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International Trade, Food Security and Fairness: Food Insecurity in Developing Countries in Light of the World Trade Organisation's Agreement on Agriculture

Supervisors

Prof. Francesco Ferrante

Prof. Daniela Federici

Candidate

Martina Asquini

Student Number 078322

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Abstract

The aim of this paper is to explore the relationship between international trade in food commodities and food security in developing countries, in order to evaluate whether the rules established by the World Trade Organisation are well suited to address food security concerns in the developing world. To this end, the first chapter of this paper analyses the concepts of food security, in contrast to food sovereignty, and of food self-reliance, in contrast to food self-sufficiency, and their theoretical relation with the core principles of international trade. In order to understand some of the causes of food insecurity in the world, as well as to emphasise the interplay between agricultural trade and food insecurity, the first chapter also compares existing taxonomies of countries. Classifications of countries according to criteria of income, development, and food trade balance, amongst others, help us understand some of the determinants of food insecurity and establish which countries are affected by it. This paper then continues to analyse core provisions of the World Trade Organisation's Agreement on Agriculture, among which rules on market access, domestic support, and export competition, upon which the current system of international commerce rests, drawing attention to the ways in which such rules may benefit developed economies at the expense of developing ones. The last chapter of this paper presents India, home to roughly a quarter of the world's hungry, as a case study. From the evaluation of both domestic and trade policies implemented by India in response to the food crisis of 2008-2011 it emerges that the Agreement on Agriculture fails to provide appropriate measures to tackle food insecurity and promote food security domestically. Whilst in theory trade could be a vehicle of global food security, in practice the rules of international agricultural trade are not suited for the purpose of protecting what is possibly the most important non-trade concern of the WTO.

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Chapter 1

1 Food Security, Development, and World Trade: A Framework for Understanding

1.1 Food Security as a Global Issue

The Food and Agriculture Organisation of the United Nations (hereinafter FAO) estimates that hunger affects, to the present day, as many as 815 million people globally (FAO; IFAD; UNICEF; WFP; WHO, 2017). Thanks to the efforts made in light of the Millennium Development Goals, which aimed at halving the number of hungry people in the world in the fifteen years between 2000 and 2015, first, and of the Sustainable Development Goals, which aim at eradicating hunger and achieving food security in the subsequent fifteen years, later, the number of hungry people in the world used to follow the declining path it had embarked on in the 1990s. The efforts made, however, are not nearly enough. Most recent estimates, indeed, show worrying proof that the number of undernourished people is increasing once again (FAO; IFAD; UNICEF; WFP; WHO, 2017).

It is now widely accepted that world hunger is not determined by an insufficient supply of food. It is determined by poverty, lack of purchasing power and lack of access to available resources. World hunger, as a matter of fact, is not only an ethical issue. It is also, and most importantly for the purposes of this paper, an economic and political matter. As such, it can, and it should be, tackled.

This first chapter will focus on the concept of food security, on the scope of food insecurity in the world and on the theoretical relationship between food security and trade.

1.1.1 Evolving Concepts of Food Security

The first definition of food security was adopted in the 1970s, when a major price spike in agricultural and food commodities, largely caused by the increase in the price of oil due to the oil shocks triggered by the Organisation of the Petroleum Exporting Countries (OPEC), gave rise to food commodities price spikes and resulted in a major food crisis. Such event shed light, for the first time, on the dramatic situation of hunger, malnutrition and food insecurity in the world. On the occasion of the World Food Summit of 1974, the FAO defined food security as “availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices” (FAO, 2003, p. 27). Being clearly supply-focused, this definition suggested that food insecurity was an issue of insufficient supply in national and international markets.

The current definition of food security, officially adopted at the 1996 World Food Summit in Rome (FAO, 1996), by contrast, reads as follows: “food security exists when all people, at all times, have physical, and economic access to sufficient, safe and nutritious food to meet their dietary needs and preferences for an active and healthy life” (FAO, 1996). From this definition, four dimensions of food security have been identified, namely availability, access, utilisation and stability (FAO, 2008). Availability refers to the physical supply of food commodities. Access refers to the ability of governments, households and individuals to procure enough food for themselves through markets and trade. Utilisation refers to the actual nutritional status of individuals. Stability refers to the fact that food security should be assessed from a long-term perspective, in so far as short-term assessments can be greatly impacted by variables such as climatic conditions, price shocks, demand surges, and domestic crises.

These two definitions are radically different. It is thus interesting not only to compare them, but also to analyse the reasons behind the development of the original one into the second. The paradigm shift from a supply-focused to an access-focused definition was partly sparked by Nobel laureate Amartya Sen’s ground-breaking work “Poverty and Famines: An Essay on Entitlement and Deprivation”, which adopted a rights-based approach to the issue of food security (Clapp, 2015). In his work, as a matter of fact, Sen argues that food security can be promoted through the guarantee of four entitlements, namely production-based entitlements (the right to consume what one produces), trade-based entitlements (the right to obtain food through markets), own-labour entitlements (the right to an income for one’s labour), inheritance and transfer entitlements (the right to food donated by others, be them family, government programmes or others) (Sen, 1981). The entitlement approach adopted by Sen is one which analyses people’s ability to “command food” (Sen, 1981, p. 45). It thus represented a landmark: for the first time, attention was drawn to issues of access and distribution rather than merely production and availability. As a matter of fact, availability, in terms of quantity, which constituted the very core of the original concept of food security, merely represents one of the equally important dimensions of the modern concept. The command of food depends on the accessibility of food perhaps even more than on its availability, merely because we now know that global food production is sufficient to feed the global population, if it is well distributed. As reported by a study by the World Bank, indeed, “there is ample food, the problem is one of purchasing power” (Gonzalez, 2002, p. 469). Framing food security in the right context and understanding the real causes of food insecurity in the world, namely lack of access and purchasing power, excessive volatility in food prices, conflicts and wars, is necessary to help relevant actors identify solutions. If the problem is one of access and purchasing power, appropriate trade rules could help put an end to the problem.

Food security can be analysed at different levels, namely national, household, and individual. For reasons of space, this paper will only evaluate food security at the national level.

1.2 The Food Insecure in The World: Existing Classifications of Countries

Not all countries are affected by hunger and food insecurity to the same extent. Factors such as natural resource endowment, status of development, level of income, and a country's trade balance in agricultural and food commodities greatly affect not only the extent to which a country suffers from hunger and food insecurity, but also the likelihood of increased suffering under critical circumstances, such as the food crises of the past decade. In order to acquire a better understanding of the relationship between international agricultural trade and the current status of food insecurity in the world, it is necessary to comprehend how country classifications made according to criteria of development, income, and agricultural and food trade balance overlap.

1.2.1 A Development Perspective: The World Trade Organisation Classification

Within the World Trade Organisation (hereinafter WTO), the major actor in the field of international trade, there are two groups of countries which are clearly identified as different from all others, namely Least Developed Countries (hereinafter LDCs) and Net Food Importing Developing Countries (hereinafter NFIDCs). These two groups have been identified and distinguished from all other WTO members due to their special needs in agricultural matters. The WTO's Agreement on Agriculture (hereinafter AoA), as a matter of fact, states, in its preamble, that WTO members need to consider the possible negative effects that reforms brought about by the Agreement itself may have on those two categories[1], thus acknowledging that rule in agricultural trade can affect not only development chances but also food security perspectives.

To identify LDCs the WTO has adopted the classification drafted by the Economic and Social Council of the United Nations, which lists 47 LDCs in total. Out of these, 36 are members of the WTO.

The list of NFIDCs includes 31 countries (WTO, 2012). Eligibility for this category is subject to two criteria: any NFIDC must hold developing country status in the WTO, and it must have been a net importer of basic foodstuffs in any three of the most recent five years (Kasteng, et al., 2004). Developing country status in the WTO is not as clearly defined as least-developed or net food

[1] Agreement on Agriculture, Apr. 15, 1994, Preamble, Marrakesh Agreement Establishing the World Trade Organisation, Annex 1A, available online [hereinafter Agreement on Agriculture].

importer status, unfortunately. Developing country status is neither granted nor requested, it is acquired through self-identification and, as a result, there is no clear-cut list of developing WTO members. WTO members that self-identify as developing countries need only receive a tacit approval by other members.

The categorisation of countries in the WTO is not an end in itself. It is, rather, a methodological step adopted to be able to distinguish between those countries which need, and may, benefit from special and differential treatment provisions and those which need, and thus may, not. Although this distinction is necessary, it is nevertheless superficial, in so far as both exemptions for LDCs and special and differential treatment provisions for developing countries are, as it will be extensively outlined in the next chapter, nothing but palliative measures: they do not have the effect of levelling the uneven playing field of agricultural commerce.

1.2.2 An Income Perspective: The World Bank Classification

The World Bank uses income as criterion for country classification. Countries are thus classified into four different categories according to their Gross National Income (GNI) per capita. Low-income economies, of which 26 out of 31 are WTO members, have a per capita GNI of $ 1,005 or less; lower middle-income economies have a per capita GNI between $1,006 and $3,955, 41 out of 53 of these are WTO members; upper middle-income economies, 56 in total, have a per capita GNI between $3,956 and $12, 235; high-income economies, 78 in total, have a per capita GNI equal to, or higher than, $12, 236 (World Bank, 2018). Nearly all countries in the last two categories hold WTO membership.

Income-based categories are not relevant *per se*. It is however interesting to analyse and acknowledge the overlap between poverty and food insecurity, which will be the subject of following paragraphs. Poverty is one of the main determinants of hunger and food security in the world. As a consequence, the eradication of poverty, the Sustainable Development Goal of zero hunger and the achievement of food security should be parallel objectives.

1.2.3 A Food Access Perspective: The Food and Agriculture Organisation Classification

The FAO has created a list of countries which are likely to suffer from food insecurity based on two different criteria, instead of just one. Its categorisation of countries as Low-Income Food-Deficit Countries (hereinafter LIFDCs), indeed, represents the two criteria of low income per capita, and net food trade deficit. The first criterion adopts the same threshold indicated by the World Bank for its low-income economies category. The position of net food trade deficit is measured by the difference between gross imports and gross exports for basic foodstuffs, such as cereals, roots, pulses, oils, meat and dairy products, averaged for the preceding three-year period (FAO, 2016). 40 LIFDCs are WTO members. This classification sheds light on the role played by trade in determining food security at the national level.

1.2.4 A Comprehensive Food Security Perspective: The International Food Policy Research Institute Classification

The categorisation formulated by Eugenio Diaz-Bonilla for the International Food Policy Research Institute is by far the most comprehensive categorisation for purposes of food security analysis. Countries are described as food insecure, food neutral or food secure depending on five different variables (Dìaz-Bonilla & Thomas, 2015). The first variable, namely domestic food production per capita, assesses the availability of domestically produced food. The second variable, the ratio of total exports to food imports, assesses a country's ability to guarantee access to food by means of financing food imports with foreign exchange acquired through exports. The third variable, the ratio of non-agricultural population to total population, accounts for the different and contrasting needs of the rural population of producers, who have always advocated for fair prices (i.e. prices that cover costs of production and provide a decent livelihood), and those of the urban population of consumers, who would rather see food prices decline. The fourth variable, calories and protein per capita, assesses the actual utilisation of food. The last variable is based on the mortality rate of children under five.

Depending on how countries score on these variables, they are classified as food insecure (51), food neutral (43), and food secure (58) (Dìaz-Bonilla & Thomas, 2015). Out of the 51 food insecure countries of the study, 46 are members to the WTO and are thus obliged to comply with the rules of the Agreement on Agriculture.

1.2.5 The Interplay between Development, Income, Trade, and Food Security

Table 1 below lists WTO members, minus developed countries (Kasteng, et al., 2004), and shows which ones fall in which category of the above-mentioned classifications.

Table 1. *Taxonomy of WTO developing and least-developed members*

WTO Members	Low-income and lower-middle income economies	NFIDCs	LIFDCs	LDCs	Food Insecure

Afghanistan	x		x	x	x
Albania					
Angola				x	x
Argentina					
Armenia	x				
Bangladesh	x		x	x	x
Belize					
Benin	x		x	x	x
Bolivia	x				
Botswana		x			
Brazil					
Bulgaria					
Burkina Faso	x		x	x	x
Burundi	x		x	x	
Cabo Verde					
Cambodia	x			x	x
Cameroon	x		x		x
CAR	x		x	x	x
Chad	x		x	x	x
China					
Colombia					
Congo				x	
Costa Rica					
Cote d'Ivoire	x	x	x		x
Croatia					
Cuba		x			
Dem Rep Congo	x		x		
Djibouti	x		x	x	
Dominica		x			
Dominican Republic		x			
Ecuador					
Egypt	x	x			
El Salvador	x	x			
Fiji					
Gabon		x			
Gambia	x		x	x	x
Georgia	x				
Ghana	x		x		x
Grenada		x			
Guatemala	x				
Guinea	x		x	x	x
Guinea Bissau	x		x	x	x
Guyana					x
Haiti	x		x	x	x
Honduras	x	x			

India	x		x		x
Indonesia	x				
Jamaica		x			
Jordan	x	x			
Kazakhstan					
Kenya	x	x	x		x
Kyrgyz Republic	x		x		x
Laos	x			x	x
Lesotho	x		x	x	x
Liberia	x		x	x	x
Madagascar	x		x	x	x
Malawi	x		x	x	x
Malaysia					
Maldives		x			
Mali	x		x	x	
Mauritania	x		x	x	x
Mauritius		x			
Mexico					
Moldova	x				
Mongolia	x	x			
Montenegro					
Morocco	x	x			
Mozambique	x		x	x	x
Myanmar	x			x	x
Namibia		x			
Nepal	x		x	x	x
Nicaragua	x				
Niger	x		x	x	x
Nigeria	x		x		x
Pakistan	x	x	x		x
Panama					
Papua New Guinea	x				
Paraguay					
Peru		x			
Philippines	x				
Romania					
Russia					
Rwanda	x		x	x	x
Saint Lucia		x			
Saint Vincent and Grenadines		x			
Samoa					
Senegal	x	x	x	x	x
Sierra Leone	x		x	x	x
Solomon Islands	x		x	x	x
South Africa					

Sri Lanka	x	x			x
Suriname					
Swaziland	x	x			x
Chinese Taipei					
Tajikistan	x		x		x
Tanzania	x		x	x	x
Thailand					
Macedonia					
Togo	x		x	x	x
Tonga					
Tunisia	x	x			
Turkey					
Uganda	x		x	x	x
Ukraine	x				
Vanuatu	x			x	
Venezuela		x			
Viet Nam	x				x
Yemen	x		x	x	x
Zambia	x			x	x
Zimbabwe	x		x		x

Source: our elaboration.

Table 1, which compares taxonomies of countries described above, reveals interesting overlaps between them. All but two, namely Angola and Guyana, food insecure countries are either low-income or lower middle-income countries, which proves that poverty is indeed a determinant of food insecurity and, thus, that efforts aiming at promoting and achieving food insecurity should, at least in part, aim at boosting incomes. Only a minority, namely six, NFIDCs are food insecure, which would suggest that import-dependence, if decoupled from income, is not necessarily a determinant of food insecurity. Nonetheless, according to comprehensive classifications of food importing countries[2], over two-thirds of low-income and lower middle-income economies, most of which are developing countries, are net importers of food (FAO, 2003). Given the overlap between poverty and food insecurity, and that between poverty and food trade balance, the three variables appear to be inextricably linked. All LIFDCs but two, namely Burundi and Mali, are food insecure. Only five of the 36 least-developed members of the WTO are not food insecure.

The aim of Table 1 was partly to show the complexity of food insecurity, partly to reveal some its economic causes and partly to provide a geographical scope of hunger-ridden countries. The

[2] This data does not appear in the table because only aggregate data, as opposed to individual country data, was available.

complexity of the issue naturally does not lend itself to easy generalisations but trying to understand the big picture is necessary in order to formulate and evaluate possible solutions.

1.3 Food Security and Trade

The following paragraphs will outline the relationship between trade and hunger, thus providing not only an analysis of two contrasting perspectives on the issue, namely those of food self-sufficiency and food self-reliance, but also an outline of the existing dilemma between food security and food sovereignty. Whilst the former, promoted by institutions in the global North, focuses on the advantages of free trade in agricultural products, the latter, advocated for by grassroots movements in the global South, pleads for the reduction of international food trade (Forum for Food Sovereignty, 2007).

1.3.1 Theoretical Opportunities and Practical Issues

The case for free trade was made by classical economic theorist David Ricardo in the 19th century. His argument in favour of open economies rests on the assumption that, by trading, countries will gain a comparative advantage on those goods which, for reasons of natural endowments, cheaper factors of production, and greater technological progress, they can produce at lower cost and sell at lower price than others. A system of open markets and free trade, thus, incentivises specialisation and efficiency which, in turn, give rise not only to comparative advantage and the consequential gains from trade, but also to a system whereby a country can finance imports of goods it could not have produced domestically by means of the foreign exchange acquired with the export of the goods it has a comparative advantage on. Another argument in favour of free trade is that it allows for the creation of a "transmission belt", whereby countries with limited production potential can be connected with countries with greater production potential and, by means of free trade, can both benefit from exchange (Clapp, 2015).

The case for free trade in agricultural products is even easier to make. Due to reasons such as lack of land, hostile morphology of the national territory, inadequate climatic conditions, or lack of natural resources, there are countries in the world which could never satisfy domestic demand of food with domestic supply. These countries need to trade. In a regime of free agricultural trade, indeed, countries that could never aim at achieving food self-sufficiency can aim at achieving food self-reliance instead. Saudi Arabia and the United Arab Emirates are perfect examples of non-self-sufficient but self-reliant economies in terms of food. They have historically financed their food imports with the large amount of foreign exchange acquired through oil exports and, most recently, through the purchase of foreign land, one of the assets they lack (Liberti, 2015). It is indeed through free trade and open markets that the above-mentioned transmission belt can work as a mechanism for efficient distribution of food resources: by linking areas of food surplus with areas of food shortage, free trade will enable food to flow from the former to the latter.

Most developing, and least-developed, countries, however, find themselves in a very different situation. Many of them are endowed with land, natural resources, and labour (FAO, 2003). They should, thus, theoretically enjoy a comparative advantage in the field of agriculture. In practice, however, they do not. Although most developing and least-developed countries have a great agricultural comparative advantage potential, they appear to be incapable of attaining gains from trade, and food does not flow to areas where it is needed most. This can be explained by a number of practical, structural issues, faced by these countries when entering international agricultural and food markets, which theory does not account for.

First and foremost, the comparative advantage many developing countries could benefit from is often lost due to unfair competition. As it will be explained in greater detail in the next chapter, large developed exporters tend to subsidise their agricultural sectors, thus artificially undercutting developing countries. This means not only that developing exporters are unable to compete on the global market, because domestic protection and export subsidies in the global North effectively outcompete low prices of the global South, but also that local production is disincentivised. Local consumers, indeed, prefer cheaper imported products. As a consequence, domestic production stagnates and, paradoxically, developing and least-developed countries turn out to be net importers of both food commodities and agricultural products.

Secondly, developing and least-developed countries' exports are, by and large, raw agricultural commodities, as opposed to processed foods exported by developed countries. Real prices for primary agricultural products have been following a steady downward trend since the 1970s, largely due to technological improvements in the field of agricultural production. This causes developing and least-developed countries to struggle with declining terms of trade: prices of their primary, raw exports fall, whilst prices of processed foods and manufactured agricultural goods, which they import, rise (FAO, 2003). Were the rules of the game to account for this, and were they aimed at the creation of a level playing field, developing and least-developed countries should be allowed to put in place policies to safeguard their agricultural production.

Thirdly, developing and least-developed countries are characterised by infant industries, whose issue is twofold. On the one hand, infant industries in the global South are inevitably damaged by the above-mentioned processed imports in so far as, being unable to compete with the advanced industrial might of the global North, their future development is hampered. On the other hand, tariff escalation, process whereby to a higher level of processing correspond higher tariffs, largely implemented by developed countries and left unregulated by international trade rules, undermines not only developing and least-developed countries' possibilities of purchasing costly processed foods, but also further damages local infant industries by preventing them from gaining access to developed economies' markets.

Developing and least-developed countries face many other issues in terms of competition with, and market access to, developed economies. The concentration ratio of the first four industries (measure, known as CR4, used to assess horizontal market power) in many agricultural sub-categories, such as that of grains, for instance, is incredibly high, with the largest four grain trading firms controlling around 80% of the world market. Many of these issues could be tackled by means of establishing fair trading-rules. As it will be explained in greater depth in the next chapter, however, trade rules are neither fair nor impartial. As a matter of fact, "the political economy of trade policy, suggests that the glaring gap between theory (of gains from free trade) and reality (of widespread protectionism) can largely be explained by […] political and economic forces […] where there is not a level playing field" (FAO, 2003, p. 16). It will be the aim of the second chapter to shed light on such political and economic forces which have allowed some to retain pre-AoA protectionist policies while preventing others from implementing similar ones, with the result of exacerbating food insecurity and promoting global inequality.

1.3.2 Theoretical Limitations

Although under a system of perfect competition and fair trading-rules free trade could be one of the viable options for the achievement of national food security, it is of the utmost importance to acknowledge that trade liberalisation has benefited large trans-national corporations at the expenses of small-scale farmers, the latter being among the neediest, especially in developing and least-developed countries (Patel, 2012). Furthermore, countries pursuing trade liberalisation in agriculture, promoted first and foremost by the WTO's AoA, inevitably incur other risks such as loss of sovereignty in decision-making, loss of biodiversity and traditional practices, and environmental damages due to land overexploitation for export-oriented cash cropping. For these reasons, a new paradigm, that of food sovereignty, has been put forward as an alternative to food security.

Food sovereignty is defined as "the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems" (Forum for Food Sovereignty, 2007, p. 9). Firstly, food is looked at from a rights-based perspective, in consideration of the existing justiciable right to food, codified not only in Article 25 of the 1948 Universal Declaration of Human Rights, but also in article 11 of the 1966 International Covenant on Economic, Social and Cultural Rights. Secondly, by focusing on sovereignty, this approach intends to condemn practices which have historically undermined developing and least-developed countries' ability to put into practice policies for the self-determination of their own food systems. Grassroots movements advocating for food sovereignty, indeed, acknowledge and criticise practices such as the dumping of food surplus under the guise of food aid, poorly regulated by international trade rules; the lack of control over domestic markets, flooded by artificially cheap imports; the privatisation of natural resources such as water, and the incentives to produce globally tradeable commodities rather than locally demanded, and culturally appropriate, foods in order to be competitive under a system of free trade. As emerged from the Forum for Food Sovereignty of 2007, the aim of food sovereignty proponents is to take agriculture out of the non-democratic, non-transparent, and non-representative institution that the WTO is. Although trade is not rejected altogether, the international system of trade is seen as a threat to culture, sustainability and, ultimately, human health.

In spite of being an extremely relevant concept, especially in so far as it challenges many of the assumptions upon which the current international trade regime is built upon, food sovereignty will not be the main focus of this dissertation. Reducing the volume of international trade certainly is a desirable goal for many, especially in the global South, and it might represent the best path towards self-sufficiency, but it may not be the best way to eradicate hunger in the globalised world.

Chapter 2

2 The World Trade Organisation’s Agreement on Agriculture

2.1 Historical Development of Agricultural Trade Regulation: From the General Agreement on Tariffs and Trade to the Uruguay Round of Multilateral Trade Negotiations

The World Trade Organisation (WTO) is the major player in the field of international trade. With its 164 members, out of 195 recognised countries in the world, it is the most representative body concerned with trade.

In the sector of agricultural trade, which includes food trade, the most important legal text is the WTO's Agreement on Agriculture (AoA). This chapter will briefly analyse the historical developments and structure of the AoA, focusing on those provisions which are most relevant with respect to food security.

2.1.1 The General Agreement on Tariffs and Trade: The Special Status of Agricultural Trade

The General Agreement on Tariffs and Trade entered into force in 1947. Its main objective is the liberalisation of trade in goods. The GATT represents a landmark in international trade law in so far as it constitutes the first agreement aimed at regulating trade at the international level.

Nevertheless, the relevance of the GATT, when analysed with respect to the more circumscribed field of agricultural trade, has been neither as significant nor as crucial as it has been in regard to manufactured goods. Within the text of the GATT, agriculture is not addressed as a separate issue, which would suggest that agricultural commodities be subject to the same principles and rules as manufactured goods. The articles of the General Agreement which are directly concerned with primary goods, category within which agricultural, fishery, and forest products invariably fall, can, however, be classified as exemptions. Article XI of the GATT, for example, sets forth the rules concerning quantitative restrictions on traded goods (GATT, 1994), such as import and export quotas. The second Paragraph of Article XI exempts agricultural products from the provision on the general elimination of quantitative restrictions given that certain conditions, such as, for instance, the restriction of domestic production or the removal of domestic surpluses, be met (GATT, 1994). Another emblem of the special status held by agriculture in the realm of international trade law is Article XVI of the GATT, whose subject is subsidies (GATT, 1994). In 1955, the revision of the

Agreement saw the introduction of provisions XVI: 2 to XVI: 4, which banned export subsidies altogether. Once again, however, agricultural export subsidies were exempt from the new provision.

The unregulated nature of agricultural trade was not without consequences. Domestic support in 1986-88, period in which the negotiations of the AoA started, amounted to 60% of the value of production of OECD countries (FAO, 2000). The great amount of surplus produced could only be dispensed with by means of export subsidisation, which in turn lowered international agricultural prices, by means of increasing supply on the world market, and rendered them more volatile and unpredictable. Developing countries were faced with a twofold challenge: on the one hand, being incapable of subsidising domestic production, they were unable to compete with artificially low international prices; on the other hand, prioritising the development of industries in urban areas, they often taxed agricultural production in order to provide cheap, local food to the urban working population, thus inadvertently putting rural populations at greater risk of food insecurity (Gonzalez, 2002). Such state of agricultural commerce was defined by American economist David Gale Johnson as one of "disarray" (FAO, 2000): although unacknowledged, distortions to trade in the agricultural sectors were common and widespread, and by the mid-1980s, it had become clear that change was much needed.

2.1.2 The Uruguay Round of Multilateral Trade Negotiations

Although the GATT had been amended and revised during subsequent Negotiating Rounds, market distortions in agricultural trade were not acknowledged until 1986, with the Punta Del Este Declaration. The latter stated that “the contracting parties agree that there is an urgent need to bring more discipline and predictability to world agricultural trade by correcting and preventing restrictions and distortions including those related to structural surpluses so as to reduce the uncertainty, imbalances and instability in world agricultural markets”[3]. This declaration is extremely relevant not only because it represents the first time that the trade-distorting effects of the lack of regulation in agricultural trade were formally recognised, but also because it opened the Uruguay Round of Multilateral Trade Negotiations, which paved the way for the creation of the World Trade Organisation, formally established in 1995.

The Uruguay Round was launched in 1986. It was originally scheduled to end by December 1990, but the seemingly irreconcilable interests of the two major contracting parties, namely the US and the European Community (now EU), extended the duration of negotiations until 1993 (Healy, et al.,

[3] GENERAL AGREEMENT ON TARIFFS AND TRADE, *Ministerial Declaration on The Uruguay Round of Multilateral Trade Negotiations*, in *International Legal Materials*, 1986, n.6, available online.

1998). Developing countries could hardly take part in the negotiating process (Gonzalez, 2002), which saw the United States, the single largest exporter of food commodities in the world at that time, the European Community (hereinafter EC), and the Cairns group, an interest group of food-exporting countries, as major actors (Healy, et al., 1998).

The USA, whose agricultural empire started being challenged by the EC's Common Agricultural Policy, aimed at market expansion through trade liberalisation, thus putting on the negotiating table a proposal to gradually phase out subsidies and import restrictions. The EC, however, was committed to strike a lighter deal which would have enabled it to retain the advantages gained through the CAP. The stalemate between the US and the EC was only broken in 1992, thanks to a reform of the EC's CAP (Healy, et al., 1998). Bilateral discussions between the USA and the EC, concluded with the Blair House Accord of 1992 (Healy, et al., 1998), saw the two most powerful contracting parties agree on the exemption of such production-limiting schemes from domestic support reductions. The decision, yet another political one, resulted in the creation of the 'blue box' of domestic support, which will be analysed in detail later on. The Agreement on Agriculture thus officially entered into force in 1995, following the establishment of the World Trade Organisation.

2.2 The Agreement on Agriculture

The AoA represents a milestone in the field of agricultural trade regulation. As stated in its preamble, the AoA has the long-term objective “to establish a fair and market-oriented agricultural trading system” (Agreement on Agriculture), meaning that the AoA aims to “provide substantial progressive reductions in agricultural support and protection (...), resulting in correcting and preventing restrictions and distortions in world agricultural markets” (Agreement on Agriculture). The core provisions of the Agreement will be analysed with the intent of shedding light on those regulations, or lack thereof, which have the potential of reducing and/or modifying a WTO member's domestic policy space to address issues related to food security. Given that the Agreement is underpinned by the principle of special and differential treatment for developing nations and that food security is mentioned in the Agreement itself as a “non-trade concern” (Agreement on Agriculture) which should be had regard for, provisions which run the risk of hampering measures aimed at these objectives should be looked at critically.

The Agreement is composed of three fundamental pillars, namely market access, domestic support and export competition, which represent the three most relevant areas within which barriers to trade can be erected. These will be analysed with regard to food security issues.

2.2.1 Market Access

In economic terms, market access refers to the conditions for the entry of goods, produced in country X, into country Y. Making markets more accessible is a fundamental aspect of trade liberalisation in so far as the more accessible markets are, the greater the volume of trade and the extent of market integration will be. Allowing foreign products in the domestic market tends to increase competition and is thus a way of improving the quality of goods provided. Denying foreign goods access to a domestic market is a protectionist measure which can be implemented to safeguard the interests of domestic producers and agricultural lobbies. The most common measures by which governments have historically restricted access to their domestic markets are tariffs, quotas, and technical barriers.

Tariffs are monetary charges imposed on goods by virtue of the fact that they cross a border, entering the domestic market from an external one. Tariffs imposed on imports protect the domestic market by favouring domestic production, at the expenses of domestic consumers, who will witness an increase in the price of imported goods. Import tariffs aim at making foreign goods more expensive than similar domestic goods, thereby discouraging consumers from buying foreign products and artificially creating a comparative advantage for domestic producers. Tariffs are also a source of government revenue.

Quotas can be applied to imports and exports. Import quotas have a similar effect to the above-mentioned tariffs: they induce a reduction in imported goods. The main difference between tariffs and import quotas is that, by capping quantities rather than imposing monetary charges, quotas do not raise government revenue. Export quotas will be dealt with in the sub-paragraph concerned with export restriction.

Technical barriers are qualitative, rather than quantitative, barriers to trade. In the agricultural sector, the most common technical barriers are sanitary and phytosanitary requirements, regulated by Article 15 of the AoA. Article 15 binds WTO members to act in such a way to give effect to the concomitant Agreement on Sanitary and Phytosanitary Measures (Agreement on Agriculture). Sanitary requirements are, naturally, a necessity in the world of agriculture and food: they have been put in place in order to protect the health of global consumers. The reason why they can be classified as barriers to trade, arguably a controversial issue, is that they have often been abused of (IFAD, 2003). During the implementation period of the AoA, low and middle-income countries reported that they were unable to meet the standards laid out in the Sanitary and Phytosanitary Measures Agreement on over half of their potential exports (IFAD, 2003). The imposition of excessively strict sanitary measures can be an obstacle to market access, which negatively affects those countries with less advanced infrastructure and industries, and with fewer funds available.

In the text of the AoA, it is Article 4 which deals with market access. The first paragraph of Article 4 states that all tariffs must be bound and reduced according to each country's schedule of commitments[4]. Binding a tariff essentially means setting a maximum tariff level, either per unit or as percentage of the price of the imported good, which can be applied to any given product. Tariff binding establishes a ceiling over which tariffs cannot be raised. The second paragraph of Article 4 prohibits the implementation of any import restriction other than a tariff. Commonly referred to as 'tariffication', the provision required WTO members to convert any import restriction, existing in the base year of 1986-88, into tariffs during the implementation period (Gonzalez, 2002). The decision in favour of tariffication was driven by the more transparent nature of tariffs, compared to non-tariff barriers, which makes them more easily subject to monitoring and controlling by the Committee on Agriculture, established by Article 17 of the AoA and bearing the responsibility of overseeing the implementation of the Agreement's provisions.

In compliance with the principle of special and differential treatment, tariff reduction requirements for developing countries were more lenient than those for developed countries: the former had to reduce tariffs by 24% over ten years, whilst the latter had to reduce them by 36% over six years (Gonzalez, 2002). Going beyond practical reduction commitments, however, the rationale behind Article 4 was, or at least must presumably have been, that of opening to trade those markets which had historically been inaccessible to most, namely the markets of developed economies. Gaining access to new markets effectively means gaining new income opportunities. Fair market access conditions can bolster rural productivity and raise incomes in many developing and least-developed countries. Was the creation of a fair trading-system truly the objective of the WTO's AoA, as stated in its preamble, then the market access provision should have been designed to create a level playing field, rather than simply to comply with the special and differential treatment principle, here relatively empty of meaning. Given that the share of trade-related revenue in low-income countries ranges from 10% to 25% of total public revenue, that agricultural products constitute over 50% of developing and least-developed countries exports (IFAD, 2003), and that tariffs in place in the base year were much higher in developed economies to begin with, granting developing countries special and differential treatment does not help them to promote domestic production, nor does it pave the pay for the creation of a level playing field.

Given, as it was explained in the first chapter, that developing and least-developed countries theoretically have a comparative advantage in the field of agricultural production, fair market access

[4] The WTO's Schedules of Commitments are legal texts which contain the commitments made by each WTO member with regard to all other members.

conditions could represent a way of acquiring a new and important source of income for the rural populations of those countries, thus reducing the role played by poverty in determining food insecurity.

Furthermore, there have been several problems with the implementation of Article 4. The provision was aimed to convert existing barriers into tariffs which would provide an equivalent level of protection, and to lower these tariffs progressively. Many developed countries, however, engaged in "dirty tariffication" (Gonzalez, 2002, p. 460), process whereby tariffs were imposed, which granted a greater level of protection than the non-tariff measures they replaced. Furthermore, tariffs were highest on processed foods compared to unprocessed agricultural products, practice known as tariff escalation. Tariff escalation is *de facto* a barrier to trade for developing countries whose processing industries, lagging behind those of developed nations, are unable to compete on processed goods and are left to compete on primary products. This effectively hampers the development of processing industries in low-income countries and simultaneously incentivises the overexploitation of natural resources. Given the long-term downward trend of real prices of agricultural commodities, and the rapidly increasing marketing margin of processed foods, countries competing only on primary products are faced with grim prospects of growth.

For trade to be a channel through which food security can be promoted, economies need to be truly open, especially to those who need them most. As long as the markets of developed economies are not accessible to developing and least-developed ones, the latter will not stand a chance to benefit from their agricultural potential, nor will the theory of gains from trade be truly applicable to their economies. Unfortunately, trade liberalisation in terms of market access has been merely modest.

2.2.2 Domestic Support

Domestic support refers to the governmental practice of maintaining domestic prices for agricultural commodities higher than the prevailing world market price for the same product. Domestic support can be implemented through input subsidies, deficiency payments, direct payments to producers, either coupled or decoupled from production, and reduction of costs of marketing and infrastructure.

Deficiency payments are payments made by governments to compensate the difference between a government-set (ideal) target price and the domestic price. If the domestic price is below the target price, producers will be paid the difference by the government. This guarantees farmers a stable income. Production subsidies to fertilizers, seeds, feedstuff and other agricultural inputs reduce costs incurred by producers, thus promoting production growth and, at the same time, lowering prices faced by consumers. This policy instrument boosts not only supply but also demand, thus promoting growth. Direct payments are payments made by governments directly into farmers' pockets, often on the condition that given requirements, such as the limitation of production, be met. The motives behind direct payments are similar to those behind deficiency payments.

Although different measures of domestic support produce different outcomes, they nonetheless cause similar distortions to agricultural trade. First and foremost, measures of support require large government expenditure and are thus unavailable to developing and least-developed countries as policy instruments. Secondly, they depress world market prices by supplying goods whose prices are artificially made lower than those of unsubsidised alternatives, forcing the latter to be sold at prices which may not cover costs of production. This not only nullifies the competitive advantage that many developing countries could enjoy in the agricultural sector; it also actively discourages production, thus indirectly promoting dependence on food imports, one of the factors which exacerbate food crises. Thirdly, they tend to cause overproduction, which then needs to be disposed of by means of export subsidisation and dumping practices (Das, 2016).

Domestic support is regulated by Articles 6 and 7 of the AoA, which deal with commitments and general disciplines on domestic support. Paragraph 1 of Article 6 recalls that commitments to reduce domestic support are country-specific and are to be found in each country's schedule of commitments (Agreement on Agriculture). Paragraph 2 of the same article introduces the so-called development box of support measures, namely a non-exhaustive list of measures which, being aimed at encouraging rural development, are exempt from reduction commitments. The most important rules laid out by Articles 6 and 7 concern the so-called green, blue, and amber boxes. These 'boxes' of support, created to reflect a somewhat special traffic light system, contain measures of support classified according to their respective potential for trade distortion.

2.2.2.1 Green Box Measures of Support

Green box measures of support are exempt from any reduction in so far as they are supposedly non-trade-distorting. As specified in Annex 2 of the AoA, domestic support measures can fall within the green box if they "meet the fundamental requirement that they have no, or at most minimal, trade-distorting effects or effects on production" (Agreement on Agriculture). Annex 2 also specifies that these forms of support need to be provided through "publicly funded government programme[s] not involving transfers from consumers" and that the effect of such support shall not be that of "providing price support to producers" (Agreement on Agriculture). The comprehensive, but non-exhaustive, list of measures which fall into this category provided in the text contains government expenditure aimed at improving agriculture, such as environmental research, pest and disease control; public stockholding for food security purposes, provided that food purchases are made at current market price; domestic food aid; direct payments to producers; decoupled income support; safety net programmes; natural disaster relief programmes; structural adjustment and regional assistance programmes.

Although they are supposedly non-trade-distorting, green box measures of support are yet another means by which developed countries have created an uneven playing field in the realm of international agricultural trade. It is undeniable that government funding provided for research and development purposes, as well as for the implementation of environmental programmes, plays an important role in fostering progress. This kind of funding, however, is only available to developed nations and, as a matter of fact, it is developed nations who make the largest use of green box subsidies (Das, 2016).

One of the most relevant issues concerning green box measures of support, however, pertains to the one measure which developing countries, and more specifically countries whose population is largely food insecure, make use of: public stockholding for food security purposes. Despite being listed among the allowed measures, public stockholding is subject to the requirement that government procurement be made at current world market price, rather than at a higher, administered price, in so far as the latter practice, providing direct income support to farmers, would be trade-distorting. Public stockholding for food security purposes has proved to be a fundamental policy instrument for developing countries during the price spikes of 2007/08 and 2010/11 and it has become one of the main points of discussions during the current Doha Round of Multilateral Trade Negotiations. Allowing governments to procure public stocks of food at administered prices higher than current market price could translate into an important form of support to the large rural population of small-scale farmers who, until now, have all but suffered from liberalisation of agricultural trade. Proposals for changes on the provisions concerning public stockholding for food security purposes will be further analysed later on in this chapter.

2.2.2.2 Blue Box Measures of Support

Paragraph 5 of Article 6 of the AoA lays out the rules for what has become known as the blue box of support. Blue box measures of support cover support programmes which are complemented by production-limiting schemes. Measures falling in this category are not subject to reduction commitments and are not to be included in the calculation of a country's Current Total Aggregate Measure of Support (hereinafter AMS).

There are mainly two issues concerning the blue box. First, and once again, they represent a policy instrument which is largely unavailable, or at least unnecessary, to developing economies, given that they need to expand, rather than limit, their productive capacities. The second issue has to do with the exclusion of such measures from the Current Total AMS. The Aggregate Measure of Support is the “annual level of support calculated in monetary terms for an agricultural product” (Agreement on Agriculture). Simply put, the AMS represents the level of domestic support provided by a given country in a given year. Domestic support, as it will be explained in detail in following sub-paragraphs, was supposed to be reduced starting from the Base Total AMS, which is the level of support provided by a given country in the base period of 1986-88. Compliance was thus to be monitored by comparing Current Total AMS with Base Total AMS for a given country. The problem here lies in the fact that blue box measures of support were included in the calculation of Base Total AMS but are excluded for the calculation of Current Total AMS, given that their trade-distorting potential is supposedly non-existent (Gonzalez, 2002). Given that these measures have, and still are, mostly been used by developed countries, their exclusion from the Current Total AMS tellingly represents a loophole by means of which some countries have managed to disregard their commitments to reduce domestic support. Current Total AMS will naturally be lower than Base Total AMS once the whole category of blue box measures is subtracted from the latter, without necessarily meaning that other, trade-distorting, measures of domestic support have been reduced.

2.2.2.3 Amber Box Measures of Support

The amber box, which represents the slow-down meaning of a traffic light system, includes measures of support which have a greater potential for trade distortion, basically any measure of domestic support that does not fall in the previous categories. As potentially trade-distorting, amber box measures are subject to reduction commitments, according to each country's individual schedule. Reduction commitments are calculated in terms of the AMS. Developed countries were required to reduce their AMS by 20% over a six-year period, whilst developing countries were required to reduce their AMS by 13, 3% over a ten-year period (Gonzalez, 2002). Only countries which already provided a significant and substantial level of domestic support in the base year (1986-88) were required to reduce their level of support. All others ought to abide by the *de minimis* rule laid out in paragraph 4 of Article 6. As mentioned before, OECD countries in those years provided an average of support of 60% of their value of production. By contrast, developing countries hardly provided any, simply because they couldn't afford it. According to the *de minimis* rule, amber box domestic support shall neither exceed 10% of the total value of production nor 10% of the support given to any individual product (Agreement on Agriculture). As of 2014, out of the 131 existing schedules of commitments, 99 had no bound total AMS, and were thus subject to the *de minimis* rule. Out of those, 95 are developing countries (Brink, 2014). Out of the 32 countries which do have a bound total AMS, and are thus subject to reduction commitments, 15 are developed and 17 are developing countries (Brink, 2014).

This has effectively been a way to institutionalise pre-existing inequalities (Gonzalez, 2002): it actively means that countries which had a high level of domestic support in the base year have been rewarded by being allowed to maintain a relatively high level of support. Countries which never implemented domestic support policies, or whose policies were not economically significant, have, by contrast, being punished for their good behaviour. This represents yet another hurdle that the structure and content of the Agreement on Agriculture pose to the rural development of developing countries, necessary not only for overall development strategies but also for purposes of food security.

2.2.3 Export Competition

Export subsidies cause the depression of world market prices by increasing supply at the international level, at a price below the costs of production in the exporting country. Export subsidies, which can take the form, for instance, of direct subsidies contingent on export performance, or of subsidies to export-related inputs such as transportation, represent a threat to export competition in so far as subsidising an export industry effectively means making it easier for that industry to capture a larger share of the international market for the given product.

Export subsidies are regulated by Article 9 of the AoA, which outlines the kinds of export subsidies subject to reduction commitments, and Article 10, which aims at preventing the circumvention of export subsidy reduction commitments by regulating, amongst other things, export credits, export insurance programmes, and the disposal of food surpluses under the guise of food aid (Agreement on Agriculture).

Although specific reductions of export subsidies are contained in each member's schedule of commitments, on average developed countries were required to reduce export subsidies by 36% and the volume of subsidised exports by 21%, over the six-year implementation period (Gonzalez, 2002). Developing countries, in conformity with the special and differential principle, were required, on average, to reduce export subsidies by 24% and the volume of subsidised exports by 14%, over the ten-year implementation period (Gonzalez, 2002). The regulation of export subsidies is complemented by paragraph 3 of Article 3, which outlaws the introduction of the kinds of subsidies subject to reduction commitments, virtually all export subsidies, for products which were not subsidised in the base years of 1986-88 (Agreement on Agriculture). This effectively means that only those countries which were subsidising exports at the time when the AoA was negotiated are allowed to keep engaging in such practice, although subject to reductions, whilst countries which never subsidised their exports are prevented from ever doing so. Only 25[5] out of the 164 WTO members are allowed to subsidise exports (Gorter, et al., 2002). Not surprisingly, over half of these are developed countries.

Aside from the fact that export subsidies, just like other measures of agricultural support analysed here, have been a tool to institutionalise inequality (Gonzalez, 2002) and to maintain an uneven playing field for international agricultural trade, export subsidies also run the risk of creating import-dependence in developing and least developed countries. When imported products are much cheaper compared to locally produced products, consumers, especially in low-income economies, will prefer imports to the locally produced alternatives. Local production will inevitably suffer from this and the country will not only miss out on opportunities to expand production and achieve development but also from a very dangerous situation of import dependence. Should exporting countries decide to restrict exports, case which will be outlined in the next chapter, import-dependent countries will inevitably find themselves struggling with food scarcity. Export subsidies have been a major deal-breaker in the Doha Round of Multilateral Trade Negotiations and the developments concerning their regulation will be further discussed in the third chapter of this thesis.

Another remarkable feature of the AoA's regulation of agricultural export subsidies is its unique nature. Export subsidies, in any sector other than the agricultural one, are, indeed, completely outlawed by the Agreement on Subsidies and Countervailing Measures[6]. In order to prevent any challenges to agricultural export subsidies under the Agreement on Subsidies and Countervailing Measures, indeed, a due restraint provision, namely Article 13, has been included in the text of the AoA. Article 13 of the AoA, also known as the “peace clause” (Gonzalez, 2002), provides that no export subsidy legal under the AoA can be challenged and brought to the attention of the Dispute Settlement Body of the WTO for reasons of non-compliance with the Agreement on Subsidies and Countervailing Measures (Agreement on Agriculture). The expiry of the peace clause in 2003 has represented another relevant point of discussion during the Doha Round.

2.2.4 Export Restriction: An Unregulated Area

Export restriction can be implemented by means of different measures, among which, for instance, export taxes, minimum export price policies, quotas, and bans. Although with different effects, the rationale behind an export-restricting measure is that of protecting the internal market when domestic

[5] These countries are: Australia, Brazil, Bulgaria, Canada, Colombia, Cyprus, Czech Republic, EU, Hungary, Iceland, Indonesia, Israel, Mexico, New Zealand, Norway, Panama, Poland, Romania, Slovak Republic, South Africa, Switzerland, Liechtenstein, Turkey, US, Uruguay, Venezuela.

[6] Agreement on Subsidies and Countervailing Measures, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organisation, Annex 1A, available online.

prices are in decline, and it would thus be more convenient for producers to export rather than sell domestically, in order to profit from the comparatively higher world market prices. Other relevant reasons behind export restrictions are the reduction of domestic price volatility, should volatility in international markets increase, demand surges, and the protection of infant industries by means of limitations on the export of raw materials (Anania, 2013).

Aside from the ordinary specific and *ad valorem* taxes, exports can be restricted also by means of variable export taxes, which vary with the world market price and, more precisely, proportionally increase with it. Whilst ordinary taxes are generally imposed when domestic prices fall, in order to discourage producers from exporting a greater share of their product to gain greater revenue, variable export taxes are generally applied when external, international, prices surge, in order to achieve the same result.

Export taxes, minimum export prices, which establish a minimum price floor below which no export may be sold on the world market price, and export quotas, which establish a maximum amount of produce which may be exported, engender slightly different variations of single effect of discouraging exports to prevent food scarcity and insulate the domestic market from soaring international prices and/or excessive price volatility. With regard to export restriction, however, an important distinction needs to be made between large and small countries. The classification of a country as large or small has nothing to do with geography, and all to do with the ability to influence the world marker price for a given commodity, ability which depends in part on market share and in part on the quality of the product. Large countries will thus be those capable of influencing the world market price (price makers), whereas small countries will be those who are incapable of doing so (price takers). When a small country restricts exports, the world market price will be unaffected, the only result being that domestic consumers will gain at the expenses of domestic producers, who will forego potential revenue on the international market. By contrast, when a large country imposes export restrictions, the consequential considerable decrease in world market supply will cause the world market price to rise, to the benefits of exporters and to the detriment of importers. It is undeniable that trade volumes and prices, not to mention importing countries, will be negatively affected by such a policy. The under-regulation of export restrictions in the AoA is thus problematic.

Article 12 of the AoA regulates disciplines on export prohibitions and restrictions, stating that any new export prohibition or restriction implemented by WTO members must take into account the effects on importing members' food security, must be notified to the Committee on Agriculture, and must comply with Article XI of the GATT 1994 (Agreement on Agriculture). The second paragraph of article 12 exempts developing countries from the provisions laid out in paragraph 1, unless they are net food-exporters. The provision appears to be empty of meaning not only because no list of net food-exporting developing countries exist (when, by contrast, there exists a list of net food-importing countries), but also because of the poor records of export restriction reports. In the event of the 2008-2011 price spikes, a time where many countries implemented export-restrictive measures, only one, namely the Kyrgyz Republic, reported the implementation of such a measure to the Committee on Agriculture (Anania, 2013). From a study of 105 countries it emerged that 31 countries, out of the sample of 105, adopted export restrictions during the 2007/08 and 2010/11 price spikes, among which many major exporters of grains (Anania, 2013).

Article XI of the GATT 1994 prohibits any export-restricting measure other than taxes (GATT, 1994). An exception to this rule is laid out in the second paragraph, which states that export restrictions can be applied if the exporting country needs to "relieve critical shortages of foodstuffs" (GATT, 1994). The ambiguous letter of this article is only one of the elements which backs the statement that export restriction is an unregulated area. Another important element is represented by what is left unsaid by the provision, which not only falls short of posing a limit to the use of export taxes, but also fails to require their binding. Being unbound, export taxes can be raised to prohibitive levels, potentially becoming equal to an export ban.

The reason why export restrictions have been left largely unregulated is the following: at the time of the Uruguay Round, export restrictions did not seem to be a possibility, let alone a problem. Prices of most agricultural commodities were on a steady, declining trend and there seemed to be no reason why countries would restrict exports. As a matter of fact, if exports were an issue, it was because countries such as the US and the EU were exporting too much rather than too little. Since the Uruguay Round, however, the outlook of global food markets has changed considerably. Prices have become much more volatile, demand in developing countries with large and growing population, such as India and China, has been increasing rapidly, environmental degradation has put production, especially in the global South, at risk, and many at the WTO have argued in favour of protectionist policies. Such changes need to be matched by appropriate regulation, but the WTO negotiating process has proved to be inefficient.

Some developing countries use export restrictions as defensive policy in terms of food security. China, India, Viet Nam, and Thailand, amongst the largest consumers and producers of rice, for instance, restricted exports during the price spikes, thus making their best efforts to feed their own populations and managing to avoid much of the crises' effects on price volatility. Despite the positive effects that these policies have on hungry populations by preventing domestic prices to increase in the same way as the world market price does, they nevertheless invariably put a greater strain on other countries, often those who depend on imports.

Yet another problem is the fact that export restrictions also apply to food aid, meaning that when export taxes/quotas/bans or any other measure also applies to food used by governmental and non-governmental agencies for the purposes of food aid. This hampers the ability of organisations such as the World Food Programme of the United Nations to intervene in cases of critical food and hunger crises.

2.3 The Doha Round of Multilateral Trade Negotiations

The Doha Round of Multilateral Trade Negotiations was launched in 2001 with the intent of rebalancing the concessions made during the Uruguay Round, which have, almost invariably, been judged as biased in favour of developed economies. The Doha Round is still ongoing: WTO members has thus far been unable to unanimously reach an agreement on the issues they have been discussing for the past seventeen years. New WTO Agreements, as well as amendments of existing Agreements, indeed, can only enter into force if signed unanimously by all WTO members. The Doha Round has also become known as the Doha Development Agenda or the Development Round because issues of development arguably represent the core of the negotiations.

Although it is not the only topic on the negotiating table, agriculture has been, and it continues to be, the core of the Doha discussions (Halle, 2005). Furthermore, starting in 2003 at the Cancun Ministerial Conference, the negotiations have become increasingly focused around food security. On that occasion, two different coalitions of developing countries, namely the G-20[7] and the G-33[8], insisted that food security should be a priority of the ongoing Round (Dìaz-Bonilla & Laborde, 2015). The G-20 is a coalition of large developing countries, the majority of which fall either in the low-income or in the lower-middle income categories of the World Bank, with mixed interests in agriculture. The G-33, whose members are, once again, classified either as low or lower-middle income, represents developing countries whose priority in the WTO is to put forward an agenda suitable for the promotion of food security (Chatterjee & Murphy, 2013). In contrast with the Uruguay Round, as a matter of fact, Doha has seen developing countries as important actors at the negotiating

[7] The G-20 is actually composed of 23 countries, namely: Botswana, Brazil, China, Costa Rica, India, Indonesia, Israel, Kenya, Saudi Arabia, Republic of Korea, Namibia, Nepal, Pakistan, Philippines, South Africa, and Sri Lanka.

[8] The G-33 is actually composed of 46 countries, namely: Antigua and Barbuda, Barbados, Belize, Benin, Bolivia, Botswana, Côte d'Ivoire, China, Congo, Cuba, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, India, Indonesia, Jamaica, Kenya, Korea, Madagascar, Mauritius, Mongolia, Mozambique, Nicaragua, Nigeria, Pakistan, Panama, Peru, Philippines, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Senegal, Sri Lanka, Suriname, Tanzania, Trinidad and Tobago, Turkey, Uganda, Venezuela, Zambia, and Zimbabwe.

table. Amongst their requests, opposed by developed economies to a greater or lesser extent, are calls to increase market access, for instance by regulating tariff escalation, to substantially reduce the abuse of export subsidies, and to phase out domestic support in developed countries, which are some of the trade policy issues and some of the obstacles to food security identified earlier in this paper (McGuirk, 2002).

As just mentioned, amendments to the AoA, as well as the entry into force of a whole new agreement, would require unanimity of WTO members. Some developing countries have played such an important role so as to be able to stall negotiations with their votes. In 2008, after seven years of negotiations, a deal seemed possible (Reuters, 2008). Unsurprisingly, it was agriculture that prevented the deal from being cut: the US and India could not agree on measures to protect farmers in low-income countries (Reuters, 2008). As a consequence, the Doha Round could not be concluded and all that came out of the meetings held in Geneva in 2008 were a series of draft modalities, which have no legally binding value but have nevertheless been used by scholars as reference points for analysis and by WTO members themselves as starting points for later proposals to put on the table (Brink, 2014). The modalities have not been agreed to, so they merely represent one possible way in which tariff cuts and changes to current AoA provisions could be made (WTO, 2018). The most relevant ones for food security will be mentioned here.

Concerning the first pillar of the AoA, namely market access, the draft modalities lay out a proposal to cut tariffs by 50 to 70 percent in developed countries, and by 33 to 46 percent in developing ones. (Brink, 2014). Furthermore, were the modalities agreed to, part of a country's tariffs, namely a maximum of 12%, could be destined to safeguard the category of special products (SPs), classified following the three criteria of food security, livelihood security and rural development (Brink, 2014). The identification of higher tariffs for special products would be incredibly significant for purposes of food security. Special products would be staple foods, on which a majority of the world's food insecure depend, and they would be domestically produced, to not only encourage local production but also preserve local food cultures, thus appealing not only to food security proponents but also to food sovereignty advocates. The creation of a measure which would be only available to developing, rather than developed, countries could represent a way of tilting a fairer balance within the framework of the AoA, as well as to effectively allow developing countries to foster local production, which increases availability of food and, concomitantly, by providing new opportunities for local employment, can boost incomes and thus facilitate access to food. The 2008 draft modalities also envisage the establishment of a Special Safeguard Mechanism, again pertaining to the market access pillar, which would enable developing countries to increase duties imposed on foreign goods even beyond their bound levels when volumes of imports rise or prices of imports fall below given thresholds, and without asking them to provide proof of injury before increasing those duties (Chatterjee & Murphy, 2013). This Special Safeguard Mechanism has been pointed to as the single most contentious issue of the Doha negotiations on agriculture (Chatterjee & Murphy, 2013). As a matter of fact, it was due to disagreements concerning which products could be safeguarded against foreign competitors and how long the higher tariffs could be kept in place that prevented a conclusion from being reached in 2008. The Special Safeguard Mechanism would basically have the effect of temporarily restricting developed products' access to developing markets, in order to allow the latter to build up their productive capacity without being undercut by developed economies, especially at critical times of import surges or import price declines. It is thus not surprising that developed WTO members were, by and large, opposed to this proposal.

With respect to domestic support, the implementation of the 2008 modalities would translate in a radical change of the share of total domestic support provided by developed and developing countries respectively, given that the modalities request a re-evaluation of which policies should be allowed and which should not. Support in developed countries would, according to estimates, fall from 61 to 27 percent and that of developing countries would rise from 39 to 27 percent (Josling, 2015).

Concerning export competition, the 2008 modalities supposedly ask countries to gradually phase out agricultural export subsidies and to eliminate them (export subsidies for manufactured products were eliminated long ago) by 2013, whilst developing countries would have time until 2016 (Brink, 2014). Unfortunately, countries have failed to meet their commitments. As mentioned earlier, indeed, the 2008 modalities are merely suggestions for possible ways to go about amending and supplementing current AoA provisions. Since 2008, some significant developments have occurred, and they will be discussed in the following paragraphs.

Regrettably, the 2008 modalities lacked a clear line of intervention on export restrictions, which represent a double-edged sword in terms of food security: countries implementing them often need those defensive policies to protect domestic consumers from import surges or price spikes, but they have the result of hindering the food security of food importing countries.

2.4 Latest Developments: In Search for A Way Forward

In view of the ninth Ministerial Conference, to be held in 2013 in Bali, in 2012 the G-33 countries tabled a proposal to amend certain AoA provisions in order to make them more suitable for food security purposes and, at the same time, fairer to developing countries. The most relevant proposal, which then became one of the most important topics of discussion in Bali, was that concerning the possibility to ease the AoA's requirements concerning the purchase of public stocks of food. The G-33 proposal became the reference point for the work carried out in Bali, whose relatively successful results will now be discussed.

2.4.1 The 9th Ministerial Conference: Decision on Public Stockholding for Food Security Purposes

The ninth Ministerial Conference of the WTO was held in Bali, Indonesia, in 2013, and resulted in what has become known as the Bali Package. The Bali conference focused on three fundamental issues, namely that of trade facilitation, especially dear to developed economies, and those of food security and development, dearer to developing and least-developed countries. Due to the inability to conclude Doha as a whole programme, the primary purpose of Bali was to narrow down the number of issues open for discussion, so as to facilitate compromises and discussions on a few topics at a time (FAO, 2014). The Bali conference somewhat successfully resulted, amongst other things, in the adoption of the Ministerial Decision on Public Stockholding for Food Security Purposes.

There were mainly two issues that developing countries, especially India, which played a pivotal role in the Bali negotiations, had with the AoA regulation of public stockholding for food security purposes.

Firstly, though this measure is allowed by the AoA in so far as it is listed in Annex 2 of the Agreement as one of the green-box measures of support, it is nonetheless subject to an important restriction, namely that public food stocks must be purchased and released at current market price. Public procurement of food stockpiles at administered prices above current market prices is not entirely prohibited, but it falls in the amber-box category of support. Public procurement at administered prices, according to footnote number 5 of the third paragraph of Annex 2 of the AoA, as a matter of fact, can be considered in conformity with the Agreement, but the difference between the administered price and the current market price must be accounted for in the country's measure of trade-distorting support. Given that most developing countries do not have a total AMS, such difference must be accounted for in the minimal residual categories of the *de minimis* percentage, which, being capped at only 10% of the total value of production and 10% of the total support given to any single product, does not leave much policy space. The G-33's goal was to ensure that food stockholding policies be included in the green-box measures of support, regardless of whether the procurement and release of stocks were made at current or administered prices.

Secondly, countries were concerned that policies of public stockholding for food security purposes could be challenged under the Subsidies and Countervailing Duties Agreement (which outlaws similar support measures for manufactured goods), in so far as the due restraint clause had expired and no permanent alternative had been put in place. Once again, it was India that, above all other G-33 members, stressed that a permanent peace clause was of the utmost importance to truly enable developing countries to implement public stockholding measures without fear of a legal challenge through the Dispute Settlement Mechanism. As long as no agreement on the proposal that public procurement and release at administered prices should fall in the green-box measure of support was reached, as a matter of fact, G-33 members wanted to ensure that, should they breach the *de minimis* rule, they would not undergo a legal dispute if they were pursuing food security.

What should be asked, then, is the following: why is a detail such as the price at which stocks are purchased and released so important to developing countries and to their food security goal? Public procurement at administered prices has been requested by developing countries because it could have a positive effect not only on poor rural producers but also on poor urban consumers. On the one hand, the procurement of domestic stocks at fixed prices, either above or below current market price, effectively results in support to farmers. Fixed prices represent a guarantee of price certainty and, as such, a reliable source of income to farmers who, in recent times, have been faced with increasingly volatile prices. Price certainly is also an incentive to investments in the production process, as famers will be more willing to run investment-related risks, and to forego some of their disposable income for a certain time period, if they know their income will never fall below the threshold established by government-administered prices. On the other hand, when stocks are released at prices below current market price, poor consumers will be better able to feed themselves. The distribution of public stocks to the poor at prices fixed below current market price, individual and household food scarcity will be reduced, and food security will be improved. The distribution of stocks is absolutely necessary. Should stocks be accumulated without being redistributed, as a matter of fact, local food prices would increase due to a relative reduction in available supply, and this would inevitably have a negative impact on the poor (Bellmann, et al., 2013). The distribution of stocks, moreover, is necessary also because many low-income, small-scale producers are actually buyers of food themselves (Bellmann, et al., 2013): they sell most of what they produce to be able to, amongst other reasons, earn enough to buy what they cannot produce. Should socks not be redistributed, thus, the positive effect of fixed prices for farm products would be counterbalanced, if not eliminated, by higher prices for all other goods. Purchasing at fixed price and selling at lower than market price, however, requires a large amount of government expenditure which, as already noted, can indeed be a significant hurdle for developing countries. Though the concern about public expenditure is a legitimate one, and it is one which should have been accounted for in the Uruguay Round when developing countries had no voice at the negotiating table, it is nevertheless somewhat irrelevant in this case, given that it is developing countries themselves which have asked for this measure to be allowed. Lastly, public stockholding at administered prices can also reduce volatility of food prices and help stabilise them domestically (Dìaz-Bonilla, 2013). Given that price volatility is a great cause of insecurity in food markets and that the food crises of the past decades have had the effect of increasing price volatility, thus also increasing insecurity and reducing trust in global food markets, domestic price stabilisation is certainly a positive and necessary end. Public procurement at current market price could not engender the same results, which is exactly why developing countries have been so persistent in pursuing their goal.

What has actually been decided and agreed to in Bali, then? The Ministerial Decision on Public Stockholding for Food Security Purposes of December 2013 represents a partial victory for developing countries. The Decision does not unilaterally allow the procurement of food stocks at administered prices, but it posits that WTO members shall refrain from challenging compliance of developing members with their obligations concerning public stockholding for food security purposes until a permanent solution on the topic is agreed to (FAO, 2014). As a result, programmes already existing to the date of the Decision cannot be legally challenged for leading the implementing country to breach WTO commitments. One important conditionality was set for existing public stockholding policies, namely that they could only be targeted at staple crops. Whilst it is true that staple foods represent the most important element in the diets of the poor and hungry, they are not the most nutritious. Cheaper staple foods will inevitably lead poor consumers to prefer those to more nutritious but more expensive alternatives (Bellmann, et al., 2013). Future discussions on public stockholding for food security purposes should thus revise this important detail. Securing access to staple crops is certainly a priority for developing countries, but this should not prevent them from aiming at increasing access to more nutritious food which can actually enable people to "lead an active and healthy life" as per the definition of food security.

The interim solution agreed to in Bali will stay in place until a permanent solution is found. The Bali Decision asserts that countries shall work on a permanent solution with the intent to settle on an agreement by the eleventh Ministerial Conference (FAO, 2014). Unfortunately, the eleventh Ministerial Conference, held in Buenos Aires in December 2017, is now in the past, but no permanent solution has been agreed to (WTO, 2018). The issue is not trivial, and it is regrettable that at the latest Ministerial Conference WTO members failed to deliver a permanent solution on the problem. As of today, the interim Decision of Bali still holds, and it will be in place until a permanent solution is found. The temporary nature of the Decision represents its weakness: it does not provide any legal certainty.

2.4.2 The 10th Ministerial Conference: Decisions on Export Competition and on the Special Safeguard Mechanism for Developing Countries

The tenth Ministerial Conference of the WTO was held in Nairobi, Nigeria, in December 2015. The Nairobi conference was supposed to bring forward some of the issues of the Doha mandate, and, to some extent, it succeeded in doing so. By the end of the Nairobi conference, three decisions were taken on agricultural issues. The Decision on Public Stockholding for Food Security Purposes merely reiterates the need to reach agreement on a permanent solution on the issue which was exhaustively discussed in the previous paragraph. Other two decisions, however, are worth looking at in greater detail.

In Nairobi WTO members adopted the Decision on Export Competition, whereby export subsidies have been abolished. According to the special and differential treatment principle, obligations for developed, developing and least-developed countries are different. Developed economies agreed to immediately abolish all export subsidies, with nothing but a few exceptions. Developing and least-developed countries, by contrast, have been granted the right to maintain subsidies for internal transportation and marketing costs of their exports until, respectively, 2023 and 2030 (ICTSD, 2016). The decision is most certainly a positive result in terms of the food security of the global South. Although the implementation of export subsidies has been declining in the past years, some developed countries still make large use of them. The decision thus becomes all the more relevant once it is acknowledged that, as reported by a study in cooperation with the International Food Policy Research Institute, "the full use of export subsidies may displace almost US$11.5 billion in agricultural production in middle and low-income countries while supporting the expansion of the sector in high-income countries" (ICTSD, 2016, p. 26). As a matter of fact, export subsidies on developed countries' agricultural products result in fewer investments in production in developing countries and in import-dependence, due to the artificially lower prices of foreign goods. The Decision on Export Competition should thus have a positive impact on developed economies and it should level the playing field of agricultural trade.

A second decision worth of mention is the Decision on the Special Safeguard Mechanism for Developing Countries. Since the 1990s a range of different proposals have been tabled for a special safeguard provision for developing countries, which would enable them to protect certain products in case of import surges or significant declines in export prices. The Nairobi Decision on the Special Safeguard Mechanism for Developing Countries merely states that such a mechanism must be implemented and that discussions must be held under the Committee on Agriculture to this end. However, the relevance of such a decision should not be underestimated given that it finally grants developing countries the same right as developed ones. As a matter of fact, a special safeguard provision is envisaged in the AoA, whose article 5 indeed asserts that countries who have implemented tariffication can indeed protect given agricultural products in case established volumes increase or prices decline beyond established thresholds (Agreement on Agriculture). Because hardly any developing countries, as already discussed, implemented tariffication, however, this provision is only available to developed economies. The adoption of a safeguard provision for developing countries would thus not only even out the playing field, it would also enable the former to protect low-income, small-scale farmers who represent the “backbone” of their agricultural sectors (ICTSD, 2016). Price volatility has been an issue since the 1990s, and a special safeguard mechanism would help developing countries stabilise prices in times of extreme unpredictability.

Although the decisions taken during the Nairobi conference, especially that on Export Competition, are extremely relevant for the food security of developing countries, it is nevertheless necessary to acknowledge that Nairobi saw WTO members more divided than ever on the Doha mandate. Prospects for relevant decisions on increasing market access for developing and least-developed countries’ products into developed economies’ markets and for significantly reducing domestic support in developed economies do not look too bright. The future of Doha remains thus more uncertain than ever.

Chapter 3

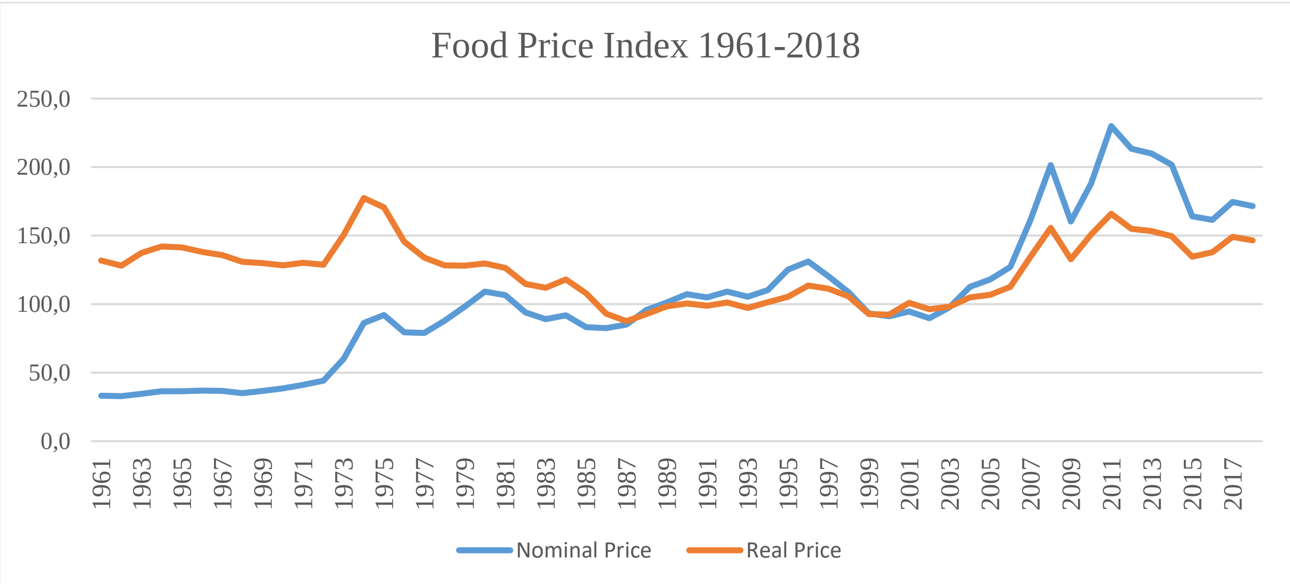
3 Food Security and the Agreement on Agriculture in Practice: India and the Food Crisis of the 21st Century

3.1 The 2008-2011 Food Price Crisis

Starting in the 1970s, real prices of raw food commodities began declining steadily. Research and development in the field led to great technological improvements which substantially reduced the costs of agricultural production. At the same time, increasing demand for processed foods benefited the emerging food processing industry at the expenses of agricultural producers. Such trend of declining real prices drastically changed in 2006/2007, when real prices of many agricultural and food products started to increase rapidly (FAO, 2011). By 2008, real prices of most food commodities had spiked to almost unprecedented levels. In the wake of the 2008 price spike, food prices started declining once again, only to reach a second peak in 2011. The time frame between 2008 and 2011 is thus commonly referred to as the food crisis cycle.

Figure 1 illustrates the pattern of global food prices, in nominal and real terms, between 1961 and 2018. Due to high and increasing levels of inflation in the 1960s and 1970s, with rates of inflation peaking above 10%, nominal and real prices of food used to differ considerably. Nominal and real prices of food only embarked on similar paths in the late 1980s, when the global rate of inflation declined and started becoming more stable (exception made for the year 2008, when global inflation as measured by the World Consumer Price Index by the World Bank was almost as high as 9%, the global rate of inflation has been below 5% in the past twenty years).

Figure 1. *FAO Food Price Index in Nominal and Real Terms (2002-2004=100)*

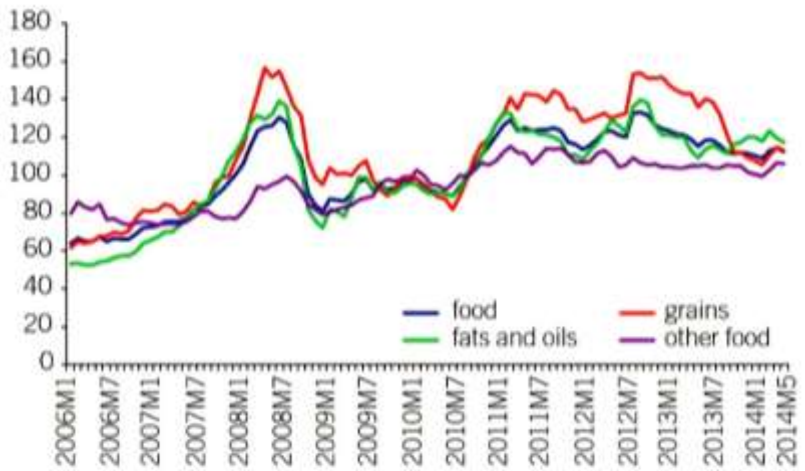


Source: Our Elaboration based on FAO World Situation Data[9]

As emerges from Figure 1, real prices of food increased considerably between 2006 and 2011. The sudden and drastic change in the long-term downward trend of agricultural prices was mainly caused by the following three factors: the increasing demand for biofuels, which divert part of the world's cereal supply away from the food industry; the surging price of crude oil, which is a relevant agricultural input not only for machinery operation and transportation but also for the production of fertilisers; and the weakening of the US dollar, currency in which food commodities are traded. As Figure 1 shows, food prices started declining again in 2011. This can be explained not only by declining prices of crude oil and by a renewed appreciation of the US dollar, but also, as will be explained in detail later on, by the removal of restrictive trade policies which, despite not being one of the causes of the price spikes, had nonetheless the effect of exacerbating them.

Figure 1 shows that prices of all foods increased dramatically. As shown in Figure 2, however, it was grains that underwent the most significant changes. Compared to 2006, the world price of wheat was 33% higher in 2008, and 45% higher in 2011; the world price of rice more than doubled between 2006 and 2008, and in 2011 it was 81% higher than in 2006; the price of maize increased by 12% between 2006 and 2008, and by 85% between 2006 and 2011 (OECD; FAO, 2018).Changes in grains' prices are especially worrisome in so far as grains represent the staples of the global population, and even more so in developing and least-developed countries, whose poor spend as much as 70% of their income on food, and as much as half of that on staples (FAO; IFAD; WFP, 2011).

Figure 2. *World Bank Global Food Price Index*



Source: World Bank, 2015. Global Price Trends. Food Price Watch, June, Issue 19

[9] The real price index is the nominal price index deflated by the World Bank Manufactures Unit Value.

The cycle of upward trending prices inevitably resulted in a major food crisis, which naturally hit the poor the hardest. As discussed in Chapter 1, poverty and lack of purchasing power are amongst the most relevant determinants of food insecurity. Rising real prices of food can only increase levels of distress amid the poor. According to a study by the World Bank, rising food prices pushed 44 million people into severe poverty (WFP, 2011). Those who suffered the most from the crisis were poor food-importing countries in the African continent (FAO, 2015). Although, as explained in Chapter 1, import-dependence is not necessarily a cause of food insecurity in itself, it is most certainly a factor which restricts the number of policies a government can implement to buffer its population against unpredicted events. When food import bills become more expensive, these countries can only put in place safety nets and further reduce import tariffs. The first option requires significant government expenditure, the second will further disincentivise domestic production, which will have a negative impact in the long term.

Although some were affected more than others, all developing and least-developed countries across the world suffered from the food crisis. When households and individuals who spend as much as 70% of their income on food are faced with food inflation, they naturally cut down on all other expenses, among which education and medical care. Depending on the level of inflation and on the foods affected by it, they might also cut down on more nutritious kinds of foods (such as animal protein, fresh fruits and vegetables, pulses and nuts), which are usually more expensive. In the long run, this has a negative impact on the family's ability to sustain and provide for itself, with women and children suffering the most. The problems caused by food inflation in the wake of the 2008-2011 price shocks were made all the more evident by the food riots happening in all regions of the global South. Countries like Bangladesh, Egypt, Guinea, Haiti, India, Indonesia and Senegal, amongst over thirty other countries, reported food riots in 2008, when prices spiked.

Although policy responses and socio-economic consequences have been similar in some of these regions, each country represents a completely different reality. The next paragraphs will thus take one country, namely India, as a case study and analyse how its food security responses to the global food crises can be evaluated vis-à-vis the rules of the WTO's Agreement on Agriculture.

3.2 Food Crises and Policy Space for Food Security in the Agreement on Agriculture: the Case Study of India

Why choose India as a case study? With regard to agriculture, trade, and food security, India is an extremely interesting and unique country to analyse. As a developing member of the WTO, and as a member of both the G-20 and the G-33 WTO coalitions, India has, in recent years, become increasingly active and vocal at the WTO Ministerial Conferences. It was India which, amongst other things, took a decisive stand against the Trade Facilitation Agreement in 2008 and it was India which insisted on the adoption of the Decision on Public Stockholding for Food Security Purposes. The role played by India within the framework of the WTO's negotiations on agriculture represents both the country's domestic difficulties in terms of rural poverty and malnourishment, and the importance of the Indian agricultural sector domestically as well as internationally.

Concerning the issues of poverty and malnourishment, it is important to understand how to classify India. Bearing in mind that lower-middle income economies' GNI ranges from $1,006 to $3,955, according to the World Bank, India, with a per capita GNI of $1,670 (as of 2016) classifies in the second-lowest quintile of the category. Being at the lower end of the income spectrum and being far from achieving food self-sufficiency for its rapidly growing population, India also meets the criteria to be a Low-Income Food-Deficit Country, according to the latest FAO classification. With its 191 million undernourished people, indeed, India is home to nearly a quarter of the world's hungry and, given its population of roughly 1.3 billion people, almost 15% of Indians are undernourished (FAO, 2018). According to previous taxonomies of countries, not surprisingly, India classifies as food insecure. Food insecurity is one of the main socio-economic concerns for the government of India and, as such, it has also become a priority for the Indian representatives at the WTO. In his statement at the latest Ministerial Conference, held in Buenos Aires in December 2017, the representative for India stressed, amongst other things, the moral urgency with which food insecurity should be tackled: "the permanent solution for public stockholding for food security purposes […] is a matter of survival for eight hundred million hungry and undernourished people in the world. A successful resolution of this issue would fulfil our collective commitment to the global community" (WTO, 2017).

Concerning the role played by Indian agriculture both domestically and internationally, it is necessary to understand its relevance. Agriculture plays a pivotal role in the Indian society as well as in the Indian economy. As much as two-thirds of the Indian population is rural and thus depends on agriculture for its livelihood (FAO, 2018). The vast majority of Indian farmers are small-scale, resource-poor farmers, who are at the same time producers and consumers, as they are unable to achieve food self-sufficiency. The agricultural share of value added to GDP has been declining in India, as it has in much of the world since the 1960s, but the figure for India, 17% according to the World Bank, is still remarkable, especially when compared to the world average of 3,8%. The agricultural sector indeed employs roughly 58% of the Indian workforce.

Indian agriculture is relevant not only domestically but also internationally. India has become a large country in terms of trade: it is one of the largest exporters of rice, wheat, sugar and oil pulses, amongst others. Despite being a net exporter of food in 2012, however, India remains on the list of LIFDCs.

Due to the importance of Indian agriculture for the rest of the world, it is necessary not only to analyse whether provisions of the AoA effectively enable India to pursue food security objectives, but also whether Indian policies permitted by the AoA can possibly have a negative impact on the food security of other countries. By analysing India, it will become more evident how a country's domestic food security policies are undoubtedly affected by the AoA, but also how, under a regime of open markets and free trade, the food security of one country is intertwined with that of others.

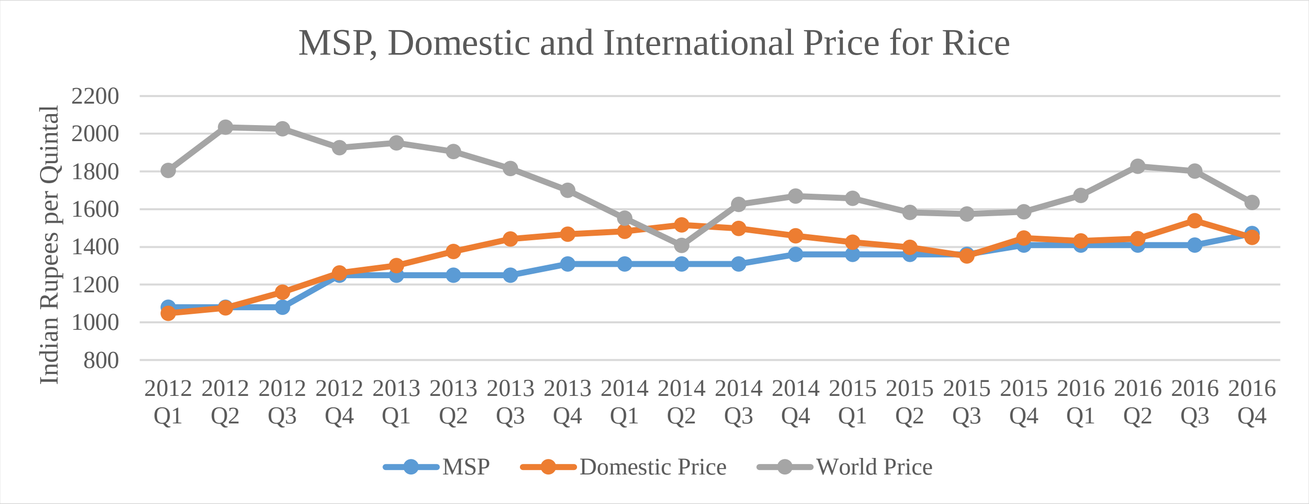
3.2.1 Domestic Policies for Food Security: The Indian National Food Security Act vis-à-vis the Agreement on Agriculture

Historically, the two most prominent ways in which the Indian government has intervened in the agricultural sector are the policies of minimum support price and that of public procurement and distribution of staple crops to the country's poor through the Targeted Public Distribution System.

Minimum Support Prices are fixed by the Indian government and are announced at the beginning of each sowing year for a range of different crops, which include, but are not limited to, the country's staples, namely rice and wheat. Minimum support prices serve a twofold purpose.

On the one hand, they aim at guaranteeing a price floor for farmers, who will thus never need to sell their produce at a price lower than that fixed by the government. Should domestic prices decline, be it because of downward pressure on international prices or because of supply surges due to greater harvests than expected, farmers will always have the possibility to earn a fair price for their product. The Indian government's minimum support prices have generally been set just below the domestic market prices, so as to provide a price certainty to farmers without incentivising them to sell to the government rather than through the domestic market. Figure 3 below shows the comparison between minimum support (MSP), domestic, and world prices for rice between 2012 and 2016. From Figure 3 emerges that Indian minimum support prices have always been below the domestic market price, though they keep increasing steadily. Figure 3 thus shows that the rationale behind Indian MSP policies has not been that of discouraging normal market transactions for purposes of government hoarding, in which case MSPs would have been set at least higher than domestic prices, but that of providing farmers price, and thus livelihood, certainty.

Figure 3. *MSP, Domestic and International Price for Rice 2012-2016*



Source: Our Elaboration Based on Price Policy for Kharif Crops: The Marketing Season 2017-18

On the other hand, the price certainty stemming out of MSP policies can be an incentive for farmers to invest in the production process. If the market price is above the minimum support price, the former will naturally prevail over the latter. If the market price falls below the minimum support price, however, farmers will be able to rely on the latter and be safeguarded against price fluctuations. Should farmers have made investments in order to improve their yields and/or the quality of their crops, they would be safeguarded against considerable losses.

Minimum support prices are a kind of product-specific domestic support to agricultural production and, as such, are regulated by the Agreement on Agriculture. Falling in the amber-box category of domestic support, minimum support prices are capped by the *de minimis* rule, which, as already discussed, establishes that this kind of support cannot exceed 10% of the total support granted to any given product nor 10% of the total value of production (Agreement on Agriculture).

At the same time, minimum support prices represent the procurement price for the two staple crops which are distributed through the Targeted Public Distribution System (hereinafter TPDS). The TPDS, one of the major food schemes in the country (but not the only one), was implemented in the 1990s to distribute government stocks of food grains to the poorest of India. The system is targeted to the poor and hungry and, more specifically, it is tailored to meet the needs of those of who live both below and above the poverty line. The Food Corporation of India is responsible for the procurement of stocks to be collected in a central pool, wherefrom they are then distributed through the TPDS. Stocks of rice and wheat, which represent the bulk of public stocks, are procured at the announced minimum support prices for those crops and are then distributed at prices below the current market prices. The stocks are released at central issue price (CIP) which is administered by government. Because public stocks for purposes of food security are procured and released at administered prices, the Indian scheme of public stockholding for food security purposes does not fall in the green-box measures of support but, by contrast, in the amber-box. Food security support provided through this scheme is thus also capped by the *de minimis* rule.

The question that comes to mind, then, is why India, during WTO agricultural negotiations, has been so persistent in demanding policy space for policies it was already allowed to implement. It is crucial here to understand the effects of the food crisis in India. Although the number of undernourished people in India had started to significantly decline in 2004, between 2009 and 2014, as a result of the food crisis, it actually increased (FAO, 2018). As a response to this trend change, and in the attempt to solve the long-lasting problem of hunger, the Government of India passed, in September 2013, a major bill for food security: The National Food Security Act (hereinafter NFSA). The NFSA's goal is "to provide for food and nutritional security in human life cycle approach, by ensuring access to adequate quantity of quality food at affordable prices to people to live a life with dignity and for matters connected therewith or incidental thereto"[10]. With the implementation of the NFSA, India has not only significantly increased the number of households entitled to food security assistance, thus considerably widening the scope of its public procurement and distribution schemes, it has also established a markedly lower CPI for rice and wheat. The CPI for rice established by the NFSA, indeed, is 3 Indian Rupees per kilo, compared to the previous price of 5,65 Indian Rupees per kilo and that for wheat is 2 Indian Rupees per kilo, compared to the previous price of 4,15 (Banga & Sekhar, 2015). The NFSA has been a topic of discussion at the WTO, and a reason of concern for developed countries, even prior to its implementation, not only because its implementation may induce India to breach the *de minimis* limit, but also because developed countries are afraid that greater accumulation of food stocks will result in surplus stocks that India will need to dispose of through dumping – as they themselves did in the past in order to boost their production and foster economic growth as well as employment.

First envisaged in 2011, the NFSA officially entered into force on September 10, 2013. According to the NFSA, priority households, identified as the poorest of the poor, or those living below the poverty line, are entitled to 7 kg per month per person of food grains, whilst general households, those above the poverty line, are entitled to no less than 3 kg per person per month. The Act establishes that such support shall extend to 75% of the rural population and 50% of the urban population (The National Food Security Act). According to the Government of India, the implementation of the NFSA alone,

[10] The National Food Security Act, 2013, Parliament of India, Rajya Sabha Secretariat, New Delhi, available online [hereinafter The National Food Security Act].

without taking into account the stocks required as strategic buffer stocks aimed at price stabilisation nor stocks needed to fulfil commitments under other support programmes, requires total public procurement of rice and wheat equal to 61, 2 million tonnes every year (rice is required in greater quantities than wheat, but there is flexibility concerning each crop's share of total procurement).

Table 2. *Rice, Wheat, and Total Procurement (in Million Tonnes) by the Food Corporation of India 2012-2017*

YEAR	RICE	WHEAT	TOTAL
2013-2014	31,864	25,092	56,956
2014-2015	32,165	28,023	60,188
2015-2016	34,218	28,088	62,306
2016-2017	22,312	22,962	45,274

Source: Annual reports 2012-13 to 2016-17 of the Department of Food and Public Distribution, Government of India

Since the year of implementation of the NFSA, as shown in Table 2, India has not always been able to procure as much as it needs to fulfil the requirements of the Act. Levels of procurement have not been worryingly low, but neither have they always been sufficient. Developed WTO members have been worrying that India will breach the *de minimis* limit, which represents the maximum amount of trade-distorting support allowed by the WTO. The potential for trade distortion of measures of domestic support lies in the fact that, if exported, subsidised production can unfairly outcompete producers in other countries, thus gaining a greater share of the relevant global market and putting downward pressure on global prices. Since the implementation of the NFSA, however, the release for exports of food grains from the central pool of the Food Corporation of India has been negligible, if not insignificant, as shown in Table 3.

Table 3. *Export of Food Grains (in Million Tonnes) from the Central Pool 2013-2017*

YEAR	RICE	WHEAT	TOTAL
2014-2015	0,0005	0,327	0,3275
2015-2016	0,0001	0	0,0001
2016-2017	0,02	0	0,02
2017-2018	0,021	0	0,021

Source: Food Grain Bulletins of the Department of Food and Public Distribution, Government of India

Whether India actually breaches the *de minimis* limit or not appears, thus, irrelevant: as long as the grains procured at administered and released at subsidised price are not sold as exports, the potential for trade distortion is virtually null. The positive domestic impact of the programme, by contrast, is significant for the food security of millions of Indians. Whether India will breach the *de minimis* limit or not, thanks to the Bali Decision on Public Stockholding for Food Security Purposes, no legal case will be made against it at the WTO. Because of the temporary nature of the Decision, however, the Government of India cannot know for certain that it will be able to keep the NFSA in place. Furthermore, because the Decision established that only programmes already in place – the NFSA had been implemented merely a few months prior to the Decision – would not be challenged through the Dispute Settlement Mechanism, India cannot extend the product coverage of the NFSA. Proposals have been tabled to extend the product coverage of the NFSA so as to include pulses as well (Sandhu, 2014). Pulses, one of the cheaper sources of protein, and one of the agricultural goods of which India is a large producer, are much more nutritious than cereals but, as such, they are also considerably more expensive and less accessible to the poor. As a consequence of the 2008-2011 crisis cycle, pulses had become unaffordable for the Indian poor. Because the product coverage of the NFSA cannot be widened, however, the beneficial effects of the programme cannot be amplified though procurement and distribution of more nutritious options.

3.2.2 Trade Policies for Food Security: India and the Rice Crisis

As mentioned earlier, Indian agriculture is relevant not only domestically but also internationally. As a consequence, agricultural trade policies implemented by India can impact other countries as well, especially with regard to their food security. One of the main products of Indian agriculture, in terms of consumption, annual yield, and percentage of cultivated land, is rice, which will be the focus of the following paragraphs. With roughly 22% of the global production of rice, India is the world's second largest producer of this commodity after China, which has a share of 30% (FAO, 2010). In terms of exports, however, India ranks first: it is the largest exporter of rice in the world, though rice is very thinly traded. Rice, indeed, is an interesting crop to analyse because it is one of the most thinly traded commodities in global food markets. Only six to seven percent of the world's production of rice is traded, because the largest producers of the commodity are also the largest consumers, among which China, India, Thailand, and Viet Nam. Thin markets are especially volatile in nature. Any increase in demand or decrease in supply for thinly traded commodities will likely cause a shock, because a demand surge cannot easily be absorbed by another producer, and neither can a reduction in supply. The thin nature of the rice market can better help us understand, at least to some extent, the reasons behind the rice crisis of 2008-2011. In order to understand the role played by trade in the crisis, the following paragraphs will look at the trade policy responses implemented by India during that period, emphasising the effects of such policies both domestically and internationally in order to emphasise the relationship between trade, national food security and international food security.

3.2.2.1 The Indian Response to Soaring Rice Prices

The main policy implemented by India in response to soaring world prices of food, including rice, was the implementation of export restrictions, which, as discussed in Chapter 2, are largely unregulated by the Agreement on Agriculture. The effects of such regulation vacuum have become very clear during the recent price crisis.

India implemented the first restrictions on exports in October 2007, when it announced an export ban on ordinary rice (ordinary rice is non-basmati rice and it is considered a lower-quality option; India subsequently also implemented export restrictions on basmati rice). Between 2007 and 2010, the ban was lifted and substituted with a policy of Minimum Export Price - MEP (Sharma, 2011). Between 2007 and 2010 India kept switching back and forth from the former policy to the latter, and each time the MEP was re-introduced it would be higher than the previous time. The first MEP was set by India at the end of October 2007 at USD 425 per tonne, when the world price of rice was USD 335 per tonne. The highest MEP was introduced in early 2008 at a price of USD 1,000 per tonne, when the world price of rice was USD 695 per tonne (OECD, 2018). As a consequence, by 2010 Indian exports of rice had dropped to roughly half of what they were in 2007 (OECD, 2018). The export ban on ordinary rice, and thus the last export restriction on rice, was eventually lifted in September 2011. Before looking at the direct consequences of such policies, it is interesting to understand why the Government of India decided to implement them in the first place.

Firstly, world prices of food were rising. Though rising prices generally benefit exporters, who'll receive higher prices for their produce, such benefits of rising prices do not trickle down all the way to small scale producers, the backbone of Indian agriculture, who hardly ever have access to the world market, in which only bigger actors play a role. Being consumers as much as producers, their food bill would have likely become more expensive as prices of all foods rose. In order to prevent the international price shock from being transmitted domestically, and prioritising price stability, the Government of India decided to isolate the domestic economy.

Secondly, the strategic stocks of wheat were lower in 2006 than the buffer norm required, due to a poor harvest. In 2007 India imported (it had already banned wheat exports in February of the same year) 6 million tonnes of wheat, at a greater cost than what it gained by exporting around 4 million tonnes of rice in the same year. Being rice and wheat substitutes, banning exports of rice was nothing but a rational decision, from the Indian domestic perspective.

The Indian government was successful in achieving the two goals it aimed at, namely that of domestic price stability and that of sufficient grain availability. By banning exports of rice, India successfully prevented the transmission of international prices in the domestic economy: between 2007 and 2011, food inflation in India averaged at 6%, compared to a world average in the same period equal to 150%

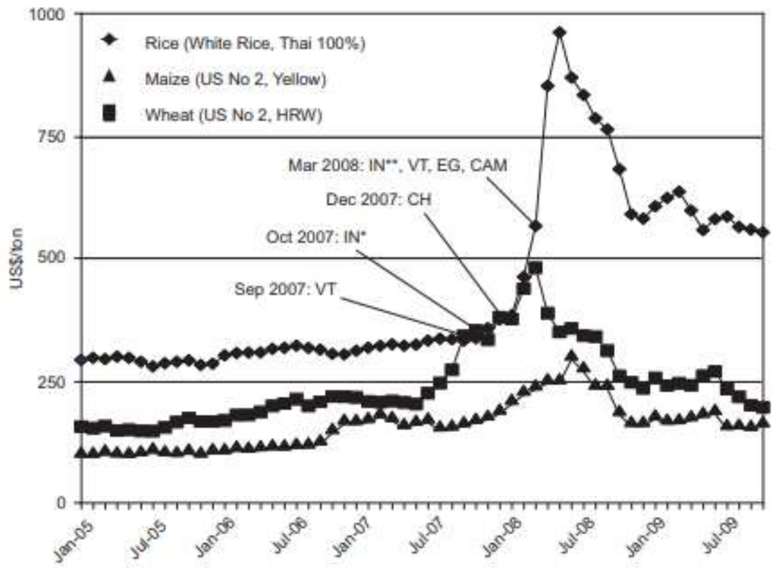
(Groom & Tak, 2013). The difference between price inflation in India and the rest of the world is, to say the least, significant, but it does not in itself represent a positive achievement. The positive relevance of this data can only be understood in light of the fact that 87% of the Indian population is actually comprised of net buyers of food, and only 13% of net sellers (Groom & Tak, 2013). Whilst rising prices constitute a welfare gain for food sellers, the vast majority of the Indian population would have been severely affected by the welfare loss incurred if domestic prices had increased as much as international ones. As a matter of fact, "rice price stability in these countries was one reason why the food and financial crises pushed fewer people into poverty and undernourishment than was initially feared" (Dawe & Timmer, 2012).

Due to the relevance of Indian agriculture internationally, the restriction of Indian exports was not without consequences. The international effects of such policy were mainly two.

On the one hand, export restrictions considerably reduced the degree of trust in international markets (Anania, 2013). Theoretically, the project of trade liberalisation carried out by the WTO should allow food surplus to flow to areas of food shortage. As long as export-restrictive measures are allowed, however, the global system of food trade cannot be trusted to fulfil such purpose. During the 2008-2011 crisis, export restrictions not only decreased supply at the international level, they also reduced the transparency of trade relations. As described above, for instance, in the period between 2007 and 2011 India kept switching its export-restrictive policy from a ban to a MEP, without specifying how long either of those would be kept in place. India's trade partners were thus unable to make forecasts on whether they could, at any later stage, rely on imports from India or not. Though the AoA requires countries implementing export-restricting measures to take into consideration the effects on the food security of food-importing countries, it is nevertheless true that the letter of the Agreement is extremely vague. The text does not specify how this should occur, what 'consideration' actually amounts to, and in which terms the potential losses of food-importing countries should be evaluated. Lack of trust in the international trading system will likely endanger the already slim chances of success of the Doha Round and may end up making the WTO altogether obsolete.

On the other hand, export restrictions also had a more tangible impact: they triggered a multiplier effect on rising international prices. When India implemented the export ban on rice in October 2007, it fuelled the existing environment of panic. Other rice-producing countries, among which China, Viet Nam, Cambodia, and Egypt, introduced export bans as well, in order to shield their own economies and to avoid the burden of having to absorb the international shortage which India inevitably ended up creating.

Figure 4. *Export Bans and Rice Prices (in USD per tonne) 2005-2009*



Source: FAO 2010 Rice Crisis. Dates Indicate the Time of Implementation of Export Restrictions by Asian Countries (VT stands for Viet Nam, IN for India, CH for China, EG for Egypt and CAM for Cambodia)

As emerges from Figure 4, the price of rice, as that of other food staples such as maize and wheat, was already increasing between 2006 and 2007. It is clear, however, that prices only spiked after major exporters of such commodities implemented export bans and/or prohibitive Minimum Export Price policies. Restrictive measures, as a matter of fact, trigger a multiplier effect: rising prices lead governments to implement export restrictions to isolate the domestic economy and to guarantee sufficient domestic supply. This, in turn, exacerbates price increases at the international level as supply decreases, and lower supply naturally leads to higher prices, which in turn may lead to even more prohibitive and stricter export restrictions (Giordani, et al., 2012). This is precisely what happened during the most recent food crisis. A study conducted by the International Food Policy Research Institute (IFPRI) proves that as much as 30% of the increase in the price of rice in the first four months of 2008 was caused by export restrictions (Anania, 2013). On top of this, according to another study by IFPRI, export restrictions implemented by India were responsible for 23% of the increase in the price of rice from 2006-07 to 2007-08. Naturally, the more prices increase, the less food low-income households will be able to afford. As briefly mentioned at the beginning of this Chapter, export restrictions help us understand not only the price spikes but also the following price decline. Figure 4 ends in 2009 with declining prices but, when compared to Figure 1, it becomes clear that the price decline of early 2009 was only temporary, and largely due to a fall in the price of oil between 2008 and 2009. The declining trend of real food prices was only re-established between the end of 2011 and the beginning of 2012, once export-restrictive measures had been removed.

It is also interesting to look at the major export destinations of Indian ordinary rice. The major importers of Indian ordinary rice (the importers of higher quality basmati rice are different and are mostly higher-income economies) are Senegal, Benin, Nepal, Bangladesh, Cote D'Ivoire and Guinea (Government of India, 2018). All of these countries are low-income economies, all of them are Low-Income Food-Deficit Countries and all of them are food insecure, according to previous taxonomies. Though different from country to country, they import ordinary rice form India in the order of 600 thousand tonnes per year. Although India did implement government-to-government aid programmes with Bangladesh to help its neighbour with rice supply, it could not do the same with all other importing countries. By prioritising domestic food security, India inevitably exposed other countries to greater food insecurity.

In light of this, the reasons why the WTO has been unable to regulate export restrictions become all the more evident. Though export-limiting policies represent an obstacle to trade liberalisation, one of the main goals pursued by the WTO, and they can certainly represent an element of trade distortion, they are nonetheless a powerful tool used by developing countries to address food security. On the one hand, the lack of regulation of export-restrictive measures is proof of the fact that developing countries have come to play a more relevant and active role at the WTO, thus managing to have (some of) their interests represented at the WTO negotiating table. On the other hand, however, the de-regulation of export restrictions also sheds light on the heterogeneity of existing WTO coalitions, such as the G-20 and G-33, in terms of their food goals. Food importing and food exporting countries have inevitably held opposite positions at the negotiating table. The international effect of Indian export restrictions, as a matter of fact, not only hindered the possibilities of Indian rice-importing countries to successfully face the crisis, but also negatively affected the international market for rice. This explains why food-importing countries have been eager to see the issue of export restrictions discussed during the Doha Round. Although different proposals to regulate exports have been discussed, amongst which proposals to implement regulations on exports symmetrical to those of imports and to prohibit the restriction of exports destined to net food-importing countries and to food aid programmes, the issue remains, to the present day, unsolved.

The inability of WTO members to reach permanent, long-sighted solutions to the issues of public stockholding for food security purposes and of export restrictions sheds light on the nature of the problematic relationship between global food security and trade, which is one of collective action (Josling, 2014). When national governments make use of trade policies to ensure domestic food security, as the Government of India did when it decided to restrict exports of rice, they inevitably reduce the supply of food security at the international level, which can be regarded as a global public good. Though the national provision of food security is, and should be, an important goal for any government, and even more so for governments whose population largely suffers from chronic hunger, trade can only be a tool to help governments achieve food security if the concerns for global food security gain priority over concerns for national food security at the WTO. Trade can certainly be a vehicle for food security at the international level, but it can only fulfil such role if food is truly allowed to flow from surplus areas to shortage areas. As long as export restrictions are allowed by the WTO, it is likely that global food security, as a public good, will be undersupplied, especially in times of crisis. At the same time, inappropriate, or excessive, regulation of domestic measures for food security may render the implementation of selfish, as opposed to collective, decisions all the more necessary. On the one hand, existing asymmetries between the regulation of imports and that of exports is unfair and detrimental to the achievement of food security at the international level. On the other hand, however, the nature of domestic support regulations, which are still biased in favour of developed economies, make protectionist measures such as export restrictions a necessary tool for developing countries. The Doha Development Round will, thus, only have a chance to be successful if developed and developing members of the WTO can find suitable compromises to strike a fairer balance on the issue of domestic support and to adopt regulations which will enable the current trade system to become truly cooperative.

Conclusion

The aim of this paper was that of shedding light on the relationship between international food trade and global food insecurity, which is largely caused by lack of access to food, rather than lack of food itself, and lack of purchasing power. Although theoretically trade could be a vehicle for food security, by means of linking areas of scarcity with areas of surplus, and by allowing countries with great agricultural potential to benefit from income earned through exchanges in global food markets, this paper has highlighted the many ways in which the rules of agricultural commerce, enshrined in the World Trade Organisation's Agreement on Agriculture, fail to deliver on their promise to establish a fair trading system and to have regard for food security as a non-trade concern. During the Uruguay Round, the rules of agricultural commerce were established so as to create an uneven playing field, biased in favour of developed economies. Provisions on market access, domestic support, and export competition, indeed, effectively benefited developed economies, for instance by allowing them to retain relatively high levels of domestic support while preventing developing countries from implementing them in the future. Most notably, this paper has shown how the rules of agricultural commerce effectively constrain the policy space for food security available to developing countries. Some of the Decisions adopted during the Doha Development Round, among which the Decision on Public Stockholding for Food Security Purposes and the Decision on Export Competition, represent significant improvements towards a fairer trading system and a sign of the increasing importance of developing countries within the WTO. These successes are, however, insufficient. The outlook of international trade in food commodities has radically changed since the implementation of the Uruguay Round, but the political stalemate of the Doha Round has prevented the WTO from adapting the rules on agricultural trade to the present environment of increasing price volatility and rising food insecurity. The analysis of policies implemented by India, a low-income, food insecure developing country, in the wake of the food crisis of 2008-2011, vis-à-vis the Agreement on Agriculture explain not only the limitations of recent progress made at the WTO, for instance with regard to the Decision on Public Stockholding for Food Security Purposes, but also the effects of the lack of regulation in areas such as export restriction. This paper thus shows that although trade policies could be a tool to address food insecurity and promote food security, current trade rules prevent this from happening.

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Riassunto in Italiano

L'organizzazione delle Nazioni Unite per l'alimentazione e l'agricoltura (FAO) stima che, al giorno d'oggi, ci siano 815 milioni di affamati al mondo.

La fame rappresenta non soltanto un problema etico, ma anche un problema sociale ed economico al quale è possibile, e necessario, trovare una soluzione. La fame infatti, e dunque lo stato di insicurezza alimentare, non è causata dalla mancanza di cibo, la cui offerta è superiore alla domanda, ma dalla inefficiente distribuzione del cibo prodotto a livello globale e dalla mancanza di potere di acquisto nei paesi del Sud del mondo. L'obiettivo di questa tesi è dunque quello di far luce sulla relazione che lega il commercio di beni alimentari, che potrebbe essere uno strumento per combattere la fame, all'insicurezza alimentare di paesi in via di sviluppo e sottosviluppati. A tale scopo, questa tesi, che si divide in tre capitoli, esordisce con una analisi del concetto di sicurezza alimentare e della sua relazione con i principi fondamentali del commercio internazionale. Il secondo capitolo prosegue con un dettagliato studio delle regole fondamentali del commercio di beni agricoli ed alimentari, dettate dal Trattato sull'Agricoltura dell'Organizzazione Mondiale del Commercio (OMC) con l'obiettivo di stabilire se le regole del gioco siano adeguate alla promozione della sicurezza alimentare globale ed alla creazione di un sistema commerciale equo. Il terzo capitolo, infine, presenta l'India come caso studio, in modo da analizzare come le regole dell'OMC possano effettivamente restringere il campo di azione di un paese in via di sviluppo che desidera implementare politiche mirate al raggiungimento della sicurezza alimentare nazionale, da una parte, e di come la sicurezza alimentare di un paese sia inevitabilmente e indissolubilmente legata a quella di altri paesi, dall'altra.

Il concetto di sicurezza alimentare, elaborato per la prima volta negli anni 70 quando le crisi del petrolio causarono un considerevole aumento dei prezzi dei beni agricoli e, di conseguenza, una crisi alimentare mondiale, è stato definito dalla FAO, in occasione del Vertice Alimentare Mondiale del 1996, come la condizione in cui "tutte le persone, in ogni momento, hanno accesso fisico, economico e sociale a cibo sufficiente, sicuro, e nutriente che soddisfi le proprie necessità e preferenze alimentari per poter esercitare una vita attiva e in salute". Da questa definizione emergono quattro componenti fondamentali della sicurezza alimentare, ovvero la disponibilità fisica di cibo, la possibilità di accedere al cibo disponibile, l'effettivo utilizzo del cibo e infine la stabilità della disponibilità e dell'accessibilità del cibo nel lungo periodo. Questa definizione, che mette in primo piano l'accesso al cibo piuttosto che la disponibilità di esso, fu in parte ispirata dal Premio Nobel per l'Economia Amartya Sen che nel 1981, nella sua opera "Povertà e Carestie", analizzò l'insicurezza alimentare con un approccio basato sui diritti. Secondo Sen vi sono infatti quattro diritti fondamentali, ovvero il diritto a consumare ciò che si produce, il diritto a procurarsi il cibo tramite gli scambi ed il mercato, il diritto al reddito per il proprio lavoro ed il diritto al cibo donato da altri, che devono essere salvaguardati per permettere agli individui di ottenere totale padronanza sul cibo. L'opera di Sen fu rivoluzionaria poiché per la prima volta enfatizzò la relazione tra fame, commercio, e povertà. Se la povertà è una delle cause principali della fame e dell'insicurezza alimentare, come verrà mostrato a breve, il commercio rappresenta uno strumento che può essere utilizzato per combattere quest'ultima e promuovere la sicurezza alimentare nel mondo.

Anche se l'insicurezza alimentare è un problema globale, non tutti i paesi del mondo ne sono affetti alla stessa maniera. Fattori come povertà, livello di sviluppo e bilancio commerciale dei beni alimentari sono importanti per determinare lo stato di sicurezza o insicurezza alimentare di un paese. Da un'analisi delle classificazioni dei paesi del mondo secondo a) l'indicatore del reddito nazionale lordo pro capite, utilizzato dalla Banca Mondiale; b) indicatori di reddito basso e deficit alimentare, utilizzati dalla FAO; c) indicatori di sviluppo e stato di importatore netto di cibo, come quella OMC; d) di produzione e bilancio commerciale alimentare abbinati al rapporto tra popolazione urbana e rurale e al consumo pro capite di calorie e proteine, come quella dell'Istituto Internazionale per la Ricerca sulle Politiche Alimentari, emergono interessanti sovrapposizioni dei criteri sopracitati.

Tra i paesi membri dell'OMC, tutti i paesi che soffrono di insicurezza alimentare tranne due (Angola e Guyana) hanno un reddito nazionale lordo pro capite che è basso o medio-basso; più di due terzi dei paesi a reddito basso e medio-basso sono importatori netti di cibo e solo cinque dei 36 paesi sottosviluppati non soffrono di insicurezza alimentare. Questi dati ci aiutano non soltanto a comprendere alcune cause del problema, ma anche ad individuare nel commercio una possibile soluzione. Secondo la teoria classica del libero scambio, tramite il commercio un'economia aperta può ottenere dei vantaggi comparativi sui prodotti che può produrre a costi più bassi di altri e, con i profitti che ne derivano, può procurarsi tutto ciò che non è in è in grado di produrre a livello domestico. Questa teoria si applica perfettamente ai beni alimentari. Ci sono paesi al mondo che, per mancanza di superfici coltivabili, condizioni climatiche non adeguate o mancanza di risorse naturali, non potrebbero mai essere in grado di raggiungere l'autosufficienza alimentare (*food self-sufficiency*) e sono quindi costretti a mirare all'indipendenza alimentare (*food self-reliance*) tramite il commercio di beni agricoli. Ironicamente, tuttavia, sono paesi ricchi come, per esempio, l'Arabia Saudita e gli Emirati Arabi Uniti, ricchi di risorse ma poveri in termini agricoli, che beneficiano del sistema di libero mercato mentre i paesi in via di sviluppo e quelli sottosviluppati non riescono a trarre profitto dall'abbondanza di superfici coltivabili, risorse naturali e forza lavoro di cui la maggior parte sono dotati. Questo paradosso può essere spiegato dalle problematiche strutturali riscontrate da questi paesi nel momento in cui cercano di affermarsi sui mercati alimentari globali.

Tali problematiche strutturali sono riconducibili alle regole del commercio internazionale di beni agricoli stabilite dal Trattato sull'Agricoltura dell'OMC, entrato in vigore nel 1995, il cui obiettivo non è soltanto quello di promuovere la liberalizzazione del commercio internazionale eliminando esistenti distorsioni di mercato ma, nondimeno, quello di istituire un sistema commerciale equo che abbia riguardo, tra le altre cose, per la sicurezza alimentare dei paesi membri. Il Trattato è composto da tre pilastri fondamentali, ovvero l'accesso al mercato, il sostegno domestico, e la concorrenza all'esportazione, che in questa tesi vengono analizzati dalla prospettiva dei paesi in via di sviluppo.

In termini economici, l'accesso al mercato si riferisce alle condizioni alle quali i beni prodotti in un dato paese sono soggetti nel momento in cui entrano in un altro paese. Permettere a beni esteri di entrare nel mercato domestico aumenta la competizione e garantisce quindi la qualità dei beni forniti. Precludere a beni esteri la possibilità di accedere al mercato domestico è una misura protezionista che mira solitamente a proteggere gli interessi di produttori e gruppi di interesse e che può essere implementata tramite l'imposizione di tariffe sulle importazioni, quote di importazione, o restrizioni di tipo qualitativo. L'Articolo 4 del Trattato sull'Agricoltura regola l'accesso al mercato e stabilisce che tutte le tariffe sulle importazioni devono essere vincolate da un tetto massimo e gradualmente ridotte nel tempo. Secondo il principio di trattamento speciale e differenziato, ai paesi in via di sviluppo vennero imposte riduzioni tariffarie inferiori, e tempistiche di implementazione maggiori, rispetto a quelle dei paesi sviluppati (24% in dici anni rispetto al 36% in cinque anni). La logica dietro a questa disposizione era quella di aprire quei mercati che erano tradizionalmente restati chiusi, ovvero, teoricamente, di permettere ai produttori del Sud del mondo di affermarsi anche nei più ricchi mercati del Nord del mondo che erano stati, fino alla creazione dell'OMC, inaccessibili. L'articolo 4, tuttavia, non regola la pratica di aumento tariffario progressivo (*tariff escalation*), tramite il quale i paesi sviluppati hanno applicato tariffe maggiori ai cibi trasformati rispetto a quelli non trasformati, così obbligando i paesi in via di sviluppo, le cui nascenti industrie di trasformazione erano incapaci di competere con le affermate industrie dei paesi sviluppati, a competere solo sui beni agricoli primari non trasformati, i cui prezzi reali sono generalmente in calo. Le disposizioni di accesso al mercato sono dunque state incapaci di garantire condizioni paritarie per il commercio di beni alimentari e hanno creato una barriera allo sviluppo delle industrie di trasformazione nel Sud del mondo.

All'interno della categoria di sostegno domestico si trovano tutte quelle misure che mirano a mantenere prezzi domestici superiori (o costi di produzione inferiori) rispetto a quelli che prevalgono sul mercato globale. La produzione domestica può essere supportata tramite la concessione di sussidi per input agricoli come semi e fertilizzanti, pagamenti compensativi ai produttori nel momento in cui i prezzi di acquisto sono inferiori alla soglia ideale stabilita dal governo, o ancora sovvenzioni pagate direttamente agli agricoltori. Le misure di sostegno domestico, di cui i governi del Nord del mondo, ed in particolar modo gli Stati Uniti e l'Unione Europea, hanno storicamente abusato, hanno avuto molteplici risultati. In primo luogo, riducendo artificialmente i costi di produzione, rendono competitivi quei produttori che naturalmente non lo sarebbero, a discapito dei produttori che sarebbero naturalmente competitivi ma i quali governi non possono permettersi simili sovvenzioni. Così facendo, eliminano il potenziale competitivo dei paesi a basso reddito e ne disincentivano la produzione, inondandoli con importazioni a prezzi artificialmente ridotti. In secondo luogo, deprimo i prezzi di acquisto così riducendo il profitto di altri produttori. Gli articoli 6 e 7 del Trattato sull'Agricoltura stabiliscono che le misure di sostegno domestico, suddivise in tre categorie, devono essere ridotte nel tempo. La categoria verde comprende quelle misure il cui potenziale di distorsione di mercato è virtualmente inesistente, come per esempio la promozione della ricerca in ambito agricolo, e che non sono quindi soggette a riduzioni. La maggior parte delle 'misure verdi' viene adottata dai paesi sviluppati. La categoria blu comprende quelle misure di supporto il cui potenziale di distorsione di mercato viene controbilanciato da schemi di limitazione di produzione e che quindi non sono soggette a riduzioni nel tempo. Anche le 'misure blu' sono principalmente utilizzate dai paesi sviluppati. La categoria d'ambra comprende invece tutte le misure di supporto domestico che hanno un potenziale di distorsione di mercato e che sono quindi soggette a riduzioni. Poiché queste misure richiedono spesso una considerevole spesa pubblica, sono pochissimi i paesi in via di sviluppo, e quelli sottosviluppati, che avevano in atto simili misure all'epoca della negoziazione del Trattato, quando tali misure ammontavano al 60% del valore di produzione agricola nei paesi dell'OCSE. Tutti i paesi che non avevano 'misure d'ambra' in atto a quell'epoca sono soggette ad una regola *de minimis*, piuttosto che a riduzioni, secondo la quale tali misure non possono superare il 10% del valore di produzione di un dato prodotto. La regola *de minimis* si è rivelata molto più restrittiva delle riduzioni imposte alle misure già esistenti cui quasi solo i paesi sviluppati sono soggetti. Lo stoccaggio pubblico ai fini della sicurezza alimentare, misura utilizzata dai paesi in via di sviluppo soprattutto in periodi di crisi, per esempio, cade nella categoria delle misure verdi se le riserve pubbliche vengono procurate e distribuite al prezzo di mercato, ma ricadono nelle misure d'ambra se vengono procurate a prezzi maggiori e/o distribuite a prezzi inferiori rispetto a quelli di mercato. Poiché il l'obiettivo dello stoccaggio pubblico è proprio quello di fornire sicurezza di prezzo ai produttori e prezzi di acquisto vantaggiosi ai consumatori più indigenti, nel momento in cui viene implementata da un paese in via di sviluppo questa misura ricade inevitabilmente nella categoria d'ambra, ed è dunque soggetta alla regola *de minimis*. Questa restrizione rappresenta una delle numerose controversie del più recente ciclo di negoziati dell'OMC, il *Doha Round,* contro la quale numerosi paesi in via di sviluppo, prima tra tutti l'India, si sono battuti. L'India ha ottenuto, con la decisione sullo stoccaggio pubblico ai fini della sicurezza alimentare adottata alla Conferenza Ministeriale dell'OMC del 2013, che nessuna azione legale possa essere intrapresa contro tale misura nell'ambito dell'organo di conciliazione dell'OMC, anche qualora la misura stessa fosse in violazione della regola *de minimis*. Anche se questa decisione rappresenta un notevole passo in avanti in direzione di regole più eque e più adatte al conseguimento della sicurezza alimentare nei paesi in via di sviluppo, la decisione è tuttavia temporanea e le difficoltà con la quale è stata adottata fanno luce sulle posizioni opposte, e talvolta inconciliabili, dei paesi membri dell'OMC.

Le regole sulla concorrenza all'esportazione includono disposizioni sui sussidi alle esportazioni e sulle restrizioni delle esportazioni. I sussidi alle esportazioni hanno storicamente facilitato l'espansione delle quote di mercato delle industrie dei paesi sviluppati rendendole più competitive a livello internazionale e hanno creato dipendenza da importazioni in molti paesi in via di sviluppo e sottosviluppati. Nel 2015, grazie alla decisione sulla concorrenza delle esportazioni della Conferenza Ministeriale di Nairobi, i sussidi alle esportazioni sono stati aboliti. Le restrizioni alle esportazioni rimangono invece ampiamente non regolamentate: l'Articolo 12 del Trattato sull'Agricoltura, infatti, richiede solamente che gli stati che adottano restrizioni alle esportazioni notifichino il Comitato sull'Agricoltura dell'OMC e 'tengano in considerazione' gli effetti negativi che le misure restrittive adottate possono avere sui paesi che sono netti importatori di cibo. La mancanza di regolamentazione in questo ambito si è rivelata particolarmente dannosa durante la crisi alimentare del 2008-2011.

La crisi alimentare del 2008-2011, che si stima abbia gettato oltre 44 milioni di persone in condizione di estrema povertà, è stata scatenata da un considerevole aumento di prezzo dei beni alimentari, a sua volta causato dall'aumento del prezzo del petrolio, importantissimo input della produzione agricola, dalla crescita della domanda dei biocarburanti, prodotti con beni primari di origine alimentare, e dall'indebolimento del dollaro americano, valuta in cui i beni alimentari vengono scambiato nel mercato globale. Anche se tutti i prezzi reali di tutti i beni alimentari sono aumentati esponenzialmente, è stato il riso il prodotto sui cui è stata registrata la maggiore inflazione. Il prezzo globale del riso, prodotto il cui mercato è molto ristretto in quanto i suoi maggiori produttori (Cina, India, Tailandia, Vietnam) ne sono anche i maggiori consumatori, è aumentato del 150% tra il 2007 ed il 2011. Un simile aumento di prezzo è stato il risultato non solo dei fattori sopracitati, ma anche di politiche commerciali protezioniste come quelle adottate dall'India, uno dei maggiori produttori ed esportatori di riso, che tra il 2007 ed il 2011 ha bandito tutte le esportazioni di riso per evitare che l'inflazione alimentare globale venisse trasmessa anche al fragile mercato domestico. Da una parte, questa politica commerciale ha esasperato la crisi alimentare causando un effetto moltiplicatore sui prezzi che erano già in crescita (il divieto di esportazione ha non solo ridotto l'offerta di riso sul mercato globale ma ha anche causato un clima di panico che ha spinto altri produttori di riso ad adottare simili politiche restrittive). Dall'altra parte, tale politica ha permesso all'India, paese con il maggior numero di affamati al mondo, di proteggere l'interesse dei consumatori domestici evitando che il principale alimento della dieta indiana diventasse troppo costoso.

Per far fronte alla crisi alimentare, e per prevenire il deterioramento dello stato di insicurezza alimentare del paese, l'India non ha soltanto adottato una controversa, ma conforme alle regole del Trattato sull'Agricoltura, politica restrittiva sulle esportazioni, ma anche una non meno controversa politica di stoccaggio pubblico. Nel 2013, infatti, il governo indiano ha approvato la strategia di sicurezza alimentare nazionale (*National Food Security Act*, o *NFSA*), una legge il cui obiettivo è quello di fornire supporto alimentare ad oltre il 75% della popolazione indiana, tramite un sistema di stoccaggio e distribuzione. Poiché l'acquisto delle riserve viene effettuato ad un prezzo fisso, e la loro distribuzione ad un prezzo vantaggioso (inferiore al prezzo di mercato) per gli innumerevoli affamati del paese, tale misura ricade nella categoria d'ambra. Grazie alla decisione sullo stoccaggio pubblico del 2013, l'*NFSA*, anche qualora superasse la regola *de minimis*, non potrà essere contestato giuridicamente. Tuttavia, la decisione, che rimane temporanea, impone anche notevoli limitazioni ai programmi di stoccaggio pubblico, tra le quali, per esempio, il divieto di ampliarne il campo di azione. Il governo indiano dunque, che per ora utilizza l'*NFSA* soltanto per la distribuzione di riso e grano, non potrebbe utilizzare questo sistema per la distribuzione di alimenti più nutrienti, come per esempio i legumi di cui il paese è un grande produttore, per assolvere davvero al suo ruolo di garante della sicurezza alimentare nazionale.

Dall'analisi delle politiche indiane di stoccaggio pubblico e di restrizione alle esportazioni emerge dunque la problematicità della relazione tra le regole del commercio di beni alimentari e la sicurezza alimentare a livello nazionale e globale. Regole troppo permissive, come quelle sulla competizione nelle esportazioni, consentono ad alcuni paesi di salvaguardare la propria sicurezza alimentare nazionale, ma a discapito di quella altrui. Regole troppo restrittive e poco trasparenti, come quelle sullo stoccaggio pubblico, ostacolano l'implementazione di politiche interne mirate a garantire la sicurezza alimentare domestica.

Uno dei modi migliori per promuovere la sicurezza alimentare globale, che può essere interpretata come un bene pubblico, è indubbiamente quello di adottare regole sull'accesso al mercato e sul sostegno domestico che mirino a creare condizioni di concorrenza paritarie tra paesi sviluppati e paesi in via di sviluppo, e che rendano le misure protezionistiche, come le restrizioni alle importazioni, non più necessarie.