Potential Frequency and Intensity of the Special Safeguard Mechanism

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Abstract

Increased concerns regarding global food security have brought about various agricultural policies aimed at insulating domestic markets from variability in world commodity markets. Negotiations in the World Trade Organization under the Doha Development Agenda include provisions for a Special Safeguard Mechanism (SSM) that would allow developing countries to invoke additional duties if imports increase or import prices fall. The SSM in question is expected to further threaten global food security by increasing the levels and volatility of commodity prices. This work assesses the frequency, measured relative to shipments, trade volume and trade value, for both the price and quantity based SSM (P-SSM and Q-SSM, respectively). Measurements for the intensity of the P-SSM are also provided by evaluating the magnitude of the duty that would be applied to each shipment relative to the global average price of each commodity. Frequency and intensity results vary by import region and commodity market. Findings suggest that SSM duties are more likely to be triggered against exports from developing countries and that higher P-SSM duties may be levied against developing country exporters as well as smaller commodity shipments.

Keywords: Special Safeguard Mechanism, World Trade Organization, Doha Development Agenda, Agricultural Trade Policy, Trade Restriction

1. Introduction

The levels and variability of food prices have been of great concern following the global commodity price increases in 2008, 2010 and beyond. Dethier and Effenberger (2011) provide a review of agricultural policies focused on food security as a result of the 2008 food price crisis and conclude that measures aimed to stabilize domestic prices and increase national food security have been ineffective and counterproductive [1]. While a myriad of factors contributed to the recent commodity price spikes, restrictions on commodity exports have been identified as the leading culprits of these price surges [2]. Many national governments responded to the threat of food insecurity by implementing isolationist policies aimed at insulating domestic markets from the vagaries of world markets. Meanwhile the international community encouraged support programs for immediate relief as well as increased investments in agriculture to mitigate the long term threat of continued commodity price volatility [3].

Agricultural development focused on increasing productivity is expected to help mitigate the risk of commodity shortages, yet increased integration of the global agricultural trading system including elimination of export taxes and export bans is necessary to help in this effort as well. Substantial increases in welfare are expected from further trade liberalization through the passage of the Doha Development Agenda, yet the inclusion of protectionist policies that insulate domestic markets, including the Special Safeguard Mechanism for use by developing countries, is expected to offset these potential gains and exacerbate the potential for commodity prices to remain relatively high and volatile. Hertel, Martin and Leister (2011) investigate the potential implications of the SSM for the global wheat market, and find that, in general, implementation of both the P-SSM and Q-SSM are expected to increase tariff-laden import prices, increase domestic prices, land rents and output as well as increase import price variability [4]. They also find that the Q-SSM is more damaging to world trade flows when compared to the P-SSM when the measure is assed in a global modeling framework. The justification for allowing the SSM is to protect developing country markets from import surges and price declines, yet implementation of the policy would stand in contrast with the goals of achieving global food security by restricting imports if production is low and potentially supporting artificially high commodity prices. The arguments in favor of allowing an SSM are similar to the rationale for export restrictions, which ultimately focus on attempts to protect the domestic market at the expense of creating additional pressures on the levels and variability of international prices.

The price-based safeguard (P-SSM) would be available for use when the price of an individual shipment falls below 85 percent of the three year moving average most favored nation (MFN)-sourced import price within a given import market. The P-SSM duty may not exceed 85 percent of the difference between the observed shipment

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price and the three year moving average import price (WTO 2008). The volume-based safeguard (Q-SSM) can be levied when imports in a year exceed a three year moving average of imports (base imports) in a given developing country. The Q-SSM includes three tiers, which increase in duty rate if imports continue to increase. The first tier of the Q-SSM allows for a 25% duty if imports exceed 110% of the base, a 40% duty if imports exceed 115% of base imports and the third tier of the duty equals 50% if imports exceed 135% of the base [5].

The SSM was created to loosely resemble the Agricultural Special Safeguard (SSG) provided under the Uruguay Round [6]. Studies suggest that the SSG was applied far less than was allowable under the policy, yet increased over time as the measure became more widely understood [7],[8]. The South Center (2009) suggests that the majority of import surges are caused from domestic shocks, namely domestic market shortages, which makes the use of a volume based safeguard, either SSG or SSM, seem unreasonable [9]. This provides further concern for the potential use of the Q-SSM in times of commodity shortages. Valdés and Foster (2005) dismiss the Q-SSM in their work since harvest shortfalls would be the likely cause of a domestic shock leading to increases in imports [10]. However, Ivanic and Martin (2011) focus on the Q-SSM, illustrating that mechanical usage of the Q-SSM is expected to raise global poverty overall by increasing domestic prices even further when imports to fill the gap in domestic production become more expensive [11]. The fact that implementation of a policy of this nature may be politically and economically unattractive, makes no guarantee that the measure will not be utilized by policy makers. Furthermore, there is no requirement to show damage to the domestic industry to invoke an SSM, while alternative measures to protect fragile domestic production including provisions for special products and anti-dumping would be available in addition to the SSM.

The growing literature on the proposed Special Safeguard Mechanism describes how the SSM has the potential to increase the levels and the volatility of commodity prices in many developing countries and therefore poses a threat to poverty households who are net purchasers of food. The quantity based mechanism is particularly troublesome as the measure may come into effect at times when there are domestic shortfalls in commodity production and additional imports are needed to meet domestic demand. Implementing the measure at such a time would intensify commodity price increases that would further threaten food security. Furthermore, the P-SSM is discriminatory in nature as it penalizes exports from low priced sources, which are oftentimes developing countries. Although the P-SSM would generally not apply during times when world prices are uniformly high, the measure could come into effect as prices fall after the presence of a price spike. This would exacerbate the potential for prices to remain at artificially higher levels in the presence of the SSM than would be the case otherwise.

The SSM provides an option, but not an obligation, to enact a safeguard duty. Therefore, it is difficult to be sure how frequently it might be utilized and whether a country is more likely to impose a P-SSM or Q-SSM in the event of shock to the global supply of a given commodity [12]. One approach to assessing the extent of its likely utilization is to use historical data to examine how often the SSM could have been implemented, and what the magnitude of allowable duties would have been, had the policy been in place historically. Therefore, this work assesses the frequency, measured relative to shipments, trade volume and trade value, for both the P-SSM and Q-SSM. The intensity of the P-SSM is also calculated by looking at the magnitude of the duty that would be applied to each shipment relative to the global average price of each commodity.

Estimating the potential frequency of SSM invocation is challenging because it is difficult to say whether or not a country would actually levy the safeguard tariff when the import market allows for such a measure. Additionally, many developing countries that would be eligible for the policy have difficulty maintaining trade data needed to implement the measure, which is especially true for many African nations [13]. Furthermore, import surges are often caused by shortages in domestic production, as previously discussed, in which case the Q-SSM may not be an attractive option. Nevertheless, policymakers may opt to implement the measure when imports increase, even if it is economically unattractive. There certainly can be adjustments made to the SSM to reduce its potential frequency and intensity; however this does not negate the fact that the nature of the policy itself is to penalize imports and keep import prices high. Using historical data allows for the quantification of the frequency and intensity of allowable SSM invocations in the global market for agricultural commodities, for trading relationships where data is available, and this work focuses specifically on the implications for cereal grains markets.

2. Data and Methods

Monthly, bilateral trade data accounting for imports of 14 different cereal grains commodities into 7 developing country markets spanning the years 1995-2009 are employed to investigate the frequency and intensity of potential SSM duties, had the SSM been implemented previously. The use of monthly trade data is of particular importance given the shipment by shipment nature of the price based mechanism. The data employed are monthly trade flows, where each observation is used as a proxy for one shipment in the frequency analysis. Unit values are used as a proxy for prices and are calculated by dividing the volume of each observation by its corresponding quantity. The data are described in Figures 2.1, 2.2 and 2.3. There are 19,848 total observations, and the share of observations, share of observed value and share of observed volume are shown for importers, exporters (divided by developing and developed countries), as well as by commodity. As illustrated, observed imports are primarily distributed between all countries in the sample except for the case of India, which accounts for less than 5 percent of the observed imports in the sample. Mexico and South Korea reported the highest percentage of import value and vol-

ume, while India shows the lowest share of imports for all three measurements, which have important implications for the frequency analysis results described herein. Developed country exporters account for 59 percent of observations, yet comprise 76 percent of the value and 74 percent of the volume traded. Developing country exporters account for the remaining 41 percent of observations, 24 percent of trade value and 26 percent of trade volume. This illustrates that developing country export shipments tend to be smaller in terms of value and volume relative to developed country competitors in the export market for cereal grains. Figure 2.3 illustrates the dominance of maize and other wheat trade activity within the dataset. Durum wheat, grain sorghum, barley and rice, both husked and unhusked, also prove important from a value, volume and observational perspective, while the remaining cereals show relatively small shares of trade value and volume.This analysis uses the aforementioned data to identify how often the price and quantity based SSMs could have

Figure 2.1 Data Description by Importer

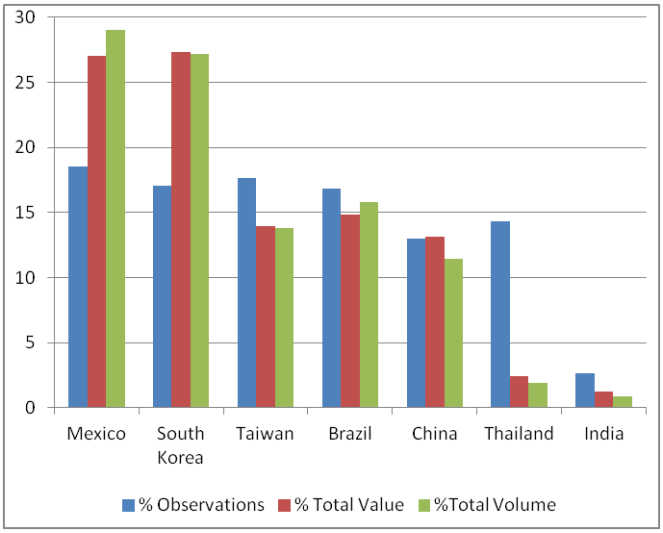


Figure 2.2 Data Description by Exporter Status

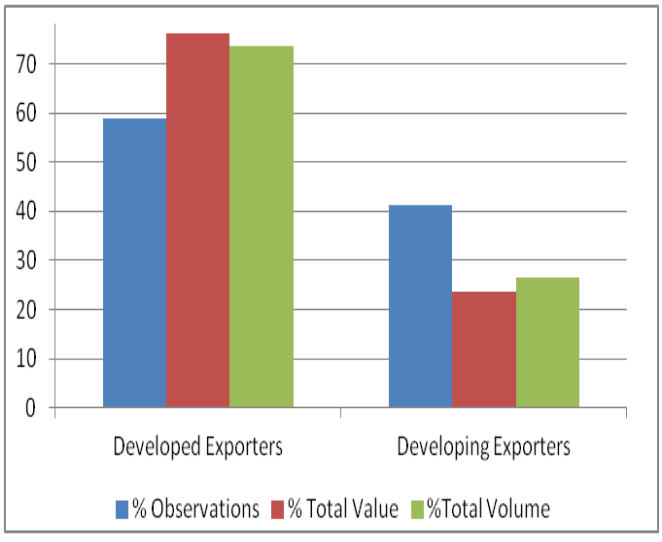
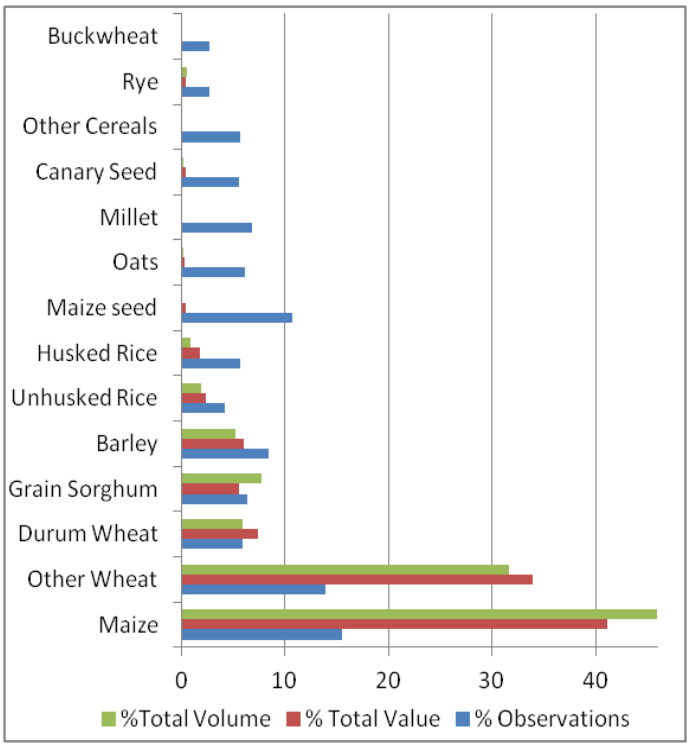


Figure 2.3 Data Description by Cereal Grain Commodity



been triggered, relative to the total number of shipments in a given market (Frequency), the value of duty-laden shipments relative to total trade value (Percent Value), the volume of duty-laden imports relative to total import volume (Percent Volume), as well as the mean and trade-weighted ratios of the value of the allowable duty relative to the mean world import price of the duty-laden commodity (Mean Intensity and Weighted Intensity, respectively).

Frequency is calculated as:

$$\frac{\sum_{n=1}^{N} \text{Triggered Observations}}{\sum_{n=1}^{N} \text{Observations}}$$

Percent Value is calculated as:

$$\frac{\sum_{n=1}^{N} \text{Value of Triggered Observations}}{\sum_{n=1}^{N} \text{Value of Observations}}$$

Percent Value is calculated as:

$$\frac{\sum_{n=1}^{N} \text{Volume of Triggered Observations}}{\sum_{n=1}^{N} \text{Volume of Observations}}$$

Duty Value is calculated as:

$$\text{Price} + (0.85 * (\text{Ptrigger} - \text{Price}))$$

where Price is proxied by monthly commodity-specific bilateral unit values and Ptrigger is equal to the P-SSM trigger value for each observation.

Mean Duty Ratio is calculated as:

$$\text{Mean}\left(\frac{\text{Duty Value}}{\text{Mean hts6 Price}}\right)$$

where Mean hts6 Price is the mean commodity-specific unit value Weighted Mean Duty

Ratio is calculated as:

$$\frac{\sum_{n=1}^{N}(\text{Quantity}_n * \text{MeanIntensity}_n)}{\sum_{n=1}^{N}\text{Quantity}_n}$$

where in each above equation, N is determined by various aggregations of importer, exporter commodity groupings as described in each section below.

Each monthly observation of commodity-specific trade activity between bilateral traders is used as a proxy for one shipment. This distinction is critical due to the fact that the P-SSM applies on a shipment-by shipment basis while the Q-SSM applies on an annual basis to all imports once the three year moving average import quantity trigger is breached. The difference in timeframe and application of the P-SSM versus Q-SSM duties indeed gives rise to different implications for all parties involved in cereal grains trade. Frequency and intensity results, using different aggregation schemes, for both the price and quantity based SSM measures are included below to understand how often the P-SSM and Q-SSM trigger values would have been breached, had they been in place historically.

3. Potential Frequency and Intensity of the SSM

Frequency measurements for the P-SSM and Q-SSM duties as well as the intensity of the P-SSM duties for all cereal grains trade are shown in Figure 3.1. The first (blue) bar indicates that 44.1 percent of all cereal shipments into the eight developing countries considered would have triggered the P-SSM. Triggered shipments account for nearly 44 percent of the value of cereal trade in these markets (second bar) and 53 percent of the trade volume (third bar).

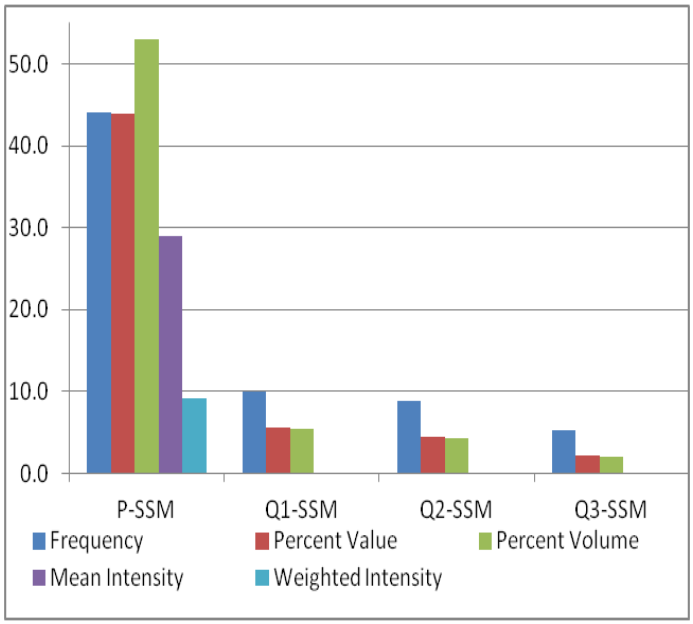
The intensity of the P-SSM duties that could have been levied refers to the size of the tariff which could potentially be applied. In Figure 3.1, it is characterized by the weighted and mean intensity measures (fourth and fifth bars). The ratio of the dollar value of the P-SSM duty that could have been levied, divided by the mean import price for each commodity, was calculated for each triggered shipment. The mean intensity ratio in Figure 3.1 suggests that duties, which could have potentially been levied on shipments were, on average, equal in value to 29 percent of the average import price for cereals (final bar in P-SSM chart). The intensity measurement drops to 9.2 percent when the P-SSM duty ratio is weighted by trade volume, suggesting that higher duties would generally fall on smaller shipments which are generally sourced from developing country exporters as seen from the data description in Figure 2.2.

Turning to the Q-SSM case, just 10 percent of trade activity, accounting for slightly more than five percent of trade volume and value would have triggered the first tier of the quantity based SSM. Interestingly, the volume of cereal imports was high enough to reach the second tier trigger for nearly nine percent of trades, while just over five percent would have reached the third tier trigger. Of course, the breaching of the second tier would be limited by tier one tariffs that might be applied. Again, it is critical to take into account the fact that trade volumes were not altered and results are a comparison of actual trade flows relative to the three year moving average of import volume. Now, it is insightful to turn to a disaggregate investigation of frequency and intensity of potential SSM invocations for given importers, exporters and different cereal grains traded, beginning with the cereal grains market as a whole, then focusing on individual importers.

3.1 Potential frequency and intensity of the SSM by importer

Figures 3.2 and 3.3 describe the potential frequency and intensity of SSM duties for the seven developing country import markets in the sample. The percentage of shipments (proxied by observed monthly trades) triggering the P-SSM ranges from 41 to 47 percent for all countries except India where just less than 25 percent of total monthly trade transactions would have met the P-SSM trigger. Looking at country-specific measures for frequency and intensity shows that for all importers, the shipments that would have been triggered make up a slightly larger percentage of the total volume of imports than the total value of imports, suggesting, not surprisingly, that the P-SSM weighs more heavily against lower value sources of imports as suggested by [14].

Figure 3.1 SSM Frequency and Intensity for All Cereal Grains Trade



Over 40 percent of import volume would have met the trigger in China, Mexico, South Korea and Thailand, with similar shares of import values triggered. Brazil shows slightly lower results with just over 25 and 30 percent of import value and volume, respectively, meeting the P-SSM trigger. The shipments that are being triggered in India are relatively small in volume and value. In the case of Indian wheat imports, only 2 percent of import value and 3.5 percent of import volume are triggered by the P-SSM, which therefore comprise a minimal amount of the already limited Indian import market.

Worth consideration is that fact that in response to the food price spikes in 2008, many countries, including from this sample India, Thailand and South Korea, reduced import tariffs on agricultural commodities in an effort to combat the increases in the cost of food [15]. While tariffs were decreased in light of high commodity prices, there could have been potential for tariff increases against relatively lower cost shipments once prices began to fall, under the SSM regime. Whether this would be economically attractive is doubtful, yet the possibility remains under the presence of such a measure.

When looking at the mean intensity of the P-SSM duties, the value of the duty that could have been levied relative to the world average import price of each commodity ranges from 20 to 39 percent in all countries except Taiwan, where the mean intensity of the P-SSM duty is just 12.5 percent. China and Brazil would have had the highest intensity of the P-SSM tariff, equaling 39 and 36 percent, respectively, and are substantially above the global average intensity of 29 percent. Taiwan could have levied relatively low tariffs compared to the average import price of each commodity. This illustrates that the difference between observed shipment prices and the three year moving average import price of cereal grains is relatively large in China and Brazil while relatively small in Taiwan. As seen at the aggregate level, the intensity measure decreases by an average of 20 percent for five of the seven import countries when the intensity ratios are weighted by trade volume of the P-SSM triggered shipments, again suggesting that higher duties are levied against smaller trade flows. The two exceptions are Taiwan, where the mean and weighted intensity of the P-SSM for cereals are within one percent, and in India, where the weighted intensity of the duty is less than one percent. This result for India occurs because the shipments triggered comprise a small share of the value and volume of Indian imports, thus causing the insignificance of the weighted intensity of the tariff similar to the results discussed for the percentage of value and volume triggered.

The implications of the Q-SSM are quite different for importers, as a smaller percentage of import volume and value meet the Q-SSM trigger when compared to the P-SSM results discussed above. More wheat imports in India exceed the Q-SSM trigger level when compared to other importers, which is opposite of the P-SSM case. The results for India stem from the fact that there are relatively few trade flows, meaning that seemingly small increases in import activity within India during a given year could potentially invoke the first tier of the Q-SSM rather easily. Nearly 30 percent of Indian wheat imports, comprising over 20 percent of both import volume and value would have met specifications for the first tier of the Q-SSM duty, as illustrated by Figure 3.4. Brazil, Mexico and China's markets are similar and meet the Q1-SSM specifications 7.9, 9.5 and 13.5 percent, respectively, with the percentage of value and volume slightly below these values. South Korea, Taiwan and Thailand are different in that the percentage of value and volume of imports meeting the trigger is significantly lower than the number of shipments that could have been levied a tier one duty. This shows that the value and volume of the shipments that could be triggered are relatively small in these markets.

As indicated by Figure 3.5, the second tier of the quantity based safeguard (Q2-SSM) is reached nearly as often as the first tier of the duty, and the third tier of the safeguard (Q3-SSM) is also breached for a large percentage of the volume and value of imports in each country. It is important to note that a 25 percent safeguard duty could be applied to subsequent imports once the first tier is reached, so it is difficult to speculate as to the degree to which imports would decrease after the invocation of the first tier of the duty. The results presented for Q2-SSM and Q3-SSM are meant as an illustration to show that historical trade flows frequently surpass the second and third tier level of imports that would enact higher duties of the Q-SSM, but such a comparison is only strictly valid when no safeguard duties are levied on the first, or second, stages of Q-SSM trigger levels. This shows that the potential for invocation of second and third tier duties is a valid concern, especially during times of harvest shortfalls and low commodity stocks that naturally lead to increases in imports.

Figure 3.2 P-SSM Frequency for all Cereal Grains Trade by Importer

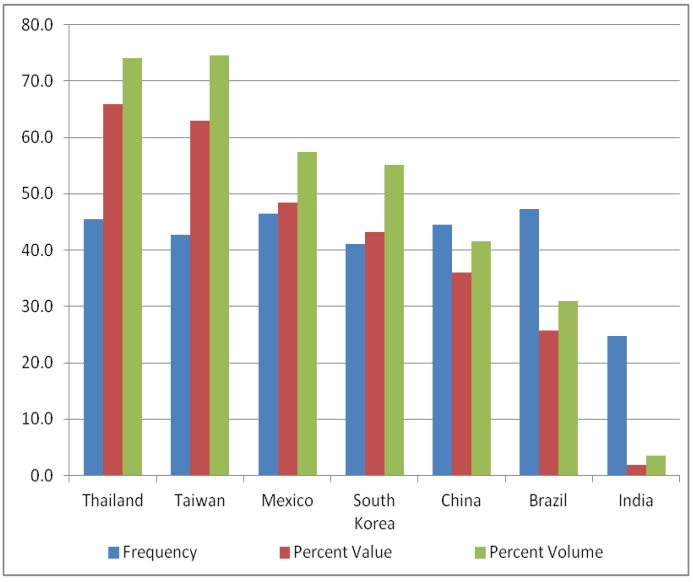


Figure 3.3 P-SSM Intensity for all Cereal Grains Trade by Importer

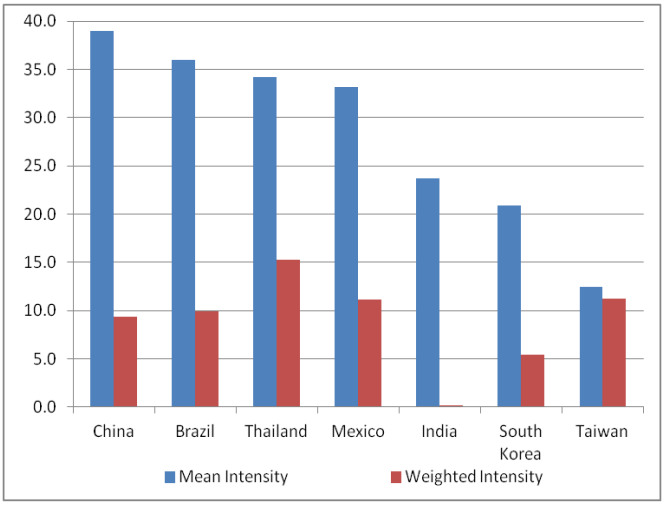


Figure 3.4 Q1-SSM Frequency for all Cereal Grains Trade by Importer

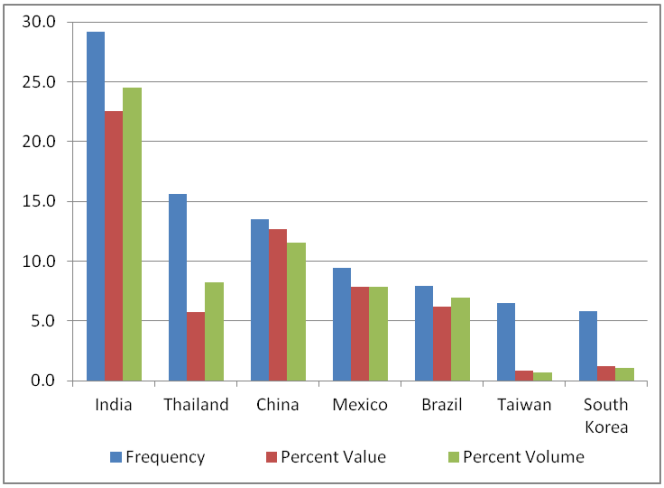
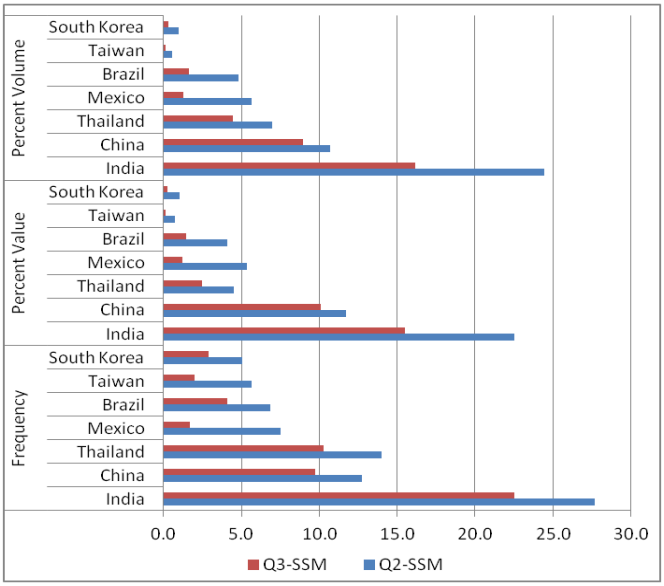


Figure 3.5 Q2- and Q3-SSM Frequency for all Cereal Grains Trade by Importer



3.2 Potential frequency and intensity of the SSM by commodity

Figure 3.6 illustrates the frequency and Figure 3.7 shows the intensity of allowable P-SSM duties for imports into the 7 countries by commodity. Results for 14 commodities, defined at the HS6 level, are included. The P-SSM trigger levels are met for a higher percentage of trade value and volume than is the case for the Q-SSM for all cereal grains. When looking at key cereal grains, maize shipments trigger the P-SSM more frequently than durum and other wheat, while rice (both husked and unhusked) could have been most frequently triggered of all. Wheat P-SSM occurrences also account for the lowest percentage of trade value and volume as compared to rice or maize. Interestingly, maize surpasses rice in the husk for percentage of trade value and volume triggering the P-SSM, yet husked rice shipments meeting the P-SSM trigger account for the highest percentage of trade value and volume when compared to wheat, maize and rice in the husk. Durum wheat has the highest mean intensity of the P-SSM tariff of the aforementioned commodities (47.2%), yet the lowest trade weighted intensity of the safeguard (4.4%). Mean intensities of the P-SSM safeguard range from 13 percent for canary seed to 47.2 percent for durum wheat and 52.8 percent for grain sorghum, while the weighted mean of the safeguard ranges from 2.8 percent for canary seed to 33 percent for maize seed. The high value for the latter is indicative of the likely great variation in genetic value of seeds, which is far greater than the variation in its value for food consumption.

Figure 3.6 P-SSM Frequency by Commodity

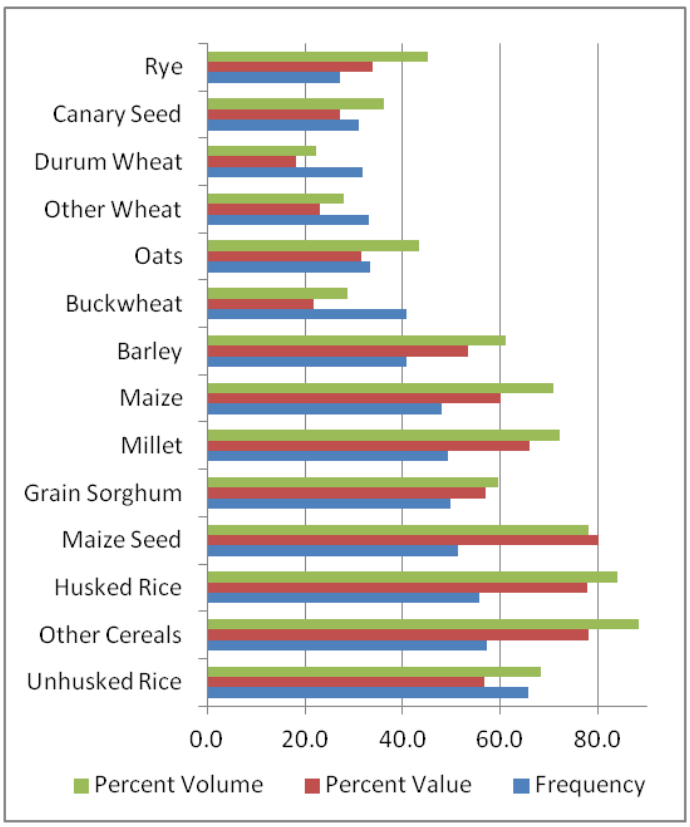


Figure 3.7 P-SSM Intensity by Commodity

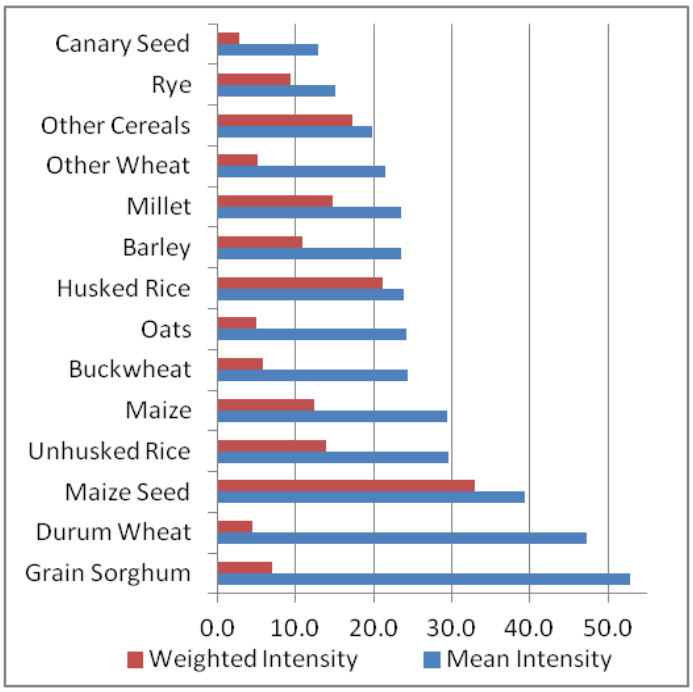
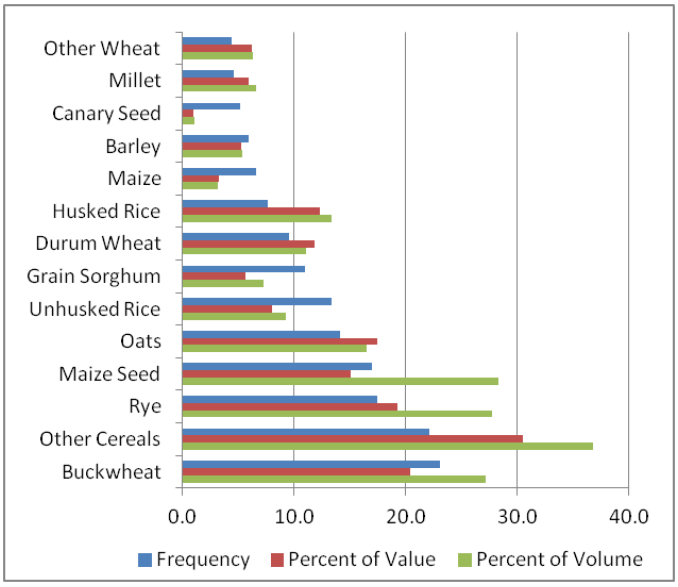


Figure 3.8 illustrates the frequency of the first tier of the quantity based safeguard by commodity. The number of shipments that could have faced the Q1-SSM duty range from 5.1 percent of canary seed shipments (although this accounts for just 1 percent of trade value and volume) to 23.1 percent of Buckwheat imports (accounting for 20 percent of import value and 27 percent of import volume). The first tier of the quantity based safeguard could have been applied to 6.6 percent of maize shipments, 9.5 percent of durum wheat shipments, as well as 7.6 and 13.4 percent of husked rice and rice in the husk, respectively, which comprises from 3.2 percent of value and volume for durum wheat, to 12.3 and 13.4 percent of husked rice import value and volume, respectively.

Figure 3.8 Q1-SSM Frequency by Commodity



3.3 Potential Frequency and Intensity of the SSM for all Imports by Export Country

As illustrated in Figures 3.9, 3.10 and 3.11, the variation in allowable SSM frequency and intensity among exporters is rather large. Figures 3.9-3.11 list the top half of exporters included in the sample, measured by percentage of total exports. Developed country exporters are listed in the top portion of each figure, while developing country exporters are on the lower portion of each. From the figures, it can be generally seen that developing country exporters have a higher frequency and intensity when compared to developed country exporters for both the P-SSM and Q-SSM. As illustrated by the Developing Mean and Developed Mean results in Figure 3.9, the largest developing country exporters would have triggered P-SSM duties on their shipments 20 percent more often than the largest developed country exporters, and the percentage of value, volume and intensity of the duties are between 8 and 12 percent higher for developing country exporters.

The frequency, in terms of trade flow, value and volume, of the Q1-SSM is an average of ten percent higher for the largest developing countries relative to the largest developed country exporters. The developing country exporters that have relatively high observed percentage of value and volume of Q1-SSM triggers are Cambodia, South Korea, Laos, Nepal, South Africa and Taiwan. The implications for the leading developed exporters are rather uniform, and below 20 percent for all countries except Denmark, Germany and Russia, where the percentage of trade volume triggered is relatively large.

3.4 Potential Frequency of the SSM for Cereal Grains Trade by Import Country and Commodity

Figures 3.12 and 3.13 show each import market's SSM frequency measures for wheat, corn and rice while Figure 3.14 illustrates the share of each commodity in each country's import bill. This is useful to further decompose the results illustrated in Figures 3.2 and 3.4 above, which depict the frequency of cereals at the aggregate level into each import market, while taking into account the relative importance of each commodity within import markets. Recall that the highest P-SSM frequencies for cereals are in Thailand and Taiwan. Within Thailand, wheat, rice and maize imports significantly contribute to this factor, as frequency ratios for shipments, volume and value all exceed 30 percent. Maize and rice in the husk have particularly high values for the share of volume and value of imports into Thailand which might be triggered under the P-SSM. Indeed, for these two commodities, over 80 percent of the trade volume would be eligible for triggering under the P-SSM, with durum and other wheat both measuring an average of 60 percent of value and volume. Other wheat is the most substantial import into Thailand, which magnifies the relative importance of the high frequency of possible SSM invocation for other wheat. In Taiwan, maize is also important as it accounts for over 70 percent of the value and volume of cereal grains imports, with over 70 percent of maize import volume and value triggering the P-SSM. Husked rice mimics the frequency ratios of maize, but is much less significant in Taiwan's imports of cereal grains.

Figure 3.9 P-SSM Frequency for Top Cereals Exporters by Development Status

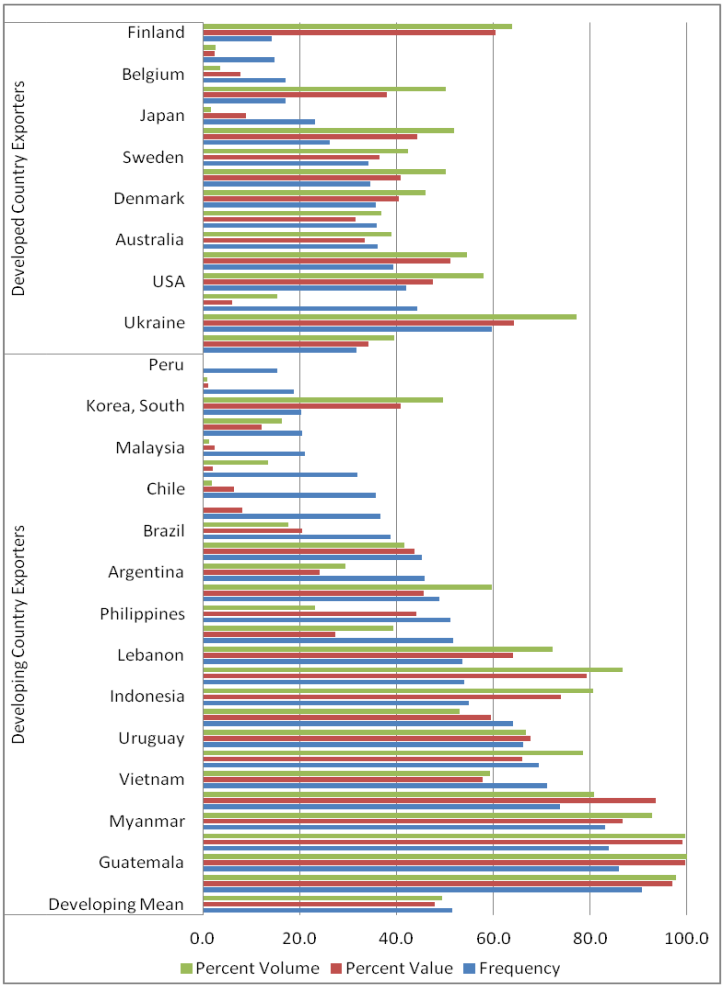
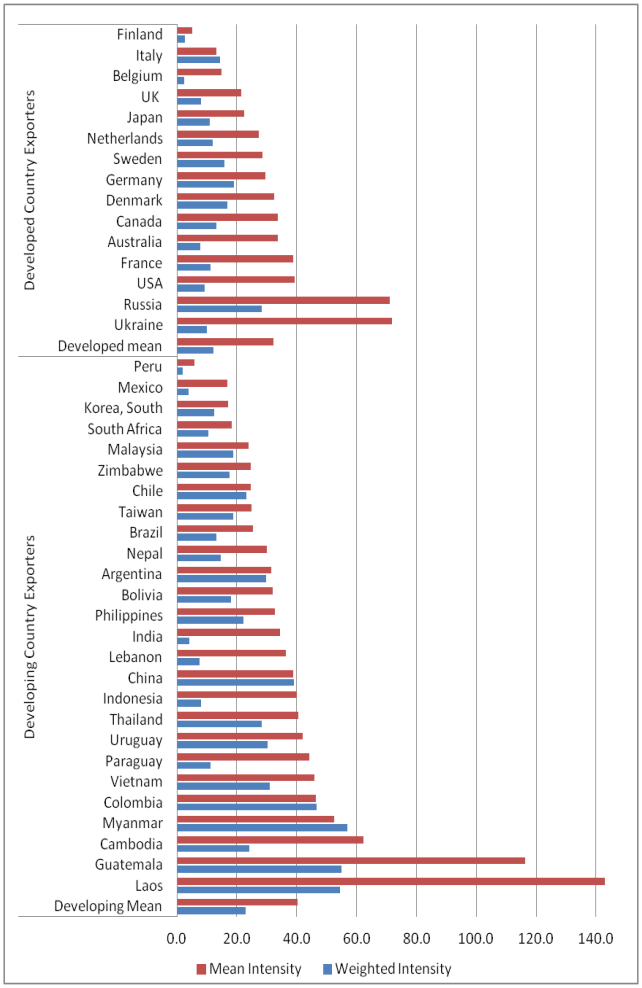


Figure 3.10 P-SSM Intensity for Top Cereals Exporters by Development Status



The percent of volume and value triggering the P-SSM for durum and other wheat is relatively small in all import markets, excepting Thailand and Mexico where wheat values are high and where other wheat is the primary import in Thailand and the second most important cereal grain imported into Mexico. In Brazil, maize and rice imports could have been triggered the most frequently, although these commodities are secondary in importance as other wheat is the dominant cereal grain import into Brazil. Nearly all imports of durum wheat into Mexico could have potentially triggered the P-SSM in the timeframe studied, though the share of durum wheat in total cereal imports is relatively small.

The Q1-SSM could have been triggered less frequently than the P-SSM for cereals as a whole. This is likely due to two factors. First, the Q-SSM is an annual trigger, whereas the P-SSM is triggered on a shipment by shipment basis, which is likely to introduce greater variability. Secondly, prices are proxied by unit values, which are likely to embody significant measurement error, thereby potentially overstating the frequency of extreme prices. This is the case when looking at cereal commodities within each import region except for a few commodities which trigger the Q1-SSM significantly more frequently than the P-SSM for specific importers. Rice in the husk has a significantly higher potential Q1-SSM frequency in Taiwan, South Korea and China, yet comprises a small share of imports in all three markets. Durum wheat has a high frequency of triggering the Q1-SSM in India, which is interesting, given the fact that durum wheat never triggers the price based mechanism. This finding illustrates again that the implications of the two policy regimes differ significantly and that import prices in India seem to be relatively stable while import volumes appear to be unstable.

4. Conclusions

This research investigates the frequency and intensity of potential invocation of the proposed Special Safeguard Mechanism (SSM), which is a controversial feature of the current Draft Modalities for Agriculture in the WTO negotiations under the Doha Development Agenda. The SSM under discussion is broadly based on the special agricultural safeguard, and would allow developing country members of the WTO to levy additional safeguard tariffs on imports under certain conditions in the market. The SSM includes two triggers, one based on the price of imports and one on the volume of imports. Research shows that implementation of the SSM is expected to increase the volatility and levels of agricultural commodity prices [16]. Furthermore, the Q-

Figure 3.11 Q1-SSM Frequency for Top Cereals Exporters by Development Status

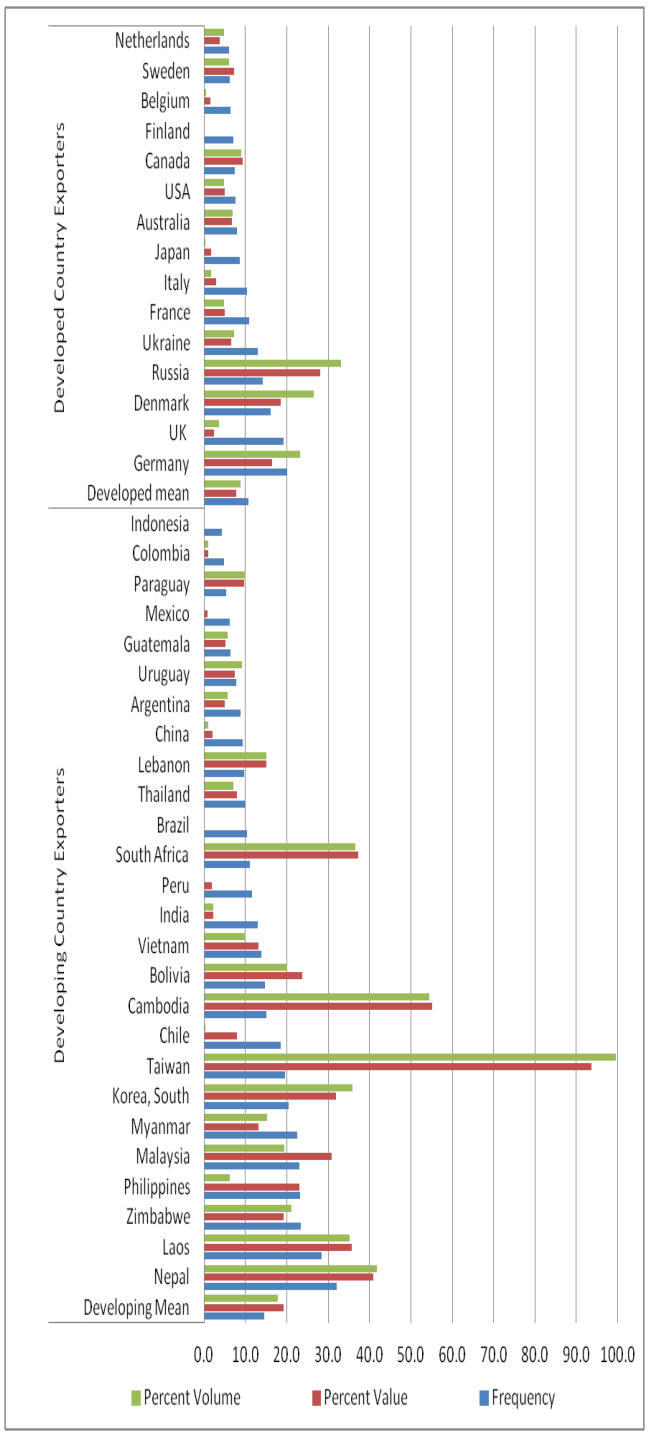


Figure 3.12 P-SSM Frequency for Cereal Grains Trade by Importer and Commodity

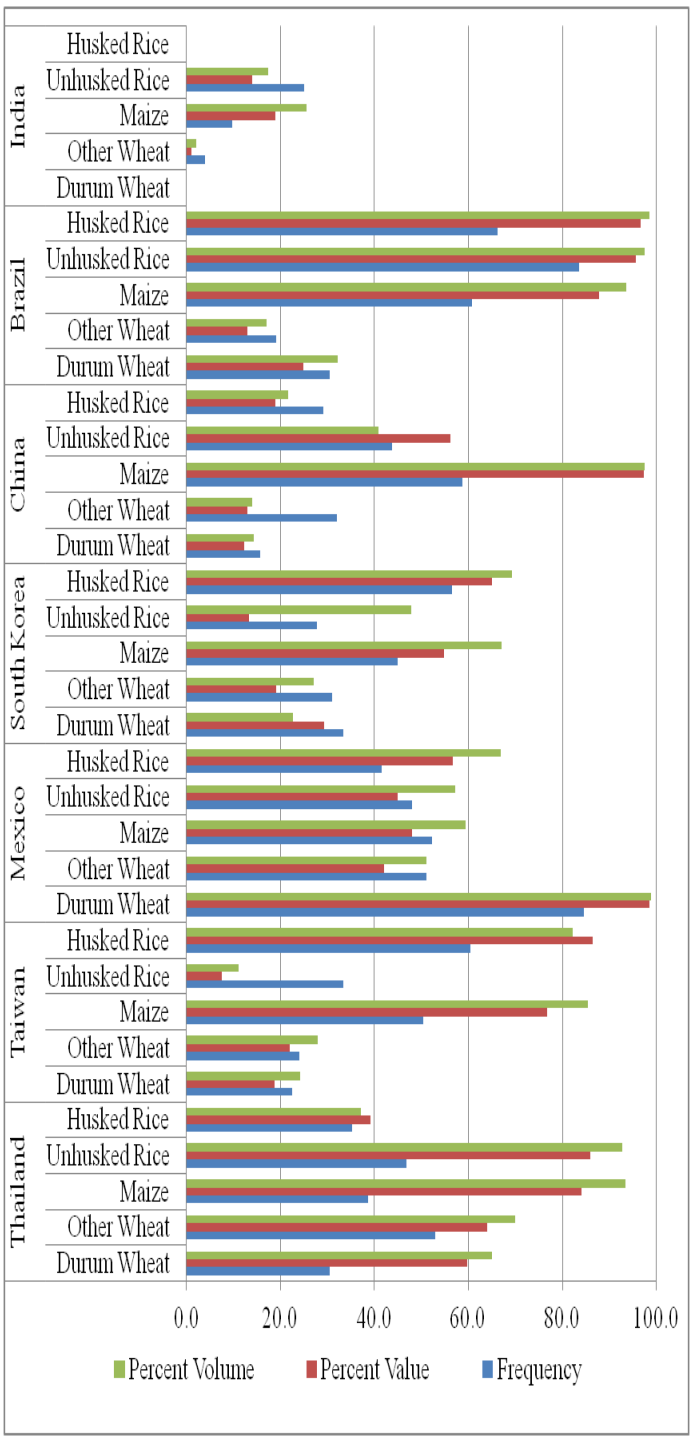


Figure 3.13 Q1-SSM Frequency for Cereal Grains Trade by Importer and Commodity

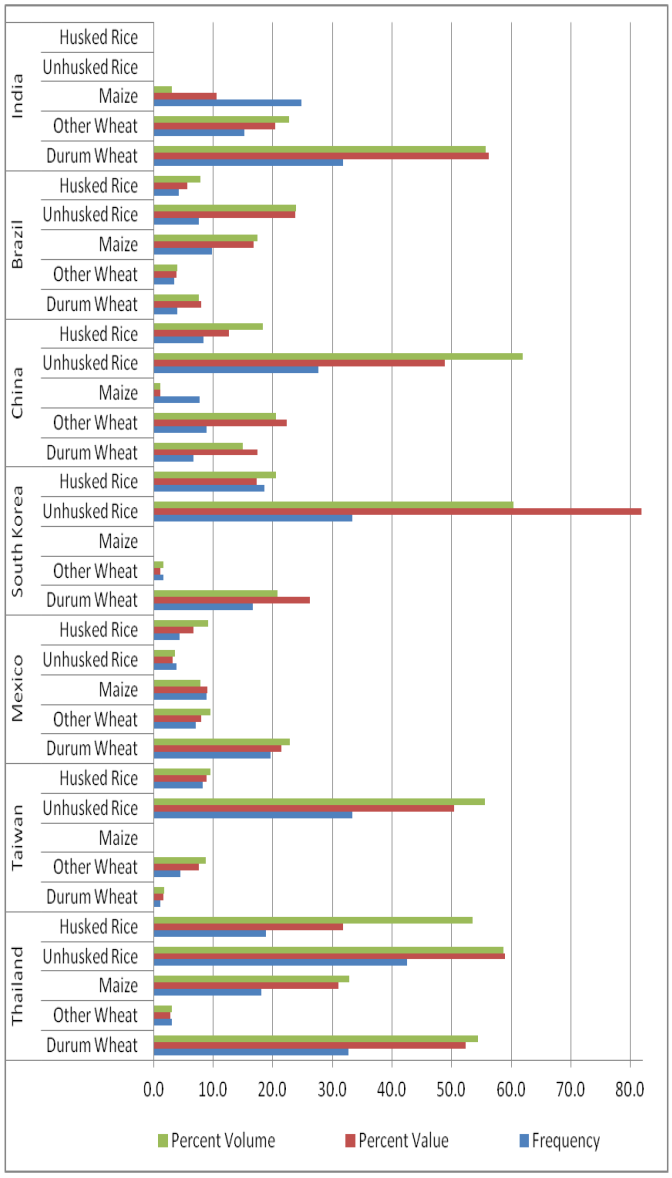
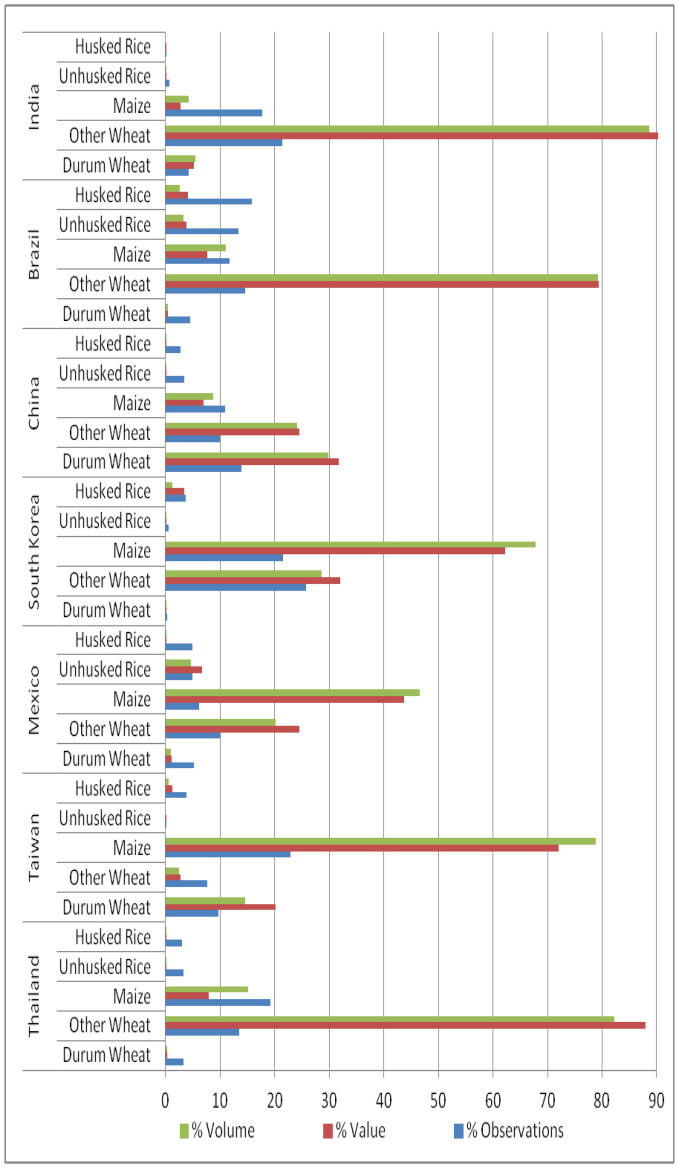


Figure 3.14 Percentage of Imports for Cereal Grains by Importer and Commodity



SSM is expected to be more trade distorting and has the potential to deepen poverty in the countries that use it [17]. Accordingly, the potential for the SSM to improve global food security is unlikely.

This work measures the potential frequency of the P-SSM tariff as the ratio of the total number of shipments triggering the P-SSM relative to total shipments traded (where shipments are proxied by monthly trade observations). This is consistent with the percentages of trade value and volume that would have triggered the safeguard, had the P-SSM been in place historically. The Q-SSM measurements mimic this approach.

Approximately 45 percent of shipments would reach the P-SSM trigger in all import regions save India, where less than 25 percent of shipments would have triggered the safeguard tariff. The intensity measurements show the value of the P-SSM duty permitted relative to commodity-specific world average import prices. The mean intensities are significantly higher than the trade weighted intensities, which suggest that relatively high permissible P-SSM duties could have been levied on shipments comprising relatively small trade flows. China and Brazil could have levied duties that are nearly 10 percent higher than the global average intensity of 29 percent. Furthermore, we find that the percentage of total trade volume meeting the trigger is nearly 10 percent higher than the percentage of trade value meeting the tariff. This indicates that the duty would have been levied more on lower value exporters, in accordance with the findings of de Gorter, Kliauga and Nassar (2009) and Finger (2009) [18],[19].

Q-SSM results are not as uniform across import markets when compared to results from the P-SSM regime. India

could have levied quantity based duties on nearly 30 percent of import shipments, which is the opposite of what was found for the P-SSM regime. This suggests that import prices in India for cereals are relatively stable, while volatility in import volumes seems apparent. Q-SSM triggered shipments account for 8 to 15 percent of trades in the other import regions and the frequency measures for the Q-SSM are higher than the value and volume percentages for all countries, which is not the case when considering the P-SSM.

The commodity-specific P-SSM frequency results suggest that shipments of rice, both husked and unhusked, would have triggered the price based safeguard most frequently. Durum and other wheat trade would have been triggered relatively little, yet the mean intensity of the tariff on durum imports is nearly 50 percent. The trade weighted intensity of durum P-SSM invocation is just 5 percent, and the intensity measures for grain sorghum follow this same pattern, again suggesting relatively high duties on smaller trade flows. Husked rice, maize seed and other cereals have substantially higher volume and value measurements than frequencies. The commodities triggering Q-SSM duties relatively more frequently and for a higher percentage of import values and volumes are other cereals, buckwheat, maize seed and rye.

One key limitation in the Q-SSM frequency analysis presented here is that historical trade flow data is measured against the three year moving average of imports that drive the trigger levels of the three tiers of the quantity based measure. Once a duty is applied after the first tier of the Q-SSM is breached, import quantities would adjust to the distortion. Therefore, frequency measures for the second and third tier of the duty are overstatements of what would be expected if the Q-SSM policy were enacted. This further highlights the need for analysis of the features of the safeguard in a global setting allowing for market adjustments once the first tier of the Q-SSM is reached and the duty is applied.

The proposed SSM is complex, controversial, and expected to continue to be a critical point of discussion within the context of the WTO. This piece highlights the importance of commodity markets where the SSM is likely to prevail, and evidence suggests there is potential for both the Q-SSM and P-SSM to be triggered in major grain markets in developing countries. This could in turn lead to harmful long-term consequences with regard to poverty reduction and development and result in an increase in volatility in global grain markets. Research shows that nationalist policies aimed at insulating domestic commodity markets forces increased volatility into the international marketplace and exacerbates the potential for food insecurity on a global scale.

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