substitute the deployment of tariffs as a protectionist method.

Comparison of NTMs and Tariffs

Tests confirm that tariffs remain the largest obstacles to greater South African agricultural exports to the EU when compared to NTMs. The literature review suggests that NTMs become greater obstacles to imports than tariffs, but I refute this assumption with my analysis. In contrast, my analysis establishes that far from it, tariffs remain the most effective policy tool to deter imports. The agricultural sector is one of the most stringently protected sectors, yet average tariffs on exports from South Africa to the EU amount to only 3.81%, which is relatively low compared to estimates put forward by the literature review. With the agricultural sector being of such sensitive nature and tariffs remaining comparably low, I assume that tariffs applied within different sectors would remain low when comparing average tariff rate.

However, the literature review suggests that there is a trend occurring, which sees the shift from tariffs being used as protectionist measures to NTMs. Establishing a longitudinal perspective on the development of tariffs and NTMs goes beyond the scope of my study, which is why this trend might be indeed taking place. Yet, my study illustrates that this trend cannot be confirmed when looking at the context of agricultural exports from South Africa to the EU. The literature review proposes that the agricultural sector is one of the most resilient when it comes to the dismantling of tariffs. Thus, results of my study might not be replicated when comparing tariffs and NTMs within different sectors, such as the manufacturing or primary commodity sectors. Also, results might differ when analyzing exporters to the EU, which have no preferential trade agreements, such as an FTA, in place with the EU. Unless the country is one of the least developed ones (LDCs), exports of countries with no special trade arrangement are subject to tariff rates that are much higher than preferential ones.

The Role of Private Standards as an Entry Point for Future Research

Friedmann (1982: 81) states that the international food regime is not only subject to rules and standards issued by the state but also by private actor, such as agrofood corporations. This is in accordance with the argument I put forward with this study, which proposes that private standards are playing a more and more important role in the management of agricultural trade and should be considered as alternative mechanisms to regulate exports from third parties. Seeking to offer a critical perspective on the global governance of the international food regime, I highlight the role of private standards in exercising power over agricultural value chains. The concept of "private authority", as developed by Hall and Biersteker (2002) is used to illustrate how private standards re-configure the global governance of agricultural trade, as presupposed with the concept of the international food regime.

Private standards, like public ones, are standards that are put in place to guarantee that products are safe to consume or to use for further value-adding activities. Similar to discussions on the impact of public standards, debates assessing the role of private standards on farmers in developing countries also take place. Here, analysis of the literature review confirms the same controversy surrounding private standards as public standards on the impact of the issuance of standards. Private standards have the potential to act as a catalyst to exports because consumers and businesses understand that products are safe, or they might act as a disadvantage due to the fact that they raise compliance costs, which potentially prohibits entry to markets all together (Aerni 2013: 5, Liu 2009: 1). Regardless, the scope of this study does excludes a detailed assessment on arguments of advantages and disadvantages; but it focuses on illustrating how far the deployment of private standards can be understood within the wider political economy of a global food regime.

Private standards become increasingly authoritative and on par with the importance of public standards. They reconfigure fiscal space, i.e. competencies that are historically and exclusively linked to the state, towards private authority, which deflects conventional notions of accountability, legitimacy and transparency, unlike public authority. Instead, non-state actors exercising private authority convey some form of accorded legitimacy (Hall and Biersteker 2002: 4). In the case of private standard setting, this legitimately is inferred by agrofood corporations upon themselves by only accepting products that have been labeled with relevant private standards issued.

Unlike public standards, private standards can be issued by a variety of actors. Not-for-profit NGOs, for-profit NGOs and businesses issue standards directly (Liu 2009: 5). The legitimacy of private standards is questioned because stakeholders, other than agrofood corporations, have no input in designing them (von Hagen and Alvarez 2012: 19). Thus, distant organizations judge on matters such as sustainability and ecology without the input of local farmers (von Hagen and Alvarez 2012: 19). Within this narrative, values highly desirable by consumers pertaining to "organic" or "sustainable" are constructed according to standards that agrofood companies, as opposed to stakeholders within the immediate context, set (Henson and Humphrey 2009: 3). Thus, power exercised by agrofood companies leads to the consolidation of control over global value chains by agrofood corporations. The monopolization of regulations pertaining to trade in agriculture is a key aspect when using the method of the international food regime.

Furthermore, the state and consumers recognize authorship of standard setting as legitimate. For that matter, private authority exercised by agrofood corporations enables them to "set agendas, establish boundaries or limits for actions, they certify, they guarantee contracts, they provide order and security" (Hall and Biersteker 2002: 4). Authority, here understood as "the institutionalized forms of expression of power" (Hall and Biersteker 2002: 4), grants agrofood corporations the legitimacy to absorb competencies that relate to the regulation of agriculture and food, ultimately "unhinging" the global food regime from state sanctioned policies all together.

Private standards compete with existing structures, such as the TBT or SPS agreement, because they lack standard setting accountability like that of intergovernmental standards. Intergovernmental standards are subject to oversight by the WTO and can be legally challenged via its Dispute Settlement Mechanism (Liu 2009: 13). The same cannot be said for private standards, which are not subject to any regulatory body, but businesses remain essentially only accountable to the shareholder. Private institutions are thus ill-equipped to legitimately administer standards, as the danger of conflicts of interest compromising judgments on the necessity and objective of private standards issued is paramount.

Compliance with standards increase revenues along the entire value chain, but these distributions are spread unevenly, with businesses as private standard setting bodies benefitting the most proportionally (von Hagen and Alvarez 2011: xi). In addition to reaping the majority of profits, the cost of compliance is placed firmly on the

supplier of the products (Aerni 2013: 5). In line with assumptions made under the political economy of food regimes, power exercised by agrofood corporations becomes consolidated with the integration of global value chains (Henson and Humphrey 2009: 3). In accordance with assumptions of the international food regime, Friedmann (1982: 80) cites that the increasing industrialization and monopolization of agrofood corporations takes place with the inherent extension of control of regulations of trade in the agricultural sector, which is evident with the issuance of private standards.

Apart from the increased monopolization of global value chains, the issuance of private standards creates wider challenges in regards to the global governance of food and agriculture. This is inherent with the fact that private standards are deployed as a governance tool beyond the state (von Hagen and Alvarez 2012: 18). While private standards are technically voluntary ones, they are de facto becoming mandatory as non-compliance is not an option for farmers, or other relevant businesses, due to lack of demand from potential alternative parties (Liu 2009: 2).

Potential for Future Research

Future research should account for the impact of tariffs and especially of NTMs, as this is not possible with an inventory approach as deployed with this study. Moreover, future research should pay greater attention to deploying applied tariffs as opposed to bound rates as these vary largely. Deploying bound rates as a measurement indiscriminately results in the deployment of higher tariffs within models computed and thus might lead to ill-informed long-term policy recommendations. Furthermore, more research should also focus on measuring positive effects that regulations and standard might cause, as opposed to only negative ones. Findings of my study reveal that NTMs are deployed in a non-strategic fashion and thus offer great opportunity for exporters to create confidence in their products by international consumers.

My study focuses on a cross-sectional study at a single point in time; however, research should also concentrate on longitudinal studies in order to be able to account for changes over time. A longitudinal approach also allows for the identification of trends in the application of tariffs and NTMs in a historical context. Instead of looking at the effects of tariffs and NTMs in isolation, future research should focus on analyzing joint, or interaction, effects that might be created with the application of NTMs and tariffs. Thus, it would be possible to establish whether tariffs and NTMs are deployed as a single mechanism, instead of two separate policy tools to deter sensitive imports from third parties.

My study has not confirmed the wide-spread use of NTMs as protectionist tools by the EU in the context of agricultural exports from South Africa, yet NTMs are cited as having a major effect on capacities of less developed countries to export commodities to the EU. My paper deploys a definition of NTMs that does not take into account 'beyond the border' effects of exporting countries. However, given the fact that NTMs are deployed out of necessity and not due to protectionist intentions, the questions remains as to why NTMs are perceived as particularly trade impeding. This merits the assumption that NTMs are perceived as obstacles to trade because specifically developing countries lack capacities to process requirements effectively. Future research should investigate a twofold approach to tackling NTM related shortcomings. On the one hand, EU customs procedures should be streamlined in order to facilitate the processing of exports of third parties destined for the EU. On the other hand, resources should be allocated to strengthen technical capacities of developing countries to process exports proficiently once EU custom borders are reached.

Summary

My study uses the concept of the international food regime as a method to illustrate that power exercised within the global governance of agricultural trade has historically been linked to protectionist measures by developed countries, such as the EU. Taking agricultural exports from South Africa to the EU as case study, I show that NTMs are not used as protectionist tools by the EU. Tariffs, on the other hand, remain heavily deployed in order to deter imports from third parties. This finding is contrary to results expected by the literature review. Discrepancies in regards to results relating to the relevance of the issuance of NTMs are explained by the fact I used a methodology that was contextualized, as opposed to indiscriminate aggregate data. Moreover, results produced with my quantitative analysis are in line with the overall framework of the global food regime. As illustrated with my qualitative argument, NTMs issued by the state constitute mere minimum standards. My argument demonstrates that a purely state-centric view on the analysis of tariffs and NTMs on agricultural trade, or general trade more broadly, fails to account for the burgeoning importance of private authority. The global governance of agricultural trade thus needs to be redressed by including the role of power exercised beyond the state. This is an important perspective to consider, because as Friedmann states (1982: 41) states, stable rules cannot come from profit-seeking organizations.

Appendix

Appendix I: Overview of Most Common Methods to Account for NTMs

Method	Description	Strength	Limitation
Gravity Model	Measures trade impact in terms of welfare effects	Quantification of NTMs possible	Does not distinguish between effects of tariffs and NTMs
Price- Wedge Method	Measures trade impact by modeling tariff equivalents of NTMs, deploying domestic prices compared to international ones	Measuring trade impact	Domestic products and imports are usually not perfect substitutes
Inventory-Approach	Catalogues NTMs in place via accumulation of data on regulations, data on frequencies and detention, data on complaints from industry	Directing attention to frequency of NTMs in disputed sectors, indicate importance of problem	Not possible to measure impact on trade
Survey- Based Approaches	Surveys exporting companies in regards to import difficulties	Highlights issue areas of qualitative importance; Rankings of importance of NTMs	No quantification of NTMs

Source: Author's own, Synthesis of Literature Review

Appendix II: Overview of Studies in Regards to Effects of Tariffs and NTMs

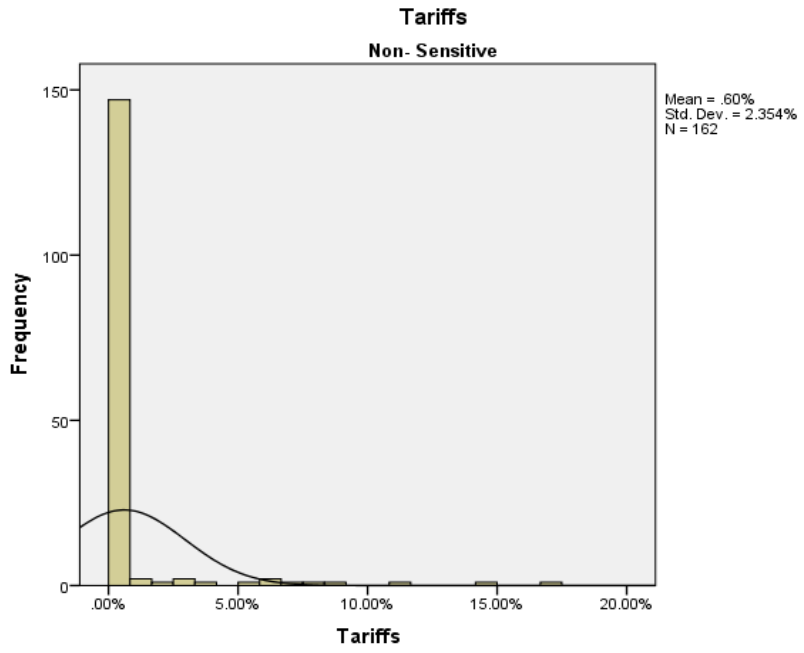
Author	Study	Method	Findings
Tokarick (2003)	Effect of imports and domestic subsidies on global welfare effects, imposed by OECD countries	Partial- and General Equilibrium Theory	Import tariffs are greater cause for distortion of welfare effects than domestic subsidies
Gibson (2006)	Profiling agricultural tariffs globally in the year 2001	Cataloguing bound and applied tariffs of product groups, comparing frequency statistics as well as central tendency	EU and US have lowest overall agricultural tariffs; dairy, meat and sugar sectors are subject to 'megatariffs' worldwide
Hoekman et al (2003)	Impact of tariffs and domestic subsidies on agricultural exports by developed countries on developing countries	Partial-Equilibrium of global trade in commodities that benefit from domestic border support or export	Reducing tariffs by 50% has larger positive effect on developing countries' exports than reducing

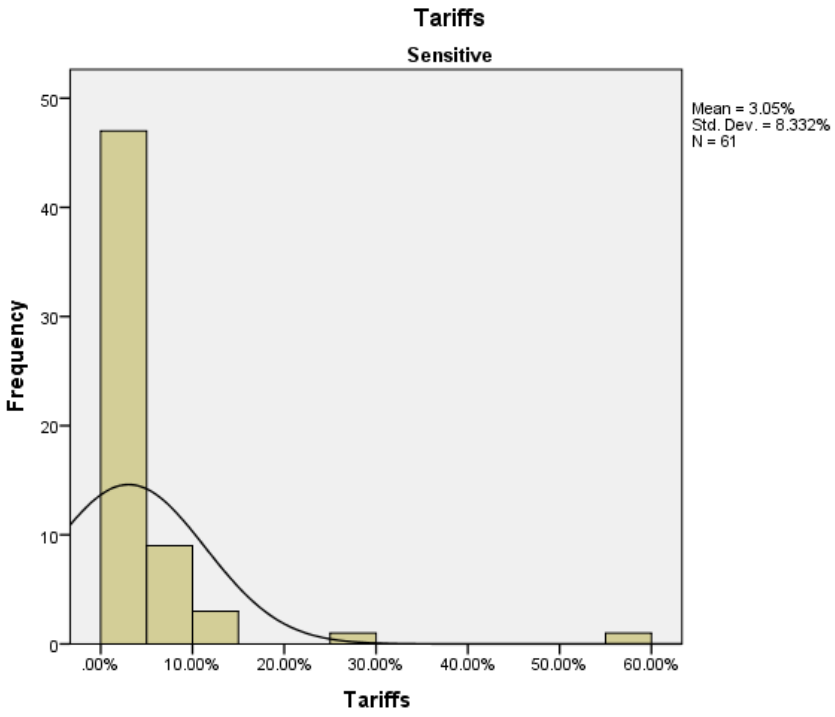
	exports	subsidies.	domestic subsidies by 50%
Love et al (2009)	Lobbying for the abolition of tariffs and quotas	Qualitative study of arguments on why global trade liberalization is beneficial	Greater abolition of tariffs and quotas leads to greater global welfare gains, countries temporarily negatively affected should have compensation measures implemented
Gebrehiwet, Y.; Ngqangweni, S.; Kirsten, J.F. (2007)	Effect of SPS regulations on South African Food Exports to Ireland, Italy, Sweden, Germany and USA	Gravity Model	SPS measures have severe restraining effect on South African food exports
Otsuki, T.; Wilson, J.S.; Sewadeh, M. (2001)	Impact of changes in aflatoxin standards on trade flows of groundnut products from Africa to EU, 1989- 1998	Gravity Model	10% tighter aflatoxin standards will reduce imports by 11%; new EU regulations, which are tighter than international standards, will lead 63% lower trade flows of groundnuts
Bellanawithana et al (2009)	Comparison of impact of NTMs on agricultural exports from eight South Asian countries to its 32 main exports markets	Gravity Model	Agricultural trade between developed countries is characterized by NTMs, exports from developing countries to developed countries face greater tariff obstacles than NTMs
Nogues et al (1986)	Analysis of NTMs to sixteen industrial countries' imports, period 1981-1983	Computing coverage ratios of imports affected by NTMs cross-sectional analysis of all product types	27% of all imports and 34% of imports from developing countries are affected by NTMs, usage of NTMs is on the rise
Fontagné et al (2005)	Analysis of NTMs relating to the environment proxied by SPS and TBT measures notified to the WTO, taking data from 2001	Computing coverage ratios environmentally necessary NTMs and protectionist NTMs disguised as environmental protection, cross-sectional analysis of all product types	88% of imports are affected by environmental NTMs, 39% are deployed as protectionist measures
Moenius, J. (2004)	Effect of shared standards on bilateral trade flows, covering 471 industries, 1980- 1995	Econometric analysis of shared and unilateral standards and its effects on bilateral trade flows	Standards have negative impact on agricultural sector, but positive impact on manufacturing sector
Henson et al (2001)	Effect of SPS measures on developing countries' exports to the US	Compare food standards of the US and EU	SPS standards are major factor in reducing ability of developing countries to export to developed

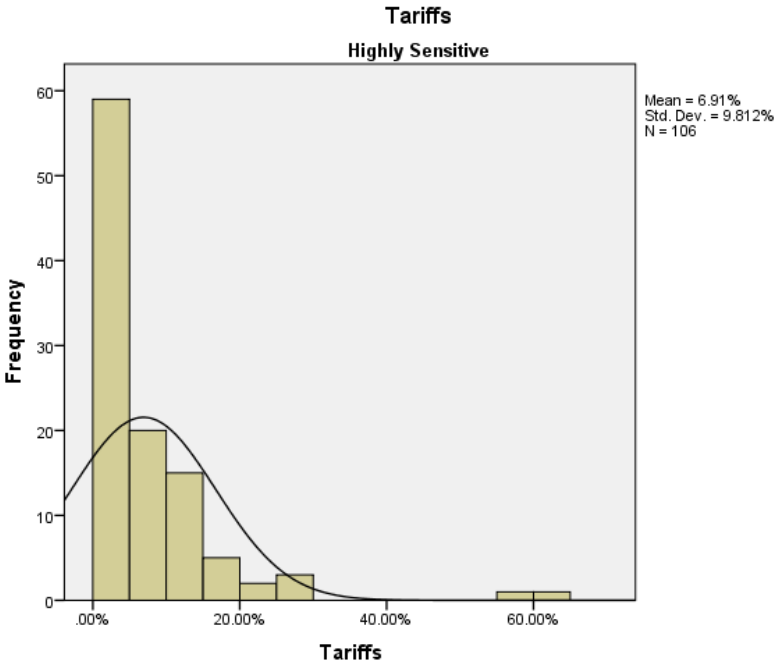
			countries
Walkenhorst (2004)	Prevalence of NTMs faced by EU exporters	Inventory of business complaints filed with the European Commission (EC)	EU exporters face greatest NTMs in agri-food sector when exporting to high-income countries

Source: Author's Own, Synthesis of Literature Review

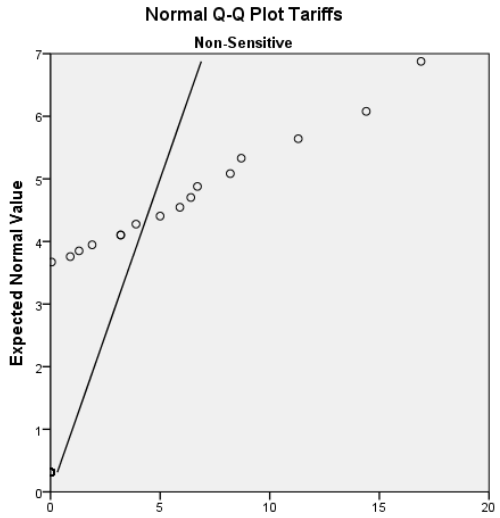
Appendix III: Histogram of Tariffs by Group

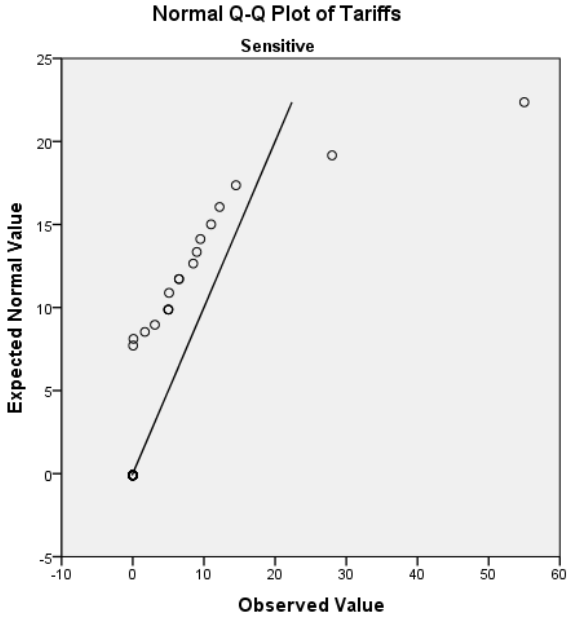


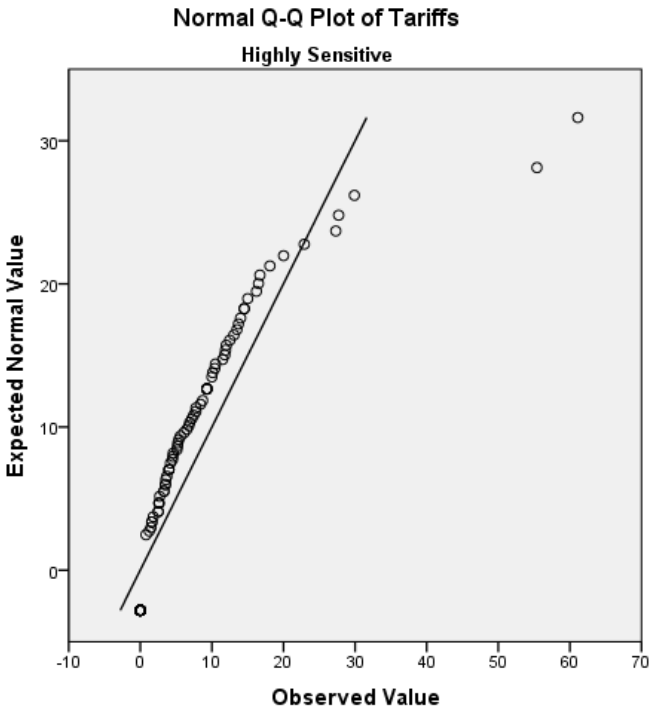

Tariffs
Sensitive
Mean = 3.05%
Std. Dev. = 8.332%
N = 61
Frequency
50
40
30
20
10
0
.00%
10.00%
20.00%
30.00%
40.00%
50.00%
60.00%
Tariffs

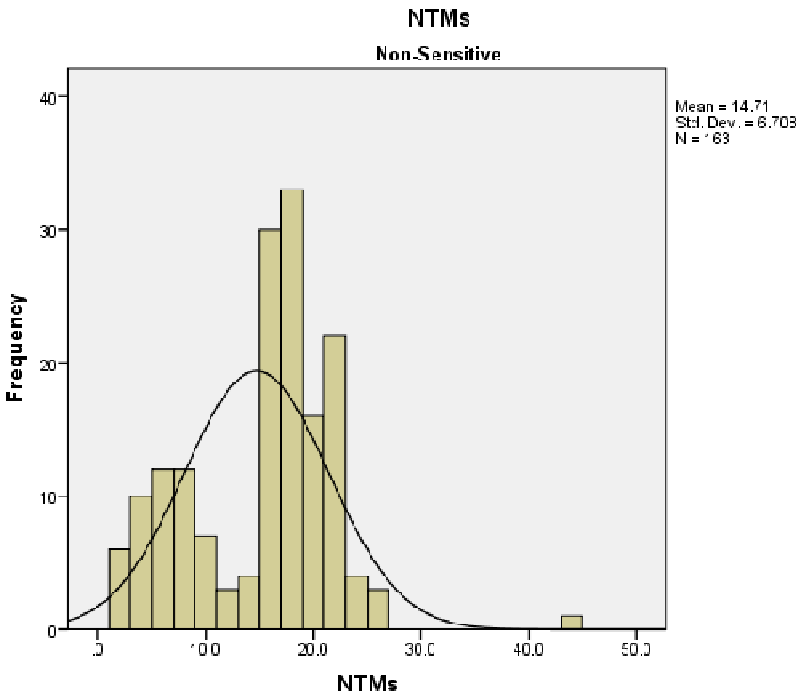

Tariffs
Highly Sensitive
Mean = 6.91%
Std. Dev. = 9.812%
N = 106
Frequency
60
50
40
30
20
10
0
.00%
20.00%
40.00%
60.00%
Tariffs

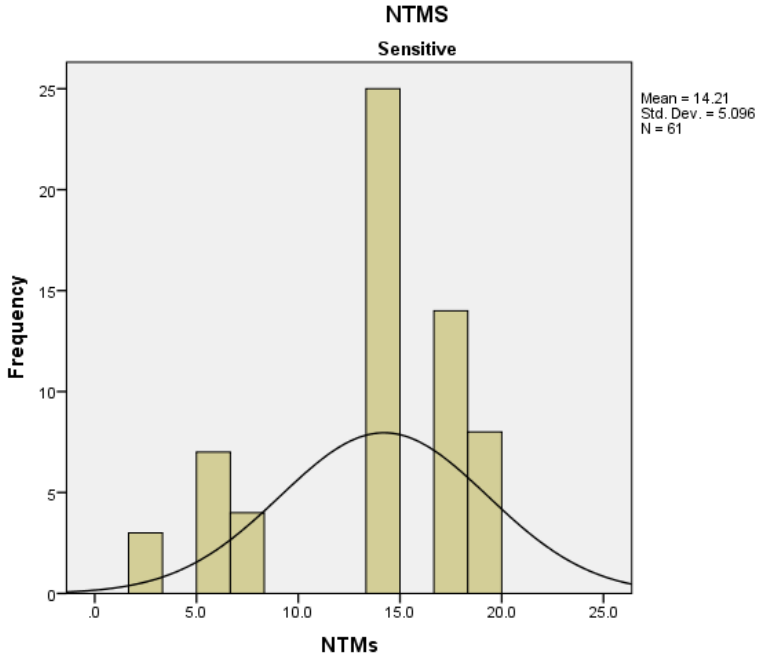
Appendix IV: Q-Q Plots of Tariffs by Group

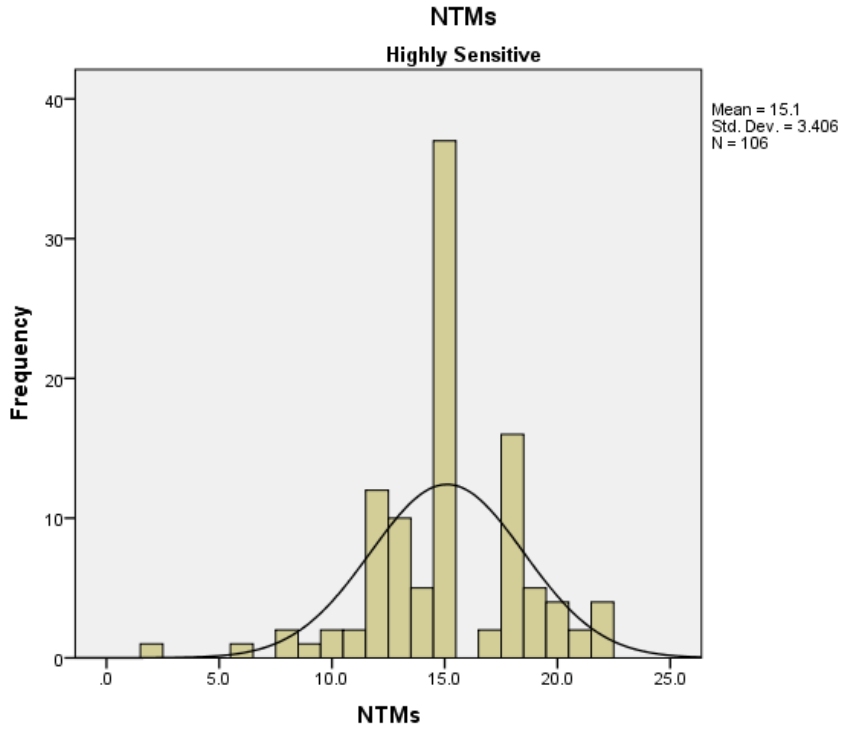





Normal Q-Q Plot of Tariffs
Highly Sensitive
Expected Normal Value
Observed Value
30
20
10
0
-10
0
10
20
30
40
50
60
70


NTMs
Non-Sensitive
Mean = 14.71
Std. Dev. = 6.703
N = 163
Frequency
NTMs
40
30
20
10
0
20.0
30.0
40.0


NTMS
Sensitive
Mean = 14.21
Std. Dev. = 5.096
N = 61
Frequency
NTMs


NTMs
Highly Sensitive
Mean = 15.1
Std. Dev. = 3.406
N = 106
Frequency
NTMs

Appendix V

Code	Name	Non-sensitive	Sensitive	Highly Sen.	Total
A120	Geographical restrictions on eligibility	35	1	31	67
A130	Systems Approach	114	47	68	229
A150	Registration requirements for importers	123	59	69	251
A190	Prohibitions or restrictions of products or substances because of SPS reasons n.e.s.	58	28	22	108
A210	Tolerance limits for residues of or contamination by certain substances	132	48	95	275
A220	Restricted use of certain substances in foods and feeds	121	47	69	237
A310	LabelingLabeling requirements	117	48	94	259
A320	Marking requirements	31	0	23	54
A330	Packaging requirements	31	0	48	79
A400	Hygienic requirements	20	1	31	52
A410	Microbiological criteria on the final product	114	47	92	253
A420	Hygienic practices during production	114	47	68	229
A600	Other requirements on production or post-production processes	3	0	0	3
A630	Food and feed processing	125	48	71	244
A640	Storage and transport conditions	7	0	1	8
A700	Regulation of foods or feeds derived from, or produced using genetically modified organisms (GMO)	130	53	96	279
A820	Testing requirement	3	0	0	3
A830	Certification requirement	80	35	42	157
A840	Inspection requirement	64	29	37	130
A850	Traceability information requirements	120	48	66	234
A851	Origin of materials and parts	107	47	63	217
A852	Processing history	114	47	68	229
A853	Distribution and location of products after delivery	107	47	63	217
B110	Prohibition for TBT reasons	35	0	8	43
B140	Authorization requirement for TBT reasons	134	62	98	294
B150	Registration requirement for importers for TBT reasons	31	0	8	39
B210	Tolerance limits for residues of or contamination by certain substances	1	0	0	1
B220	Restricted use of certain substances	5	0	0	5
B310	Labeling requirements	157	62	99	318
B320	Marking requirements	14	14	5	33

B330	Packaging requirements	35	0	36	71
B700	Product quality or performance requirement	41	19	7	67
B820	Testing requirement	16	0	0	16
B840	Inspection requirement	31	0	8	39
B850	Traceability information requirements	4	0	0	4
B853	Distribution and location of products after delivery	1	0	0	1
C400	Import monitoring and surveillance requirements and other automatic licensing measures	0	0	7	7
E100	Non-automatic license	13	2	12	27
G110	Advance import deposit	12	2	12	26
	Total	2400	888	1517	4805

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