



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Potential Poverty Effects of the Special Safeguard Mechanism: the Case of Wheat

DRAFT: Not For Citation

Amanda M. Countryman

Amanda.Leister@colostate.edu

Department of Agricultural and Resource Economics
Colorado State University

Danielle Ufer

Danielle.Ufer@colostate.edu

Department of Agricultural and Resource Economics
Colorado State University

Selected Paper prepared for presentation at the Agricultural & Applied Economics Association's
2016 Annual Meeting, Boston, MA, August, 2016.

Abstract

Negotiations under the Doha Development Agenda include provisions for a Special Safeguard Mechanism (SSM). The SSM would allow developing countries to invoke an additional duty on agricultural commodity imports when prices fall below a specified price trigger (P-SSM) or net imports rise above a specified quantity trigger (Q-SSM). This research uses a Computable General Equilibrium (CGE) modeling framework to evaluate the potential poverty effects of the SSM in agriculture. Some argue that the SSM is necessary to protect developing country domestic producers from the variability in world commodity markets; however, existing research suggests that widespread use of the SSM may destabilize world prices and increase the cost of commodity imports for domestic consumers. Many of the main arguments in favor of the SSM focus on the well-being of vulnerable agricultural producers, yet many rural residents in poor countries are net purchasers of food, and urban poverty is a growing concern. Therefore, the potential for an SSM policy to mitigate poverty vulnerability seems unlikely. This research aims to augment the existing literature regarding proposed trade reform in the WTO by investigating the potential implications of the SSM on poverty in Brazil and Mexico by implementing the policy in the global wheat market.

Introduction

One of the main goals of the Doha Development Agenda (DDA) round of trade negotiations was, as its name suggests, development. A proposed measure to meet this goal was a safeguard mechanism for developing countries designed to protect against production shocks and global price fluctuations. Unfortunately, the mechanism proposed in the Doha round, called the Special Safeguard Mechanism (SSM), was one of the key sticking points for the failure of the Doha negotiations in July, 2008 (WTO, 2008, Bridges, 2008 as cited in Grant and Meilke, 2008). Further investigation since then has also raised the question of the proposed measure's efficacy and ability to fulfill its proposed objectives. This paper assesses the potential poverty effects of the SSM by focusing on the changes in poverty levels in Brazil in Mexico while focusing on implementation of the SSM in the global wheat market.

The SSM and its predecessors, the Special Safeguard (SSG) as established by the Agreement on Agriculture of the Uruguay Round Agreement [1994] and the provision for Emergency Action on Imports of Particular Products established by the General Agreement on Tariffs and Trade [GATT, 1986], were designed to counter economic threats to domestic producers stemming from import surges and global price drops, and in so doing to aid in the maintenance of food security for those poor households engaged in production (MacLaren, 2011). The underlying ideas were such that, in the case of an import surge, either as a result of domestic production shocks or a drop in global prices, a country would be granted the freedom to suspend trade measures and have the right to invoke special duties in excess of normal levels in the interest of protecting domestic producers from market saturation of commodities at prices lower than the domestic price. The SSM was proposed as an improvement on the SSG and GATT provisions in that, while still intended to address the same trade concerns, it did not have the

injury test and compensation requirement of the GATT mechanism (which proved excessively expensive and temporally inefficient for developing countries [Grant and Meilke, 2006 and Sharma, 2006 as cited in Grant and Meilke, 2008]), nor did it have the restriction of application to products included in the tariffication process, a restriction which precluded most developing nations on the grounds that they didn't participate in the tariffication process, resulting in the majority of subsequent SSG utilization occurring by developed countries (Samwaru, 2005; Grant and Meilke, 2008, Grant and Meilke, 2006 [as cited in G and M 2008]). However, while the proposed SSM may right these policies to which developing countries object, the current proposal suffers from a major tenet to which developed countries object; namely that the new special safeguard mechanism would allow employing countries to exceed their pre-Doha bound tariff rates, essentially violating both the progress of previous trade negotiations and the trade liberalization objective of the DDA, though, only in such instances as the SSM is triggered. Though these objections are initially grounded in concern for potential restriction of global trade, Grant and Meilke show that this condition of the SSM may be a small price to pay relative to the global welfare gains the mechanism could achieve (gains mostly observed in developed countries) and the benefit of reaching a final agreement (Grant and Meilke, 2008). However, Hertel et al. 2010 find that the SSM could lead to increased price volatility and have negative consequences in global agricultural markets as well as in domestic markets in developing countries.

Following various stages of development, the current design for the SSM includes a dual-mechanism approach to developing country protection: a quantity-triggered SSM (Q-SSM) and a price-triggered SSM (P-SSM). The Q-SSM is based on total imports, such that at any point in a given year where imports exceed a predetermined base import quantity (equivalent to a three-year moving average of imports), the SSM is triggered in a tiered structure. When imports reach

110-115 percent of that base import level, a country is allowed to apply an additional duty of either 25 percent of the binding tariff or 25 percentage points. At levels of 115-135 percent of the base, an additional duty of 40 percent of binding or 40 percentage points, and at import levels exceeding 135 percent, a country may apply an additional duty of 50% of binding or 50 percentage points. There are some time restrictions imposed on the Q-SSM such that consecutive use is limited to a span of four years and it is important to note that, once triggered and implemented, the Q-SSM is applied to all imports of a given commodity for that country for the duration of its application. Conversely, the P-SSM is applied on a case-by-case basis and is thus considered the simpler of the two mechanisms. Similar to the Q-SSM, its trigger is attached to a three year moving average of the import prices of the relevant commodity. If the price of a shipment is below 85 percent of the base price level, an additional duty can be levied to compensate for up to 85 percent of the difference.

What do we know about the SSM?

The current body of literature surrounding the SSM points to some relatively consistent expected impacts upon implementation. One of the primary concerns with the SSM is the frequency of its use, particularly considering its potential to allow a country to impose tariffs which exceed pre-Doha bound rates. Several studies have investigated the relationship between the opportunities to make use of the mechanism compared to the expected implementation. If the past is any indication, the SSM may be unlikely to be utilized often, given that the SSG has proven to be used by only 6 of the 22 eligible developing countries, with the FAO calculating an SSG utilization rate of only 1% in 2004, such that only 1% of cases where the SSG might have been used actually saw it employed (Pal and Wadhwa, 2007). However it is just as likely that the

differences in policy of the SSM will make it more appropriate and easily applied compared to the SSG. One of the issues that has been questioned is that of the sensitivity of the triggers of the mechanism. Ferrier and Leister (2011) found that the Q-SSM was triggered by relatively small changes in global production, suggesting that the standards for triggering the Q-SSM may need to be re-evaluated. Finger (2009) similarly found striking evidence of coinciding oversensitivity and inadequate sensitivity of the mechanism's triggers as proposed, where in over half of cases where the SSM was needed and ought to have been triggered, it was not; and at the same time, in over half of cases where the SSM was triggered, it was unneeded.

Perhaps the most important impacts to be evaluated are those of the SSM upon prices and price stability, both domestic and global. Findings are consistent in the current body of knowledge, with domestic prices increasing without fail, and domestic prices becoming more volatile in most every case (Grant and Meilke, 2008; MacLaren, 2011 india; MacLaren, 2011; Grant and Meilke, 2006). There are two notable exceptions to the increased volatility of domestic prices: in an instance where the SSM is applied in the face of the implementation of trade liberalization through the use of the Swiss-25 tariff cuts (Grant and Meilke, 2006); and where the SSM is evaluated in a scenario that takes specific tariffs into account, as most studies assume ad valorem tariffs are in effect in all cases (Leister and Narayanan, 2015). In both cases, the authors determined that the SSM may negatively impact developing countries, considering that poorer households tend to experience more severe, negative impacts under excessive price variations as opposed to higher prices only (Leister and Narayanan, 2015).

While the impact of increased domestic prices may not be as critical as price volatility on poor households, the effect of the SSM on actual prices is still an important consideration. Similar to price volatility, the literature on the SSM's effect on prices is relatively consistent,

with studies determining that the SSM may cause a rise in domestic prices if utilized (Grant, 2008; MacLaren, 2011; Grant and Meilke, 2006). Considering the goal of the SSM to protect the domestic producer from a drop in prices stemming from increased imports, this may be an encouraging sign of the SSM's appropriate formulation, however MacLaren notes that import surges are, in most cases, not associated with a fall in domestic prices and, in small countries, are not necessarily influenced by world market prices. Rather, he points to instability and high variability (in the import demand function, in this case), as a main source of increased livelihood risk. Consequently, he suggests that a domestic instrument may be more effective than a tariff increase as imposed by the use of the SSM (MacLaren, 2011).

While determining the SSM's impact on price and price volatility is useful in forming expectations for effects following its implementation, at the heart of current literature is understanding the efficacy of the SSM in achieving its goals of encouraging development and improving domestic livelihoods. Evaluating the potential success of the SSM in this regard has mostly been done through investigations of its effects on welfare. Several studies indicate that, overall, a special safeguard mechanism incurs a net welfare cost, and that cost is usually borne by developing countries (Grant and Meilke, 2006; Grant and Meilke, 2008; Samwaru, 2005). Grant and Meilke (2008) conducted a study evaluating the effect of the SSM under the 2008 July Package tariff cuts as applied to wheat, both with and without the provision of exceeding pre-Doha bound tariff rates. Without the inclusion of the SSM, they found that the July Package proposal alone would increase global welfare by 1.15%, though mostly through gains to developed countries, with losses between 2 and 3% for developing and least developed countries. With the inclusion of the SSM, 84% of the global welfare gains expected from the July Package alone were still realized, with developing and least developed countries still experiencing a net

loss, though of a magnitude much smaller than without the SSM (Grant and Meilke, 2008). In an earlier study, Grant and Meilke found consistent results, with the SSM causing a global welfare cost, mostly affecting the countries it is designed to help (Grant and Meilke, 2006).

One of the areas for investigation is that of welfare transfer under the SSM. Proponents of the mechanism perceive a welfare benefit resulting from a net transfer of welfare out of exporting and into importing countries. However, in a 2014 study, Thenakoon and Anderson determined this benefit to be minimal and the transfer to be illusory, owing to the nullification of such transfers by price spikes (where welfare then goes from importing countries to exporters) as well as the diversity of application, where most countries are net exporters of some affected goods and net importers of others, such that the long run net transfer is zero.

In a study focused solely on the effects of the SSM in India, MacLaren determined that the SSM did induce an increase in welfare for producers, by way of increased land rents, but also saw an increase in the volatility of producer welfare (MacLaren 2011). This welfare gain was also likely to be overshadowed by the subsequent losses experienced by consumers, ultimately resulting in a net loss in Indian welfare. Indeed, the dichotomy of producer and consumer welfare has become a central issue of the SSM, as in many cases it doesn't actually exist in developing countries' agricultural markets. The success of the SSM is predicated on the developing country's farmer being a net seller of a commodity, but in many of these countries, farming continues to be a subsistence activity and farmers are, in fact, net buyers. Thus, when faced with a mechanism designed to protect the net producer, and consequently damaging the net consumer, the SSM is likely to create more damage than it purports to alleviate. Indeed, Ivanic and Martin found an increase in global poverty under the implementation of the SSM, although they do identify that this increase may have simply been as a result of the production shocks

which trigger the SSM, rather than the SSM itself (Ivanic and Martin, 2014). In the few cases where there is an expected decrease in poverty, it was generally accompanied by a decrease in domestic welfare. Thus, particularly without the context of coinciding trade liberalization, the SSM appears to have a relatively consistent, negative effect on developing and least developed country welfare and poverty.

Poverty in Brazil

Poverty in Brazil has been a subject of focus in recent years and its alleviation has been an objective of various policies and projects. As of 2014, approximately 7.4% of the Brazilian population was living under the national poverty line, with a large majority of them concentrated in the North Eastern regions (Worldbank, 2016). Although the vast majority of Brazil's farms are considerably small and run by subsistence farmers, who account for approximately 70% of staple crop production, one of the leading causes of Brazilian poverty is the inequality of land tenure and land distribution, though education and technical skill development deficits are also large contributors. Furthermore, family farming usually produces crops for domestic consumption, such as beans, maize, coffee and milk, though pork and poultry from family farms are also often exported (IFAD, 2015). The status of smallholder agriculture in Brazil, as well as the distribution of impoverished populations geographically far away from large scale production (recalling that the majority of Brazilian wheat production occurs in the South, Southeast and Mideast) calls into question the potential effects of the implementation of the SSM on Brazilian poverty and producer protection.

In terms of domestic policy, the Brazilian federal government has made poverty and food insecurity issues of major focus in the last two decades. With changing political powers and the institution of the UN Millennium Development Goals aimed at poverty alleviation, the Brazilian

government sought to take drastic action to reduce their own nation's poverty levels, which was primarily achieved through the 2003 establishment of the Zero Hunger (*Fome Zero*) policy, a collection of and aggregation of multiple programs building on previous programs. Among the largest of the programs under Zero Hunger were *Bolsa Familia*, the Program for the Strengthening of Family Farming (PRONAF), the National School Meal Program (PNAE), and the Food Acquisition Plan (PAA) (FAO, 2010). With many of these programs including provisions for direct cash transfers to the poorest of the population, in some cases conditional on keeping children engaged in education; as well as provisions for nutritional meals for poor children in the education system, these programs have been met with a relatively high degree of success, though not without considerable criticism and opposition. Following its implementation, a survey of recipients of the *Bolsa Familia* program indicated that 82.4% of individuals had seen an improvement in their family's food after beginning to receive benefits (Vaitsman and Paes-Sousa, 2007). Another analysis of the impact on poverty rates found that the country's population living below regionally-defined poverty levels had dropped from 44 million in 2003 to 29.6 million in 2009 (Del Grossi, FAO, 2010). Another of the tenets of Zero Hunger is the 2007 Family Farming Price Guarantee Program, which falls under the auspices of PRONAF. This program guarantees a minimum price for 35 commodities produced by family farmers, supplied through discounts on farm credit lines or bonus allowances at the end of a season, equivalent to an annual established price to meet the cost of production (Peraci and Bittencourt, FAO, 2010). These policies also include a mechanism put in place to make it possible for the government to purchase family farmers' products with the express purpose of both supporting the family farmer and potentially redistributing those products through other government food aid programs (OECD, 2015). Such results as these for Zero Hunger and its associated programs

have drawn modest but growing praise from the international community as to the efficacy of similar domestic programs aimed at poverty alleviation. However, as Del Grossi notes, despite the considerable success of lifting many millions out of poverty, there is still work to be done concerning the remaining population living in poverty.

With the federal government taking on much of the responsibility of poverty alleviation through domestic policy, there remains the question of the influence of international markets on Brazilian poverty and food security. Some recent actions reveal relatively balanced motivations in Brazilian trade policy, with the government actively working in both the consumers' and producers' interests. In 2010, the global economic crises resulted in the implementation of subsidies on various key commodities to reduce the impact of high food prices on consumers (IFPRI, 2012). In contrast, the minimum price guarantee policy and similar domestic policies applied to domestic commodities acted in small part as export subsidies in sectors like rice and wheat exports, sectors of the export economy that are otherwise relatively small (GAIN, 2008).

Aside from incidents arising from shifts in the global market, Brazil's trade policies aimed at poverty alleviation pale in comparison to their domestic policies, leaving an area of great potential in further improving poverty and income distributions. Current literature appears to have conflicting results regarding the trade policies in Brazil and their effect on the impoverished population. In one arena, trade policies have been found to shift resources in favor of industries which employ higher proportions of unskilled labor, specifically shifting resources from capital-intensive sectors into more labor-intensive agricultural sectors, potentially resulting in increased wages for workers in those sectors (Harrison, 2004). However, another study found that such trade policy shocks have a small effect at best on poverty and income distribution, making the potential influence of trade policies on poverty alleviation somewhat questionable

(Ferreira, 2005). Instead, Ferreira et al., citing Barros and Mendonca (1997), argue that, if economic growth achieved by trade policy reforms only serves to maintain income inequality, the improvement of the distribution of income would be more effective in poverty alleviation than economic growth alone (Barros as cited in Ferreira, 2005). Thus, the policies apparently most advocated by the literature in favor of effective poverty reduction are those of free trade agreements and opened external markets (such as Mercosur), which would achieve reduced consumer prices in poor regions as well as potentially raise economic returns to those in agricultural industries by reducing trade barriers in the traditionally export-oriented industry (Rocha, 1998 as cited by Ferreira; Gurgel, 2003). Harrison et al. further indicate that free trade would benefit the poor, with gains expectedly several times that of the aggregate gain of the economy at large, through those increased wages in the agricultural sectors, due to the fact that current Brazilian trade protections favor capital-intensive manufacturing sectors (Harrison et al., 2004). These studies indicate a trend in poverty reduction stemming from wage impacts of trade policies, which, if the SSM were applied to appropriately protect producers and, by extension, their workers, it may indeed be successful to that end.

Poverty in Mexico

Poverty in Mexico has been a difficulty that the domestic government has struggled to alleviate with little realized success. The estimates of individuals living below the poverty line in Mexico has hovered around 45% in recent years, with 2014 estimates being anywhere from 45.5% to 53.2% (World Bank, 2016; US Embassy, 2014). While efforts have long been underway to reduce these figures, recent years have actually seen Mexican poverty grow slightly, indicating that previous successes were perhaps overstated. Similar to Brazil, poverty is highly concentrated

in select areas of the country, specifically the southern states of Chiapas, Oaxaca and Guerrero; while the northern states have decidedly lower poverty figures, particularly in Nuevo Leon, Baja California and Coahuila (US Embassy, 2014).

With poverty focused in more urban areas, domestic policies have most recently turned to poverty alleviation through improved education and health care. Primarily, this has been achieved by the Programa de Educación, Salud y Alimentación (PROGRESA), instituted in 1997 and later converted into the Oportunidades program, with the same objectives. Both of these programs function as domestic conditional cash transfer programs, with transfers being conditional upon children of recipients attending school, and recipients regularly visiting health clinics and educational health counseling sessions (US Embassy, 2014). These programs replaced earlier programs of food subsidies and other similar transfers which were far less efficient at reaching rural poor populations, given political and logistical barriers. However, PROGRESA and the subsequent Oportunidades program have been largely regarded as successful under objective measures, with PROGRESA-recipient households reporting improved health and education utilization, increasing school attendance rates and decreasing child illness rates among participating households. PROGRESA recipients also saw a 13% increase in food expenditures, with those households consuming higher-quality food and more calories (Gantner, 2007). However, this success was tempered by some of the realities of the increased burdens imposed by the increased consumption of education and health care, with the quality of education and the level of performance lagging behind, despite increased participation (Gantner, 2007). Reports of stable or possibly even increasing poverty rates nationwide also stand as indications that the programs are in the infancy of efficacy, if they are ever to be effective.

The Mexican government has also used domestic policy to attempt to provide aid to rural, smallholder agriculturists. Following the financial turmoil of the 1980s in Mexico, the government instituted programs aimed at reducing poverty and financial difficulty for small, rural farmers. Two of the major programs of this nature were the Program of Direct Transfers to the Countryside (PROCAMPO), instituted in 1993, and Alianza para el Campo (Alianza), instituted in 1996. PROCAMPO operates at the national level and provides cash transfers based on hectares cultivated, which was initially limited to hectares planted with one of nine crops approved under the program for transfers, including wheat; but now is not so restricted. PROCAMPO has been met with a moderate level of success, with the associated cash transfers being found to have a multiplier effect for recipient households and aiding in keeping recipient households out of poverty (Cord and Wodon, 2001). While PROCAMPO was initially designed to be fully terminated by 2008 after progressive phases of decreasing benefits, the program continues in both name and function, though improved since its inception (Sagarpa, 2014). Alianza as a program was more similar in nature to Fome Zero, in that it functioned as an umbrella program with multi-faceted application through subprograms. However, as a decentralized program operated on a state-by-state basis, Alianza has been considered far less of a success than PROCAMPO. With the main goal of many Alianza subprograms being to provide investment matches and grants, the conditions of Alianza participation required larger capital investment on the part of the recipients to be of any benefit. Some of the subprograms of Alianza included the ferti-irrigation and mechanization programs, which provided financial support for joint irrigation and fertilization systems and the purchase of tractors and tractor parts, respectively, and the “Kilo for Kilo” program, which provided a kilo of certified seeds to farmers for the price of normal seeds. Due to the requirement of farmers to have the capital to invest

prior to receiving government assistance, participation rates were low and the benefits of the program were generally directed to larger operations which were less in need of poverty-prevention resources. Alianza has also been criticized for regressive allocation of funds, with poorer states seeing their funding more and more restricted as time goes on, and benefits of funding becoming even less accessible for the poorest agricultural populations as funds are redirected to richer states with higher participation rates (Palmer-Rubin, 2010). Furthermore, Alianza's administration has been viewed with suspicion, due to a lack of transparency and consistency, making the program less successful than PROCAMPO both economically and politically (Palmer-Rubin, 2010).

The past three decades in Mexico's trade policy have largely been characterized by liberalization actions. One of the primary actions taken in opening the Mexican economy was the progressive elimination of a large portion of import licenses, though this action was less successful than intended due to the maintenance of particularly important licenses, the coincident increase in tariff rates, and the nominal depreciation of the peso largely nullifying benefits of imports by making domestic goods cheaper. Further actions in opening the economy were more aimed at tariff reduction, through the accession of Mexico to GATT in 1986 and later the initiation and implementation of NAFTA in 1990 and 1994, respectively (Nicita, 2004). In support of generally held theory on the benefits of trade liberalization, several studies have focused on the particular effects of both theoretical and implemented trade liberalizing measures in the case of Mexico, especially in regards to their impact on poverty. Hanson (2007) evaluated the impacts of opening the Mexican economy based on the degree of exposure to trade experienced by each state. States in the northern region along the border of the United States, the primary trade partner for Mexico, like Baja California, Chihuahua, Nuevo Leon, and Jalisco

were classified as high exposure states and were determined to experience increases in income with a more open economy. States with lower trade exposure, generally in the more agricultural regions of the country, didn't see such benefits of trade liberalization, suggesting that the benefits were mostly derived by the manufacturing sectors, though the depreciation of the peso was also implicated as potentially responsible for the results of the study. Nicita (2004) similarly found that the effects of trade liberalization in the 1990s were more to the benefit of the richer northern regions, with wage increases being experienced there and wage decreases being experienced in southern regions, again attributing the results to the nature of the major industries in each region (manufacturing in the north, agriculture in the south). However, Nicita also found that trade liberalization did result in lower relative prices for most non-animal agricultural products, which was of benefit to most poor households in terms of lowering consumption costs, but also reduced agricultural incomes. Ultimately, though, this decrease in price was determined to have a positive impact on Mexican poverty, lifting approximately 3 million individuals out of poverty in 2000. These results, overall, confirm the findings of Ianchovichina et al. (2002), which determined that the poor stand to gain the most from trade reforms as a result of a decline in food prices. Nicita also evaluated tariff pass through rates, finding that, particularly for agricultural goods, changes in border prices were more likely to be absorbed by exporters through diminished profit margins, resulting in little to no change in domestic prices. With regard to tariffs, this meant that any changes thereof had virtually no impact on prices in regions far from the border.

With the SSM aiming to protect producers from international price shocks, the findings of Valero-Gil and Valero (2008) shed light on the impacts of international price fluctuations by evaluating the effects of the food price spikes of 2006 to 2008. With the magnitude of the 2006 and 2007 price changes being more modest than that of 2008, the increase in poverty resulting

from them was also of a lower magnitude, however the 2008 price spike was determined, in conjunction with previous increases, to potentially increase poverty rates from 25% to 33.5%. More importantly, this study indicates the reality of the net buyer issue and its relation to poverty alleviation and development. The effects of higher prices were disaggregated into impacts on spending alone and impacts on agricultural income alone, finding that higher prices would increase poverty rates by 2.91 percentage points from increased food costs for consumers, while higher prices would only reduce poverty rates by 0.10 percentage points from increased incomes for producers, showing that increased prices have a significant net negative impact on the poor. The ultimate finding of the study was that poverty alleviation was better achieved under reduced taxes and tariffs, even when considering the positive impacts of increased prices for households which receive a portion of income from agricultural activities. In the context of the SSM, this suggests that Mexico's impoverished population may fare better, in a volatile global price environment, without artificially maintained prices from the SSM. Similarly, it is expected that Brazilian households would be similarly affected. All in all, the SSM is expected to increase price variability in the countries that implement the policy, thereby negatively affecting households below the poverty line.

References

- Autry, L. (2008). USDA FAS GAIN Report: Brazil Grain and Feed Grain Annual 2008.
- Cord, L., & Wodon, Q. (2001). Do agricultural programs in Mexico alleviate poverty?: Evidence from the ejido sector. *Cuadernos de economía*, 38(114), 239-256.
- Del Grossi, M. E. (2011). Poverty reduction: from 44 million to 29.6 million people. *THE FOME ZERO (ZERO HUNGER)*, 303.
- Ferreira Filho, J. B. S., & Horridge, M. (2005). The Doha round, poverty and regional inequality in Brazil. *World Bank Policy Research Working Paper*, (3701).
- Ferrier, P. M., & Leister, A. M. (2011). Trigger Points of the Special Safeguard Mechanism". *Economics Bulletin*, 31(4), 3211-3220.
- Finger, J. M. (2009). A special safeguard mechanism for agricultural imports and the management of reform. *World Bank Policy Research Working Paper Series*, Vol.
- Gantner, L. (2007). PROGRESA: An Integrated Approach to Poverty Alleviation in Mexico. *Food policy for developing countries: Case studies*. Available online: <http://cip.cornell.edu/dns.gfs/1200428168>.
- GATT 1994:General Agreement on Tariffs and Trade 1994, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, THE LEGAL TEXTS: THE RESULTS OF THE URUGUAY ROUND OF MULTILATERAL TRADE NEGOTIATIONS 17 (1999), 1867 U.N.T.S. 187, 33 I.L.M. 1153 (1994).
- Grant, J. H., & Meilke, K. D. (2006). The World Trade Organization special safeguard mechanism: a case study of wheat. *Applied Economic Perspectives and Policy*, 28(1), 24-47.
- Grant, J. H., & Meilke, K. D. (2009). Triggers, remedies, and tariff cuts: assessing the impact of a special safeguard mechanism for developing countries. *The Estey Centre Journal of International Law and Trade Policy*, 10(1), 223.
- Graziano da Silva, J., Del Grossi, M.E., Takagi, M. (2011). The Fome Zero (Zero Hunger) Program: The Brazilian Experience. *Ministry of Agrarian Development, Brasilia*.
- Hanson, G. H. (2007). Globalization, labor income, and poverty in Mexico. In *Globalization and poverty* (pp. 417-456). University of Chicago Press.
- Harrison, G. W., Rutherford, T. F., Tarr, D. G., & Gurgel, A. (2003). Políticas de comércio regionais, multilaterais e unilaterais do Mercosul para o crescimento econômico e a redução da pobreza no Brasil.
- Harrison, G. W., Rutherford, T. F., Tarr, D. G., & Gurgel, A. (2004). Trade policy and poverty reduction in Brazil. *The World Bank Economic Review*, 18(3), 289-317.

Ianchovichina, E., Nicita, A., & Soloaga, I. (2002). Trade reform and poverty: the case of Mexico. *World Economy*, 25, 945-972.

IFAD. (2015). Rural Poverty in Brazil. Retrieved from <http://www.ruralpovertyportal.org/country/home/tags/brazil>.

IFPRI. (2012). Food Security Portal - Brazil: Country Resources. Retrieved from <http://www.foodsecurityportal.org/brazil/resources>.

Ivanic, M., & Martin, W. (2014). Poverty impacts of the volume-based special safeguard mechanism. *Australian Journal of Agricultural and Resource Economics*, 58(4), 607-621.

Leister, A. M., & Narayanan, B. (2015). Price Volatility, Tariff Structure and the Special Safeguard Mechanism. In *2015 AAEA & WAEA Joint Annual Meeting, July 26-28, San Francisco, California* (No. 205806). Agricultural and Applied Economics Association & Western Agricultural Economics Association.

MacLaren, D. (2011). An Analysis of the Special Safeguard Mechanism with Particular Reference to India. *Margin: The Journal of Applied Economic Research*, 5(1), 47-64.

MacLaren, D. (2011). On the Economics of the Special Safeguard Mechanism (SSM) for Imports of Agricultural Products.

Medaets, J.P., Pettan K., & Takagi, M. (2003). Family Farming and Food Security in Brazil. *OECD Forum on Global Agriculture: Designing and Implementing Pro-Poor Agricultural Policies*, 11.

Nicita, A. (2004). Who benefited from trade liberalization in Mexico? Measuring the effects on household welfare. *Measuring the Effects on Household Welfare (April 7, 2004)*. World Bank Policy Research Working Paper, (3265).

Pal, P., & Wadhwa, D. (2007). Commodity Price Volatility and Special Safeguard Mechanisms: A Proposal for the Doha Round. *Economic and political Weekly*, 417-427.

Palmer-Rubin, B. (2010). Small Producer Access to Decentralized Agricultural Subsidies in Mexico: Alianza para el Campo. *Small*.

Peraci, A. S., & Bittencourt, G. A. (2010). 8. Family Farming and Price Guarantee Programs in Brazil: Programs in Brazil: The Food Acquisition Program (PAA). *THE FOME ZERO (ZERO HUNGER)*, 193.

SAGARPA. (2014). PROCAMPO. Retrieved from <http://www.sagarpa.gob.mx/agricultura/Programas/proagro/procampo/Paginas/procampo.aspx>.

Sharma, R. (2006). Triggers and Remedy for Special Safeguard Mechanism. *Rome, May & December*.

Somwaru, A., & Skully, D. (2005). Will Special Safeguards Advance or Retard LDC Growth and Welfare? A Dynamic General Equilibrium Analysis. In *US Department of Agriculture*,

Paper prepared for presentation at the American Agricultural Economics Association Annual Meeting in Providence, Washington.

The World Bank, World Development Indicators: Brazil (2016). [Poverty headcount ratio at national poverty lines \(% of population\)](http://data.worldbank.org/country/brazil) [Data file]. Retrieved from <http://data.worldbank.org/country/brazil>.

The World Bank, World Development Indicators: Mexico (2016). [Poverty headcount ratio at national poverty lines \(% of population\)](http://data.worldbank.org/country/mexico) [Data file]. Retrieved from <http://data.worldbank.org/country/mexico>.

Thennakoon, J., & Anderson, K. (2014). *Could the proposed WTO Special Safeguard Mechanism protect farmers from low international prices?* (No. 2014-23).

U.S. Embassy, Mexico City. (2014). Standard of Living.

Vaitsman, J., & Paes-Sousa, R. (2007). *Avaliação de políticas e programas do MDS: resultados*. MDS: SAGI.

Valero-Gil, J. N., & Valero, M. (2008). The effects of rising food prices on poverty in Mexico. *Agricultural Economics*, 39(s1), 485-496.