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Storehouse and sanctuary: the role of Brazil in world food security

James Augusto Pires Tiburcio, doctoral student

Center for Sustainable Development – CDS, University of Brasília, Brazil

Campus Universitário Darcy Ribeiro - Gleba A, Bloco C - Av. L3 Norte, Asa Norte - Brasília-DF, 70.904-970, Brazil

jamestiburcio@yahoo.com

jtiburcio@unb.br

Abstract

Natural endowments such as land availability, abundant water, fertile soils, and favorable climate combined with decreasing population growth place Brazil as the leading force in world food production. Brazil is also the guardian of the most diverse eco-systems in the planet and is continuously wrestling between the expansion of the agricultural land area and the preservation of the most diverse fauna and flora, embodied in the Amazon forest. Addressing the international political economy of trade and food security from a Brazilian perspective, this paper argues that the main obstacles facing Brazil in food security are not domestic, but international. International political issues are at the core of the most relevant hurdles and understanding the reciprocal relationship between world food security and the emerging economies position especially that of Brazil in food production and trade is crucial. I argue that comprehending the elements that constrain the present and future role of Brazil in fulfilling its potential as food supplier in an ecologically and economically sustainable path, as well as its new found role as agricultural cooperation partner in the promotion of a food safe world is paramount if the world is to feed 7 billion mouths.

Keywords

Food Security; Brazil; international trade; cooperation; environmental protection

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Introduction

Brazil is demanded both as protected area and storehouse. Global common sense expects Brazil and Brazilians in general to be zealous guardians of some of the world`s most precious treasures, the Amazon jungle and other lesser known biomes, such as the *Pantanal* and the *Cerrado*, a sanctuary. On the other side, world food markets increasingly demand more of Brazilian agriculture to meet apparently infinite needs. Such contrasting vocations have placed a difficult to solve dilemma to Brazilian development: How to preserve a world heritage land that simultaneously is a world storehouse? There are no simple answers to a very complex issue. The Brazilian situation evokes the legendary sword of Damocles, that is, a myriad of possibilities and threats accompany holding a privileged position.

Natural endowments and history are Brazil`s blessing and curse. For four and a half centuries the colonization of Brazil remained markedly close to the coast and practically all inland colonization was small and incipient, having very limited impact on the environment located more than five hundred kilometers inland. While other countries burned and occupied their forests and savannahs, Brazil ignored their potential as economic wealth sources, either due to lack of interest or resources; or because the currently spent, conveniently coastal Atlantic Forest biome had enough resources to absorb Brazilian and foreign interests and capabilities and to fulfill most of their needs. As the world became aware of the unsustainability of the economic growth model, Brazil started realizing its vocations for protected area and agricultural storehouse.

Since the 1980s the Brazilian agro industrial complex has experienced unprecedented growth rates, with record harvests year after year. Simultaneously, millions of hectares of *Cerrado* and, most notably of Amazon forest, have been cleared for cattle grazing and monoculture plantation. Not all growth is explained by the expansion of agricultural land, much has been due to increased efficiency, research and technology. Nonetheless, there is clearly competition between environmental preservation and the expansion of agricultural land.

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The Ministry of Agriculture, Livestock and Food Supply of Brazil (MAPA), however, officially states that 24% of the Brazilian national territory lies unused, underused or abandoned, and this does not include 'virgin' or 'frontier' areas far into the interior. Nonetheless, the Brazilian agricultural enterprise as a whole claims that there is a scarcity of land even in the vast interior. So the dilemma is really a "trilemma" – the players are not only current agricultural areas and frontier areas, but also underused, unused and abandoned older agricultural areas (MAPA 2011; Sauer and Leite 2011; Rodrigues et al. 2010).

Apart from environmental concerns, in fulfilling its potential as the number one agricultural storehouse, Brazil still faces herculean tasks and most of them are international. I restrict myself here to considering a few elements that might be taken into account from a Brazilian perspective of the present political economy of the domestic and international contexts as drivers and also as major barriers to Brazil's desire to increase its prominence in the international food commodities market. The purpose of this paper is to contribute to and facilitate the discussion of some of the issues restraining a wider role for Brazil in world trade and food security. What prevents Brazil from assuming a more dominant role in agricultural products market and in food security in general in the next 15 years? My tentative hypothesis is that albeit environmental restraints and other internal limitations, the principal barrier to a greater role for Brazil is that the international political economy of trade and food security is locked in favor of developed countries. In presenting evidence of that I focus on issues raised by the new forces driving world food demand in a context of crisis in the developed world limited to 1980 – 2011. This paper thus places the role of Brazil in trade and food security in a "non-World Trade Organization" framework. For this reason, it is "Brazil-centric", with its focus more narrowly on the political economy of trade and food security and the acknowledgment but not an in-depth discussion of issues such as geographic divergence and cooperation.

The paper is divided into four brief sections and a conclusion. The first provides an overview of food security in Brazil and its domestic challenges. The second section

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offers a contextualization of Brazilian food and agricultural policies in terms of public policy patterns and its current status. The third section asks: Who is involved in the trade and food security global public policy making and delivery and what does it imply for Brazil? The fourth section gives a panoramic view of other issues pertaining to trade and food security, namely trade itself, geographic divergence, cooperation and public policy in agriculture. Finally, the conclusion states the obvious, that is, redirecting developed countries domestic agricultural subsidies towards the poor in the developing world would “go a long way towards alleviating poverty” and food insecurity (Panagariya 2003) and that it is in the best interest of Brazil and of most developing countries that the political economy of trade and food security be reversed to benefit the developing world.

Food security in Brazil: an overview

Brazil is among the largest producers, and most significantly, among the largest exporters of the most internationally traded agricultural commodities, particularly soybean, beef, poultry, sugar cane and derivate products, maize, coconuts, orange, coffee and many others (Instituto Brasileiro de Geografia e Estatística [Brazilian Institute of Geography and Statistics] - IBGE 2011). Brazil is either the leader or, at least, ranked among the 5 largest producers of its 20 most important agricultural products. In comparison to its main competitors, the United States, the European Union, India and China, the country is in clear advantage as it is not among the biggest consumers as well. This leadership becomes more evident considering the agricultural sector export versus import figures as shown in Table 1. In 2010 Brazil exported USD76.4 billion and imported only USD13.4 billion. Since the year 2000 the growth of the volume of the exports, much above that of other countries, was accompanied by monetary value increase. Moreover, all export items experienced substantial price hikes, in line with that of the international average. The boom was driven initially by the demand of traditional consumer markets, the United States and the European Union. Since the second half of the first decade of the 21st century,

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however, the demand has been augmented by the largest and most important agricultural importers since 2007, China, followed by Russia and the Middle East (Ministério da Agricultura, Pecuária e Abastecimento [Ministry of Agriculture, Livestock and Food Supply] - MAPA 2011).

Table 1 – Share of Brazilian agriculture in world trade, 2001-2008
In US dollars

	2001	2002	2003	2004	2005	2006	2007	2008
World Total trade	4,793.85	4,969.72	5,701.60	7,081.16	8,130.74	9,420.08	10,706.75	12,586.05
Agricultural world trade	352.55	376.07	426.42	486.96	527.04	577.83	698.43	853.17
World agricultural trade/ world total	7.40%	7.60%	7.50%	6.90%	6.50%	6.10%	6.50%	6.80%
Brazil Total	58.29	60.44	73.2	96.68	118.53	137.81	160.65	197.94
Brazil agriculture	16.59	17.43	21.71	28.36	32.21	36.94	44.89	58.36
Share Brazil agriculture / Brazil total (%)	28.50%	28.80%	29.70%	29.30%	27.20%	26.80%	27.90%	29.50%
Share Brazil / world total (%)	1.20%	1.20%	1.30%	1.40%	1.50%	1.50%	1.50%	1.60%
Brazil agriculture share/ world agriculture trade (%)	4.70%	4.60%	5.10%	5.80%	6.10%	6.40%	6.40%	6.80%

Source: Trademap/CCI,CGOE/DPI/SRI/Mapa 2008

Drawing from the most accepted definition of food security, the factors that most affect it in the developing world are common even in the largest emerging economies: Climatic uncertainty, civil and military disturbances, general unemployment and/ or underemployment, inadequate incentives to producers, unsustainable usage of natural resources, high debt service, currency depreciation and appreciation and increasingly unbalanced international markets (Johnson 1996; Mwaniki 2004; FAO 2011). Ensuring food security at the national level depends on the ability of a country to produce and / or purchase basic foodstuff at prices accessible to its lower income population, Brazil is fully capable of both (Amaral and Peduto 2010; Sarris and Morrison 2009).

Agricultural productivity is stagnant in a post-Green Revolution era across the world, worsened by limitations imposed by climatic changes, which in their turn strain water and energy resources that are disputed by industry and urban areas. Countries experiencing food insecurity are located mostly in tropical and semi-arid agro-ecological systems, which are especially vulnerable to climate change. The most

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damaging effect is reduction in crop yield (Smale and Mahoney 2010; Rozenzweig et al 1993; Masters et al 2010). Brazil has so far been able to circumvent structural deficiencies and actually increase agricultural productivity in all of its main agricultural and livestock items in the last 30 years (1981-2011) above that of most countries (Barros and Silva 2011; Gasques et al. 2008; MAPA 2011a).

Despite unquestionable abundance, 30% of Brazilian households experience some kind of food insecurity, as food security in Brazil is not related to its export agricultural items. Considerable regional differences exist, however. Rice and beans are the two most important staple foods, both of which are less significant in Brazilian export trade statistics (IBGE 2011; Amaral and Peduto 2010). Families experiencing food deficits spend more than half of their income purchasing essential foodstuff for their survival (Regmi and Seale Jr. 2010). In the developing world, during food price spikes poorer families are also at higher risk of reducing their expenditure with food in more than 8% for every 10% increase in food prices. At the same time, consumers in the United States are only minimally affected by the same conditions (Seale et al. 2003).

Limited access to food associated with vulnerable family budgets result in more food insecurity (Rosen and Caswell 2005). In developing countries, notably in sub-Saharan Africa, low labor productivity is the main reason for insufficient income for food needs as solvent demand – that demand for goods and services for which actual means of payment exist – is the only one that counts economically, even though it is inferior to the actual needs of the population (Boussard et al 2005).

Likewise, food insecurity in Brazil is closely connected to domestic socioeconomic realities, principally high income concentration (Maluf 1999). Intimately related is land concentration, an issue that has plagued Brazil at least since the Law of Lands of 1850, still in imperial times. It is an internal problem that has been high on governmental agendas since at least 1994, and became one of three priorities since the beginning of the first term of president Luis Ignacio Lula da Silva, in 2003, with a

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number of income transfer programs, the most wide-reaching being the now world renown Family Fund Program (*Programa Bolsa Familia*) (Vinhas 2010).

Promoting the use of native species is conducive to the diversity of the agro-ecological system and can guarantee food security (Jones 2008). Policies that stimulate underused local species have the potential of increasing family incomes, improve nutrition, sooth periods of low supply of imported foodstuff, occupy important ecological niches, stabilize the ecosystem and create new markets (Jaenicke and Höschle-Zeledon 2006; Chishakwe 2008). Unfortunately, that is not what national governments pursue at the national level. In Brazil soybean, corn, sugar-cane, cotton, eucalyptus, rice and beans, occupy more than 90% of the cultivated land (IBGE 2006).

Different countries have varied guidelines in relation to food trade given the forces that affect demand and supply, which in turn are influenced by changes in the preferences of consumers, geography, infra-structure, technology and public policies – domestic and international – that interfere with market balances. In this context, the globalization of the food market and deregulation have allowed private and public enterprises to turn regions and even countries into monoculture plantation zones, almost eradicating traditional agriculture. For example, oil palm plantations in Malaysia, Indonesia, and Papua New Guinea and monoculture tree plantations in many countries in sub-Saharan Africa and Latin America. Frequently, traditional cultures are essential for the survival of the poorest strata of the population (Fang and Beghin 2000).

That has strong connections with the constant increase in available income for food in Brazil, despite the international crisis of 2008-2009. Consumers in developing countries tend to substitute traditional sources of nutrition for more expensive ones, oftentimes not locally produced, such as red meat and exotic fruits. A number of studies have shown that income growth in developing countries lead to significant absolute increases in expenditure with food. However, increase in expenditure is less

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than directly proportional to caloric consumption increase, indicating also a greater increase in the cost per calories (Burford 2008).

Higher per calorie cost reflects higher costs of value added during processing as well as a higher cost of the source of calories, especially of animal origin, such as milk and meats of all kinds. The higher the demand for foodstuff of animal origin, the higher the demand for grains and oilseeds, as they are the main components of animal feeds (Margulis and Narain 2010). A clear indicator of this tendency is to be found in the long term projections for the world poultry meat market, in which Brazil is one of the leaders. Increasing costs, associated with an expanding demand for high-value trade products (mostly breasts and wings), generate similar demands mainly on the corn market. Although poultry production is land intensive and contributes very little to climate change itself, it influences the expansion of monoculture agriculture, especially soy and corn, leading to deforestation, principally in the regions bordering the Brazilian Amazon biome (Magdalene et al 2008; Manning et al 2007; USDA 2011; FAO 2011; Fearnside 2005).

The Brazilian government seems determined on diminishing dire poverty and food insecurity and most analysts point to relatively high efficiency in the *Programa Bolsa Família*, as it consolidated previously existing programs (Santana 2007). All public policy instruments available to influence agricultural production and support family and industrial farming in a multitude of ways that include credit and technical assistance programs have been experimented with and are being used. In no subtle ways, the government influences agriculture input prices, promotes new technologies, and maintains world renowned agricultural research institutes and training facilities (MAPA 2010; Queirós 2011).

All the same, Brazil provides almost no direct support to its farmers when compared to developed countries. Producer support, according to the Organisation for Economic Co-operation and Development (OECD) Producer Support Estimate (PSE) accounted for 5% of the gross value of farm receipts in Brazil while the OECD average is 22% in 2011, down from 30% in 2005 (OECD 2005, 2011b; OECD/FAO 2011). Still,

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as shown on Figure 1, the developed world tends to unabashedly play an unfair game against developing world competitors. And apparently, wealthier the economy, more unfair they are.

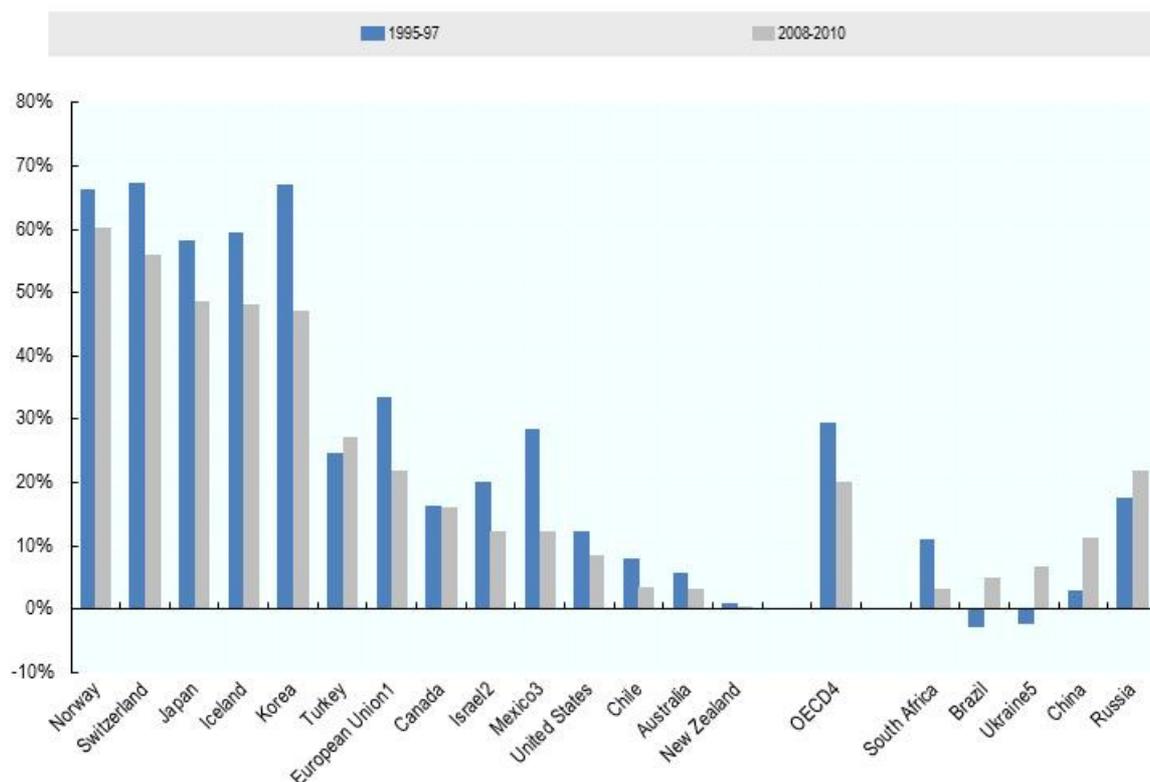


Fig. 1: OECD and Emerging Economies - Producer Support Estimate by country, 1995-97 and 2008-10

Per cent of gross farm receipts

Countries are ranked according to 2008-10 levels.

1. EU12 for 1986-88 and EU27 for 2008-10.

2. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

3. For Mexico, 1995-97 is replaced by 1991-93.

4. Austria, Finland and Sweden are included in the OECD total for all years and in the EU from 1995. The Czech Republic, Hungary, Poland and the Slovak Republic are included in the OECD total for all years and in the EU from 2004. Chile and Israel are included in the OECD total from 1995.

The OECD total does not include the non-OECD EU member states.

5. For Ukraine, the first average corresponds to 1996-97.

Source: OECD, PSE/CSE database, 2011. Available at: <http://statlinks.oecdcode.org/512011031P1G009.XLS>

Brazil and public policy in agriculture

Another set of elements for understanding the challenges facing Brazilian food security policy-makers is the political economy of the domestic context. The interests of developing countries are not addressed because the international political economy that shapes trade policies is locked in favor of developed countries. Evidence can be found in the public policy patterns of the political economy of food production and trade. According to recent studies, most agricultural commodity-producing countries face three main patterns of public policy in agriculture in what concerns the political economy of trade and food security: anti-trade, development, and relative income (Swinnen 2010; Woolverton 2010).

The first pattern, anti-trade, indicates situations in which sectors of the economy that compete with imports are less burdened with taxation than sectors that compete with exports. While industrialized countries subsidize the agricultural sector, a relevant number of developing countries overburden export-oriented agriculture. The main onus is that high taxation of agriculture is associated with agricultural sectors that grow little (Chauffour 2008; Swinnen 2010; Woolverton 2010). Unlike Brazil, the least developed countries in general and some emerging economies still have a high proportion of their population in rural areas. Usually these populations have little or no formal education and are in the lowest quartile of purchasing power in the country. As a consequence, they have very little influence in the directions public policies in agriculture take and are, in general, more vulnerable (Wolfe 2007). Brazilian labor force in agriculture is mostly familiar (78%), as only 13.8% of rural enterprises employ either temporary or permanent farm hands (Girardi 2009). Also, rural workforce represents less than 20 of the total labor force and therefore, Brazil, since the late 1980s, has distanced itself from export taxes (Fernandes Filho and Belik 2010).

The second pattern, development, is characterized by a shift from excessive taxation of agriculture to the protection of agriculture as the country develops. In this

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pattern, consumers spend less on food as a percentage of total income and the pressure for the adoption of policies to lower food prices wanes (Sally 2009; Alves 2008).

The third pattern, relative income, occurs when protection increases as rural income decreases in relation to the rest of the economy. As soon as agriculture represents a smaller share of the economy in absolute terms, governments are led to draw policies that protect agriculture in general. This pattern occurs in countries that adopt a district based form of political representation, usually regardless of population size. That is an approach for less populated districts to attain or maintain an equitable political status in comparison to urban areas. Evidence of this pattern can be identified in the patterns of international political economy of the reaction of some countries in the crisis of 2008-2009 which adopted a policy of lowering or altogether suspending import tariffs. The most prominent were Argentina, India and Vietnam. Their policies had considerable impact on global cereal commodity market prices in the subsequent months (Woolverton et al 2010; Woolverton and Kiawu 2009).

The analysis of the third pattern ensuing the 2008-2009 crisis, furthermore, seems to point to at least two trends. First, it demonstrates that governments on a global level are increasingly more involved in guaranteeing sufficient food production and availability, lower prices and access by lower income shares of the population (Von Braun 2008; Asian Development Bank 2008; Timmer 2010). Second, it appears to reveal a different picture than that previously thought of the group labeled 'Net Food Importing Countries'. The links between poverty, trade, and agricultural policies, show that while several low-income countries are net food importers, they are so mostly due to armed conflict and not as a direct result of their lack of income (Ng and Aksoy 2008a; Ng and Aksoy 2008b). That is quite relevant to Brazil, as it fosters its cooperation for development initiatives. Political issues appear to be of more relevance than simple income related ones.

Governmental activism in public policy in agriculture may be typified as a hybrid pattern of the development and relative income patterns. Adepts of the Ricardian

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comparative advantages hypothesis advocate that governmental activism in public policy in agriculture should prioritize investment in sectors in which the country possesses such advantages (Rada and Regmi 2010). The counter-argument is that exactly on issues of food security there is empirical evidence that Ricardian comparative advantage notions are not to be trusted. Rather, food security and governmental activism in public policy in agriculture are desired and necessary due to the social cost and ecological value of locally produced food (Levin 2010; Swinnen 2010; Woolverton 2010).

Another argument against Ricardian notions in food security in developing countries is to be found in the notion itself. Comparative advantage theory is not a reliable tool for explaining neither the history nor the pattern of international specialization, as it contains what has been labeled “Ricardo’s fallacy”, in the sense that relative costs are not definable for a significant variety of trade relations (Patnaik 2003). Reducing governmental involvement in the economy in general and in food security issues allow the increase of available resources for the export-oriented side of the agricultural industry. That can limit domestic income growth and encourage the absorption of processed agricultural products from developed countries by populations of developing countries that export unprocessed agricultural commodities (Patnaik 2005).

The international context

The international context faced by Brazil and other regional powers is dominated by the demands of the United States and the European Union and the tariff and non-tariff barriers supported by both. For Brazil, the end of agricultural trade barriers is one of the ways to combat food insecurity and poverty and to promote a fairer income distribution internally and in the developing world in general. Although socioeconomic issues are at the heart of the problem in Brazil, even if Brazil does all it needs to, the most important emphasis has to be placed on the constrictions on agricultural trade enforced by developed countries—and on the prospects for reducing them in future

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rounds of WTO negotiations. It is in the international realm that the largest levers to food security are to be found (Aksoy & Beghin 2005).

The three main instruments of domestic agricultural public policy – domestic support, border protection and export subsidies – of developed countries distort international markets and are harmful to developing countries in general. In the case of Brazil they are especially damaging, as the country is seen as above the other developing countries (Hoekman and Javorcik 2004; Schure et al 2007). That is observed as high tariffs and domestic support may benefit liquid importers of agricultural products by providing subsidized access to commodities at reduced prices, which is not the case of Brazil. Over the years, and more so since becoming one of the founding members of the World Trade Organization, in 1995, Brazil has drawn attention to the fact that European and American subsidies to their respective agro industry complexes are considered illegal by that very same organization. The European Union and the United States have repeatedly refused to reconsider their position unless developing countries open their markets further. Such standpoint goes a long way in revealing how far from fair trade the WTO trading system remains (Jawara and Kwa 2004; LaForce 2011).

Adding to the American and European refusal to compromise, most developing countries do not possess sufficient resourcefulness at the negotiation table in international decision-making forums, although many countries, Brazil included, have over the years improved immensely the capabilities of their representatives. Furthermore, economic complexes in which developing countries possess effective or potential advantage, namely textiles and agriculture, were strategically kept out of the multilateral rules by the United States and the European Union (Wolfe 2009). Distorted and unbalanced rights and obligations that have become enshrined in the most important WTO agreements prevent a fair distribution of dividends generated in world agricultural trade. Not surprisingly, no other change in international politics would yield more development and reduction in extreme poverty than a thorough

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reform in the world agricultural trade, as two thirds of the poorest developing countries depend on agriculture – also true for Brazil (FAO 2011a).

Interpretations of the impact of the international food security political economy from 1992 to 2011 on developing countries and especially on the least developed countries can be divided into two broad interdisciplinary approaches, with varying degrees of polarization. The first emphasizes the destructive impact of global market forces on less developed agricultural markets, exacerbated by trade policies and industries of the largest producer and consumer countries. In that line, unless deliberate adjustments away from the present course of events are made food security problems will persist and result in larger ones. The international agro industry prevents food security and a healthy lifestyle when it relegates the rural poor to a disadvantageous situation that threatens the land ownership of small holders and degrades natural resources. The agro industry is seen as an agent of the perpetuation of food insecurity situation in the least developed and developing countries (Boon, 2004). The only viable solution would be greater domestic production allied to commercial importation (i.e., paid at competitive prices), as opposed to simply aiding, which is not regarded as sustainable access to food. Stable availability would be assured by the stabilization of the per capita food availability in low income economies (Barret 1999).

On the other side of the discussion, trade and the agro industrial complex together constitute part of a solution, though some researchers also admit that some part of the elementary diet should be cultivated regionally (Woolverton et al. 2010). Further, this line advocates the maintenance of subsidies and protectionist policies that benefit agro business in developed net exporter markets, namely the United States, Canada, Australia and the European Union. Higher productivity and new technologies would provide the solution to food insecurity (GAO 2008). Also, subsidies and protectionism directed to large producers are regarded, by some researchers in those countries, as mechanisms that warrant high stocks, oftentimes under the mandate of state agencies. Such strategic stocks work as dampers against

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seasonal volatility, especially in the world cereal markets and, most importantly, according to this line, allow for the prompt delivery of humanitarian assistance during recurrent food security emergencies in the least developed countries (Johnson 1996).

The counter-argument is the cost of global trade tariffs and subsidies, which will reach around USD 400 billion in 2015, mostly responsibility of the European Union and the United States. Global welfare losses due to tariff and non-tariff policies to trade in agricultural commodities are more damaging to food security than subsidies to export or domestic financing schemes combined. From 1981 to 2007 agricultural tariffs gave way to non-tariffs barriers (NTBs) – that is, measures other than tariffs that restrict and / or distort trade. Critics of European Union and United States policies claim that Brazil has been targeted continuously due to its ability to produce more and better than its developed countries competitors even though unable to support its farmers as the European Union and other developed countries do (Hanrahan et al. 2006; Hornbeck 2006; OECD 2011a). Domestic and international incentives favor short term job maintenance, social agendas and stability policies rather than long term policies that have the potential for promoting a fairer global market and, most importantly, constant access to food (Woolverton et al. 2010; Mueller and Mueller 2006).

It is in this context that among the basal challenges facing Brazil and its food security policies is the negotiation of conflicts of interest. Conflicts among interests and conflicting interests between producers and consumers, apart from those between exporters and importers, render negotiations more complex in the domestic domain and even more so in the international arena. Decisions that lead to the elaboration of public policies congregate the interests of many in domestic and foreign policy. Those better represented in the negotiations have, more often than not, a heavier sway in the final wording of the documents. Adding to the complexity, the Brazilian presidential system is also plagued with the political shortsightedness that seems idiosyncratic to democracies. Elections, in general, make the formulation of policies that take into consideration long term interests of the largest possible share of

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the population more difficult to be reached, as politicians in democratic societies possess short term horizons (Roos et al. 2007; Toye 2004; Timmer et al 1983; Cole 2008).

Brazil, trade, geographic divergence, cooperation and public policy in agriculture

Brazil has obvious interests in increasing its role in the international food market, at the same time as it struggles to preserve its diverse ecosystems. The Brazilian Ministry of Social Development and Fight against Hunger (MDS), created in 2004, is a strong advocate of locally produced and consumed food, in line with the policies favored by the United Nations Commission on Sustainable Development (CSD) for low environmental impact and sustainability of food security policies (CSD 2009). Nonetheless, many argue that immediate and long term demands will not be met unless commercial integration of demand and supply of food becomes a reality, as the least expensive way of warranting access to essential nutrients for all (Levin 2010; Fang et al 2000).

The economic crisis started in 2008 showed the frailty of world food trade and the directions taken by some countries whenever signs of turmoil appear. A much cited example is the ban on cereal exports imposed by the governments of Argentina, India and Russia and the subsequent price hike that deepened food security gaps in developing countries heavily dependent on imported cereals in 2008-2009 (Orihuela and Ruitenber 2009; Webber 2010). Most probably export restrictions by these countries were justifiable as defensive measures to protect national consumers and / or producers (Mitra and Josling 2009). Nevertheless, for the least developed countries, increasing dependence, accompanied by collapsing local production, translates into food insecurity (Sarris 2009). Presently, Brazil is not subject to such limitations owing to the sheer size of its production, though economic difficulties in the recent past (2001-2002), namely the devaluation of the Brazilian Real (BRL) led to sudden surges

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and dips in some of the markets in which the country enjoys strong market shares (Mitra and Josling 2009).

In such situations, vulnerability in terms of access to world food markets due to the low purchasing power of the general population and governments are further augmented by expanding geographic divergence between the major agricultural regions and the biggest consumer markets. By 2020 Africa and the Middle East will be the largest importers of wheat, rice and soybean (Brown 2005; Shapouri and Rosen 2010). Kazakhstan, Ukraine, Russia and Brazil, followed by the United States, Canada, Australia and Argentina, will be the isolated world leaders in basic agricultural export goods (Liefert et al. 2010).

For food security, the consequence of this divergence has deeper implications for international relations. Trade should fill the gap between production and the diversity of nutritional needs and allow minimum calorie consumption. That does not necessarily occur mostly because the largest consumer markets not only depend on others to obtain their food, they also depend on a small number of multi-national companies that dominate cereal and fresh food markets (Mulle and Ruppner 2010).

Regional infrastructural and economic integration, such as the Initiative for the Integration of Regional Infrastructure in South-America – IIRSA, is pointed out as part of a solution for the global challenge of food security and the dictatorship of the market and as an instrument to minimize environmental damage. Regional, sub regional and bilateral trade and cooperation agreements have been the answer to the seemingly insurmountable divergences surrounding agricultural World Trade Organization negotiations. Brazil is inclined to pursuing this route as a viable way to circumvent the domestic deadlocks – especially the rural social agenda - that mire negotiations in multilateral forums, especially with the United States and European countries (Vaz 2011).

A close ally to integration is cooperation, especially South-South cooperation. Since 2002 Brazil has pursued a more assertive foreign policy and used its status as world leader in agricultural commodities and detainer of tropical agriculture

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knowledge to engage developing countries, particularly in sub-Saharan Africa, in technical and productive cooperation initiatives (Thurow and Kilman 2009). Technical cooperation has been used as an instrument to share scientific knowledge and technology for attaining sustainable development and food security. The Brazilian Agricultural Research Corporation (Embrapa) is the main instrument of technical cooperation and is actively used by the Brazilian government to execute its international agricultural cooperation agenda (Goes et al. 2010).

Countries that are outside the world food market do not have the transport infrastructure, market information, quality standards and institutional mechanisms to safeguard contracts, conditions that maintain these countries on the margin. In parallel, market volatility impacts the availability of food directly, and consequently, the welfare and food security of these countries. Regional integration and cooperation in general have the potential to allow them into the market or their continuing exclusion (Karshenas 2009).

Despite claims to the contrary, there is nothing distinctive about Brazilian cooperation. It is certainly not uninterested. Specialists articulate the interests of the Brazilian government to producers and government officials while suppliers and productive chain organizations guarantee their interests to legislative services by building and maintaining relationships with government decision makers (The Economist 2010; Pino 2010). Nonetheless, regional integration and cooperation are gradually being more endorsed by governments and international organizations as catalysts of political stability, sustainable development, food security and the eradication of extreme poverty (Briet 2010; Dalal-Clayton and Bass 2009; Briones 2011).

Concluding remarks:

As the country projects itself on the world stage on limited bases, the need for studies on its actual role in global food security is pressing. Such studies are demanded in the context of the on-going debates linking global food security, (the absence of)

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productive integration intra and inter regional economic blocs, and the role of South-South cooperation as an instrument of change in the global economic and political axis.

Research points towards the relevance of sustainable rural development in developing countries, conjugated with South-South cooperation, integrated to other capacity-building initiatives directed towards food access as part of a solution for food insecurity, especially in less developed countries. Such relevance is almost consensually acknowledged in the case of Brazil, which is projected to become the most significant agricultural products exporter by 2020. Brazilian agriculture holds the potential for incentivizing the formation of strategies to facilitate efforts by other countries in the global South to further develop local production and markets, besides, on its own right, guaranteeing stable access to global food markets, based on its surplus exportable agricultural production.

Such status might not be achieved, and if achieved, not maintained in case Brazilian policy-makers do not steer present public policies away from a reactive conjuncture-driven course to a long-term policy-oriented approach. For that to come about, a better understanding of the international political economy of food security is warranted in order to position Brazil in a sustainable agricultural development path.

In conclusion, in the international context, it is in the best interest of Brazil and of most developing countries that export subsidies be banned, domestic producer subsidies trimmed down, access under tariff quotas significantly increased, tariff escalation on processed agricultural products eradicated and the level and the dispersion of bound tariffs on agricultural imports diminished (Binswanger and Lutz 2000). At the same time, for Brazil to fulfill its trade and food security potential, the Brazilian government must act as the zealous guardian of the sanctuary and also as the caretaker of the storehouse.

Reference list

Alves, P., Draper, P. & Edwards, L. (2008). South Africa. In Alves, P. P. Draper, P. & Sally, R.

DRAFT - DO NOT QUOTE

- (Eds.). *Trade Policy in the Twenty-First Century: The Political Economy of Reform in Emerging Markets*, Cheltenham: Edward Elgar.
- Amaral, W. A. N. & Peduto, A. (2010). Food Security: The Brazilian Case. *IISD Series on Trade and Food Security – Policy Report*.
- Asia Development Bank (2011). *Global food price inflation and developing Asia*. Mandaluyong City, Philippines: Asian Development Bank.
- Barret, C. B. (1999). Does Food Aid Stabilize Food Availability? Working Paper 99-01. University of Minnesota Department of Applied Economics. Agricultural and Applied Economics Association.
- Barros, G. S. A. C., & Silva, A.F. (2011). Produtividade da Agricultura e Transferência de Renda no Brasil. In Mattos, L. B., Teixeira, E. C., Fontes, R. M. O. (Orgs.). *Políticas Públicas & Desenvolvimento*. Viçosa: Editora Viçosa (pp. 305-328).
- Binswanger, H. & Lutz, E. (2000). Agricultural Trade Barriers, Trade Negotiations, and the Interests of Developing Countries. Paper presented at the *International Association of Agricultural Economists Meeting* in Berlin, Germany, August.
- Boon, E. K. (2004). Food Security in Africa: Challenges and Prospects. In Boon, E. K. (Ed.). *An Overview of Sustainable Development in Africa*. Oxford, U.K.: Encyclopedia of Life Support Systems (EOLSS) / UNESCO, Eolss Publishers.
- Boussard, J. M., Daviron, B., Gérard, F., & Voituriez, T. (2005). *Food Security and Agricultural Development in Sub-Saharan Africa: Building a Case for More Support*. Paris: CIRAD.
- Briet, L. (2010). EU support to regional integration in Africa: A Shared Vision. *Trade Negotiations Insights 9 (2)*. 10.
- Briones, R. M. (2011). Regional Cooperation for Food Security: The Case of Emergency Rice Reserves in the ASEAN Plus Three. *Asia Development Bank Sustainable Development Working Paper Series 18*.
- Brown, L. R. (2005). *Outgrowing The Earth*. New York: W. W. Norton & Co.
- Burford, H. (2008). Rising Food Prices: Causes and Consequences. OECD.
- Chauffour, J. P. (2008). Global Food Price Crisis – Trade Policy Origins. *PREM notes 1119*. The World Bank.
- Chishakwe, N. E. (2008). An overview of the international regulatory frameworks that influence the conservation and use of underutilized plant species. Rome: Global Facilitation Unit for Underutilized Species.
- Cole, S. (2008). Fixing Market Failures or Fixing Elections? Agricultural Credit in India. *Finance Unit, Harvard Business School Working papers*.
- Dalal-Clayton, D. B. & Bass, S. (2009). *The Challenges of Environmental Mainstreaming: Experience of Integrating Environment into Development Institutions and Decisions*. London: International Institute for Environment and Development.
- FAO (2011a). *The State of Food Insecurity in the World 2011: How does international price volatility affect domestic economies and food security?* Rome: FAO.
- FAO (2011b). *The State of Food and Agriculture – Women in agriculture: Closing the gender gap for development*. Rome: FAO.
- Fang, C. & Beghin, J. C. (2000). Food Self-Sufficiency, Comparative Advantage, and Agricultural Trade: A Policy Analysis Matrix for Chinese Agriculture. *Working Paper 99-WP 223*. Center for Agricultural and Rural Development and Department of Economics, Iowa State University.
- Fearnside, P. M. (2005). Desmatamento na Amazônia brasileira: história, índices e consequências. *Megadiversidade, 1 (1)*, 113-123.
- Fernandes Filho, J. F., Belik, W. (2010). A política de tributação na exportação do complexo soja pelo Brasil: transformação e resultados. Paper presented at the *48th Congresso da Sociedade Brasileira de Economia, Administração e Sociologia Rural*, July 25-28, 2010, Campo Grande, Brazil.
- GAO (2008). International food security: Insufficient Efforts by Host Governments and Donors

DRAFT - DO NOT QUOTE

- Threaten Progress to Halve Hunger in Sub-Saharan Africa by 2015. United States Government Accountability Office. GAO Report to Congressional Requesters. GAO-08-680.
- Gasques, J. G., Bastos, E. T., & Bacchi, M. R. P., (2008). Produtividade e fontes de crescimento da agricultura brasileira. In De Negri, J. A., Kuboca, L. C. (Orgs.). *Políticas de incentivo à inovação tecnológica no Brasil*. Brasília: Ipea.
- Girardi, E. F. (2009). Atlas da Questão Agrária Brasileira e Cartografia Geográfica Crítica. *Confins Revista Franco-Brésilienne de Géographie* 5 [online]. doi: 10.4000/confins.5631.
- Goes, F. L., Patriota, T. C. and Tiburcio, J. (2010). Considerações sobre o potencial e os desafios de uma parceria Brasil-África para o desenvolvimento rural. *Ipea Boletim de Economia e Política Internacional*, 3.
- Hanrahan, C., Banks, B. A., Canada, C. (2006). U.S. Agricultural Trade: Trends, Composition, Direction, and Policy. Congressional Research Service. 98-253.
- Hoekman, B., Javorcik, B. S. (2004). Policies facilitating firm adjustment to globalization. *Oxford Review of Economic Policy*, 20(3). 457-473.
- IBGE (2011). *A Economia Brasileira no 3º Trimestre de 2011: Visão Geral*. http://www.ibge.gov.br/home/estatistica/indicadores/pib/pib-vol-val_201103comentarios.pdf (Accessed in December 2011).
- IBGE (2006). *Censo agropecuário 2006: agricultura familiar : primeiros resultados : Brasil, grandes regiões e unidades da Federação*. Brasília: IBGE.
- Jaenicke, H. & Höschle-Zeledon, I. (Eds.) (2006). *Strategic Framework for Underutilized Plant Species Research and Development, with Special Reference to Asia and the Pacific, and to Sub-Saharan Africa*. Colombo, Sri Lanka; Rome, Italy: Global Facilitation Unit for Underutilized Species; International Centre for Underutilized Crops.
- Jawara, F. & Kwa, A. (2004). *Behind the scenes at the WTO: the real world of international trade negotiations – updated edition*. London/New York: Zed Books Ltd.
- Johnson, H. J. (1996). Food Security in Africa. Testimony before the Subcommittee on African Affairs, Committee on Foreign Relations, U.S. Senate. Washington, DC: United States General Accounting Office.
- Jones, M. (2008). Emerging Policy Issues within the Realm of Science Policy for Africa. In Kochendörfer-Lucius, G. & Pleskovič, B. (Eds.). (2008). *Agriculture and development*. Washington, D.C: World Bank. Bank. doi: 10.1596/978-0-8213-7127-5
- Karshenas, M. (2009). The Impact of the Global Financial and Economic Crisis on LDC Economies. Paper prepared for the UN Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States.
- Kochendörfer-Lucius, G. & Pleskovič, B. (Eds.). (2008). *Agriculture and development*. Washington, D.C: World Bank. Bank. doi: 10.1596/978-0-8213-7127-5
- LaForce, V. C. (2011). The EU agricultural policy and developing countries: lessons from the past and future directions. Paper prepared for the "New Frontiers in European Studies: UACES Student Forum 12th Annual Conference", University of Surrey, Guildford, 30 June – 1 July 2011.
- Levin, J. (2010). 3 Reasons Comparative Advantage Doesn't Apply to Agriculture. <http://www.goodeater.org/2010/01/27/3-reasons-comparative-advantage-doesn%E2%80%99t-apply-to-agriculture/>. (Accessed December 2010).
- Liefert, W., Liefert, O., Vocke, G. and Allen, E. (2010). Former Soviet Union Region to Play Larger Role in Meeting World Wheat Needs. Amber Waves: USDA Economic Research Service.
- Magdelaine, P., Spiess, M.P., & VALCESCHINI, E. (2008). Poultry meat consumption trends in Europe. *World's Poultry Science Journal*, 64, 53-64. doi:10.1017/S0043933907001717.
- Maluf, P. (1999). Ações públicas locais de apoio à produção de alimentos e à segurança alimentar. *Pólis Papers* 4.
- Manning, L., Chadd, S.A., Baines, R.N. (2007). Key health and welfare indicators for broiler production. *World's Poultry Science Journal*, 63, 46-62. doi: 10.1017/S0043933907001262.
- MAPA (2011a). *Brasil projeções do agronegócio 2010/2011 a 2020/2021*. Brasília: MAPA.

DRAFT - DO NOT QUOTE

- MAPA (2011b). *Balança Comercial de Agronegócio*. Brasília: MAPA.
<http://www.agricultura.gov.br/internacional/indicadores-e-estatisticas/balanca-comercial>
(Accessed in December 2011).
- MAPA (2010). *Intercâmbio comercial do agronegócio: principais mercados de destino*. Brasília: MAPA.
- MAPA (2008). *Intercâmbio comercial do agronegócio: principais mercados de destino*. Brasília: MAPA.
- Margulis, S. & Narain, U. (Orgs.). (2010). The Costs to Developing Countries of Adapting to Climate Change: New Methods and Estimates. *The Global Report of the Economics of adaptation to Climate Change Study Consultation Draft*. Washington, D.C: World Bank.
- Masters, G., Baker, P., Flood, J. (2010). Climate Change and Agricultural Commodities. *CABI Working Paper 2*, 38 pp.
- Mitra, S., Josling, T. (2009). Agricultural Export Restrictions: Welfare Implications and Trade Disciplines. *IPC Position Paper, Agricultural and Rural Development Policy Series*. International Food & Agricultural Trade Policy Council.
- Mueller, C., Mueller, B. (2006). The Evolution of Agriculture and Land Reform in Brazil, 1960 – 2006. Paper prepared for the *Conference in honor of Werner Baer*, University of Illinois, Dec. 1-2, 2006.
- Mulle, E. D. & Ruppner, V. (2010). Exploring the Global Food Supply Chain Markets, Companies, Systems. Companion Publication to Seeds of Hunger, Backgrounder No. 2 in the *THREAD series*.
- Mwaniki, A. (2006). Achieving Food Security in Africa: Challenges and Issues. *United Nations Office of the Special Adviser on Africa Other Reports*.
<http://www.un.org/africa/osaa/reports/Achieving%20Food%20Security%20in%20Africa-Challenges%20and%20Issues.pdf> (Accessed in October 2010).
- Ng, F., Aksoy, M. A. (2008a). Who Are the Net Food Importing Countries? *World Bank Policy Research Working Paper 4457*.
- Ng, F., Aksoy, M. A. (2008b). Food price increases and net food importing countries: lessons from the recent past. *Agricultural Economics*, 39, 443–452. doi: 10.1111/j.1574-0862.2008.00350.x.
- OECD (2005). *Agricultural Policies in OECD Countries 2005: Monitoring and Evaluation*. OECD Publishing. http://dx.doi.org/10.1787/agr_oecd-2005-en (Accessed in September 2011).
- OECD (2011a). *Agricultural Policies in OECD Countries 2010: At a Glance*. OECD Publishing. http://dx.doi.org/10.1787/agr_oecd-2010-en (Accessed in September 2011).
- OECD (2011b). Producer and Consumer Support Estimates database.
http://www.oecd.org/document/59/0,3746,en_2649_33797_39551355_1_1_1_1,00.html
(Accessed in October 2011).
- OECD/FAO (2011). *OECD-FAO Agricultural Outlook 2011-2020*. OECD Publishing and FAO. doi: http://dx.doi.org/10.1787/agr_outlook-2011-en (Accessed in September 2011).
- Orihuela, R. & Ruitenberg, R. (2009). Argentina Ends Corn, Wheat Export Ban as Crops Shrink (Update3). Bloomberg, 01/10/2009.
<http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a9jgCiS0XvEM> (Accessed November 2010).
- Panagariya, A. (2003). Trade liberalization and food security: conceptual links. In FAO, *Trade Reforms and Food Security: Conceptualizing the linkages* (pp. 35-42). Rome: FAO.
- Patnaik, U. (2003). On the inverse relation between primary exports and food absorption in developing countries under liberalized trade regimes. In Ghosh, J. & Chandrasekhar, C. P. (Eds.). *Work and Welfare in the Age of Finance*. Delhi: Tulika.
- Patnaik, U. (2005). Ricardo's Fallacy: Mutual Benefit From Trade Based On Comparative Costs And Specialization? Jomo, K. S. (Ed.). *The Pioneers of Development Economics*. Delhi: Tulika.
- Pino, B. A. (2010). Brazilian Cooperation: a model under construction for an emerging power.

DRAFT - DO NOT QUOTE

ARI 143/2010.

- Queirós, L. R., Speranza, E. A., Bettiol, G. M., Alba, J. M. F., Bernardi, A. C. C., Inamasu, R. Y., Grego, C. R., Rabello, L. M. (2011). *Gestão de recursos de informação em Agricultura de Precisão*. Documentos 112. Campinas: Embrapa Informática Agropecuária.
- Rada, N. & Regmi, A. (2010). *Trade and Food Security Implications from the Indonesian Agricultural Experience*. Amber Waves: USDA Economic Research Service.
- Regmi, A. & Seale Jr., J.L. (2010). Cross-price Elasticities of Demand across 114 Countries. *USDA ERS Technical Bulletin Number TB-1925*.
- Rodrigues, R. R., Gandolfia, S., Navea, A. G., Aronsonb, J., Barreto, T. E., Vidala, Cristina Y., & Brancaliona, P. H.S. (2011). Large-scale ecological restoration of high-diversity tropical forests in SE Brazil. *Forest Ecology and Management*, 261, 1605-1613. doi: doi:10.1016/j.foreco.2010.07.005
- Roos, G., Terragni, L., & Torjusen, H. (2007). The local in the global – creating ethical relations between producers and consumers: From local food to localised food". *Anthropology of food. Special Issue on local food products and systems*.
- Rosen, S., Caswell, M. (2005). Forces Shaping Food Security: Factors Affecting Production. In Shapouri, S. & Rosen, S. *Food Security Assessment*. Washington, D.C.: Economic Research Service/USDA.
- Rosenzweig, C., Parry, M.L., Fischer, G., and Frohberg, K. (1993). *Climate Change and World Food Supply*. Oxford: Environmental Change Unit.
- Sally, R., S. (2009). *Globalisation and the Political Economy of Trade Liberalisation in the BRICS: Brazil, Russia, India, Indonesia, China and South Africa*. OECD Publishing. doi: 10.1787/9789264044814-en.
- Santana, J. A., (2007). A evolução dos programas de transferência de renda e o Programa Bolsa Família. Paper presented at the *Population, Poverty and Inequality Seminar*, Belo Horizonte, Brazil, November 5-7.
- Sarris, A. & Morrison, J. (Eds.). (2009). *The evolving structure of world agricultural trade: Implications for trade policy and trade agreements*. Rome: FAO.
- Sauer, S. & Leite, S. P. (2011). Agrarian structure, foreign land ownership, and land price in Brazil. Paper presented at the *International Conference on Global Land Grabbing*. 6-8 April 2011, Institute of Development Studies, University of Sussex.
- Seale, J., Regmi, A. & Bernstein, J. (2003). International evidence on food consumption patterns. *U.S. Department of Agriculture, Technical Bulletin Number 1904*.
- Schure, P., van Kooten, G. C., Wang, Y. (2007). Challenges for Less Developed Countries: Agricultural Policies in the EU and the US. Working paper, 2007-08. Resource Economics and Policy Analysis (REPA) Research Group, Department of Economics, University of Victoria.
- Shapouri, S. & Rosen, S. (2010). A Positive Path for Food Security in Sub-Saharan Africa: Options and Challenges. *Food Security Assessment, 2010-20*. Washington, D.C.: USDA, Economic Research Service.
- Silva, J. F., (2011). Brazil: Poultry and Products Annual. Poultry Annual 2011. *USDA Foreign Agricultural Service Global Agricultural Information Network Report BR 0714*.
- Smale, M., Mahoney, T. (2010). Agricultural Productivity in Changing Rural Worlds. *A Report of the CSIS Task Force on Food Security*.
- Swinnen J. (2010). The political economy of agricultural and food policies: recent contributions, new insights, and areas for further research. *Applied Economic Perspectives and Policy*, 2(1), 33-58.
- The Economist (2010). Brazil's foreign-aid programme: Speak softly and carry a blank cheque. July 15.
- Thurow, R & Kilman, S. (2009). *Enough: Why the World's Poorest Starve in an Age of Plenty*. New York: PublicAffairs.

DRAFT - DO NOT QUOTE

- Timmer, C. P. (2010). Reflections on Food Crises Past. *Food Policy*, 35(1), 1-11.
- Timmer, C. P., Falcon, W. and Pearson, S. (1983). *Food Policy Analysis*. The World Bank.
- Toye, J. F. J., Toye, R. (2004). *The UN and global political economy: trade, finance, and development*. Bloomington: Indiana University Press. 2004.
- Vaz, A. C. (2011). Brazilian Perspectives on South-South Economic Relations and Global Governance. In Najam, A., Thrasher, R. (Eds.), *South-South Economic Relations*. Boston: Boston University [To be released].
- Vinhas, A. L. F. (2010). (In)segurança alimentar no Brasil: uma análise das políticas públicas dos governos de Lula. Cuadernos de geografía, Revista colombiana de geografía, 19, 177-186.
- Von Braun, J. (2008). Food and Financial Crises: Implications for Agriculture and the Poor. Note prepared for the annual meeting of the Consultative Group on International Agricultural Research - IFPRI, Maputo.
- Wolfe, R. (2007). Transparency and Public Participation in the Canadian Trade Policy Process. In Halle, M. and Wolfe, R. (Eds.). *Process Matters: Sustainable Development and Domestic Trade Transparency*. Winnipeg: International Institute for Sustainable Development, 21-72.
- Wolfe, R. (2009). Use Transparency to Keep World Trade Flowing. In Birkbeck, Deere, C. & Meléndez-Ortiz, R., (Eds.). *Rebuilding Global Trade: Proposals for a Fairer, More Sustainable Future – Short Essays on Trade and Global Economic Governance*. Geneva and Oxford: International Centre for Trade and Sustainable Development, and Global Economic Governance Programme, University College, Oxford, 75-7.
- Woolverton, A., Regmi, A., Tutwiler, M.A. (2010). The Political Economy of Trade and Food Security. International Centre for Trade and Sustainable Development, Geneva.
- Woolverton, A., Kiawu, J. (2009). "High Food Price" Policy Responses: Welfare Trade-offs in Developing Countries and Global Implications. Poster presented at AAEA Annual Meeting, Milwaukee, WI, July 26, 2009.