FAO TRADE POLICY TECHNICAL NOTES
on issues related to the WTO negotiations on agriculture

No. 15 Import surges and the Special Safeguard Mechanism revisited

CONTENTS

1   Introduction

As countries become more open to international trade in agricultural products, they become more exposed and potentially more vulnerable to agricultural market instability which could hinder the development of their agriculture sectors. In many developing countries, those involved in agriculture sector activities, whether producers, traders, or processing industries, are generally limited in their ability to offset risks associated with the market instability that can be brought about by significant changes in volumes of imported products with which they must compete on domestic markets, or falls in market prices which might reduce returns to their investments. This is often the result of under developed domestic market infrastructure and related institutions. During processes of domestic agricultural market development, governments may need recourse to instruments with which to mitigate the extent of risks associated with greater openness to trade, such that private sectors actors are prepared to make the investments in market development that, in turn, will reduce their exposure to risk.

Recognizing such concerns, the Hong Kong Ministerial declaration (WTO, 2005) called for a Special Safeguard Mechanism (SSM) to be established for use by developing country members:

> "Developing country Members will have the right to have recourse to a Special Safeguard Mechanism based on import quantity and price triggers, with precise arrangements to be further defined. [...] SSM shall be an integral part of the modalities and the outcome of negotiations in agriculture"

This mechanism would be accessible to all developing countries, unlike the Special Safeguard (SSG) of the Uruguay Round Agreement on Agriculture (AoA) which was limited only to those countries and products subjected to tariffication, leaving many developing countries without recourse to the safeguard.

Negotiations on the modalities for the SSM have been particularly difficult, with some countries arguing for an effective and easy to use instrument, but others concerned that without significant constraints, such an instrument could be used in ways that unnecessarily disrupt trade.

Table 1 provides a brief summary of the important milestones that characterize the evolving negotiations in relation to the SSM.

FAO (2005) focused on elements under discussion in the run up to the release of the 2004 Framework Agreement such as product coverage, the types of triggers and the effectiveness of possible remedies. This work was drawn on extensively in subsequent negotiations and the development of various proposals between 2005 and 2008.

In the release of the draft modalities text in 2008 (WTO, 2008), the associated revised draft modalities for agriculture special safeguard mechanism (WTO, 2008a) and some subsequent submissions (e.g. WTO, 2010), a number of additional elements were introduced such as pro-rating, seasonality and cross-checking, generally to constrain the possible use of the mechanism, and differential treatment was proposed for country grouping such as the Small Vulnerable Economies and the Recently Acceded Members.

In supporting the negotiations, FAO has provided evidence and analysis[1] with a view to informing the design of the SSM. This took, as its starting point, an analysis of the incidence of import surges in developing countries during the period 1984-2000 and is summarized in FAO (2005).

The analysis used data that was reflective of a period of historically low global prices and relatively stable global agricultural markets. In light of the significant changes to global market conditions that have occurred in the period since 2000, it is now pertinent to revisit the previous analysis to determine the extent to which the incidence of import surges and therefore potential recourse to an SSM might have changed under the new global market context, to inform

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[1]   FAO (2005), Sharma and Morrison (2005), Sharma (2006)

Table 1   The changing fortune of the SSM in the Doha Round negotiations

Modalities / Framework texts	Dated	Text on SSM
Indian proposal to create a "food security box" for the developing countries	15 January 2001	A separate Safeguard Mechanism on the lines of the SSG along with a provision for imposition of Quantitative Restrictions under specified circumstances, should be made available to all developing countries irrespective of tariffication, in the event of a surge in the imports or a decline in prices
Harbinson modalities	18 March 2003	➤ An outline of a possible new SSM to enable developing countries to effectively take account of their development needs, including food security, rural development and livelihood security concerns, is currently subject to technical work and will be included at the appropriate stage in Attachment 2.
	1 August 2004	➤ The right to invoke this mechanism shall be reserved (with "SSM" symbol) for the products concerned.
EU-US text	13 August 2003	An SSM shall be established for use by developing countries as regards import-sensitive tariff lines.
G-20 text	20 August 2003	Under conditions to be determined in the negotiations, an SSM shall be established for use by developing countries, the scope of which would depend on the impact of tariff cuts as per 2.6 above.1
Cancun Ministerial text (Derbez text)	13 September 2003	An SSM shall be established for use by developing countries subject to conditions and for products to be determined
Framework Agreement	1 August 2004	An SSM will be established for use by developing country members.
Hong Kong Ministerial Declaration	18 December 2005	Developing country Members will have the right to have recourse to a Special Safeguard Mechanism based on import quantity and price triggers, with precise arrangements to be further defined. […] SSM shall be an integral part of the modalities and the outcome of negotiations in agriculture.
G-33 proposal (JOB(06)/64) (JOB(08)/47)	23 March 2006 3 June 2008	Proposals used Article 5 of the URAoA ("Special Safeguard provisions") as the basis for a suggested text. Main elements: Coverage: All agricultural products were initially proposed (2006) and the concept of a percentage of tariff lines was later accepted (2008). Triggers on the basis of three years moving average for both volume and price triggered mechanism Remedy: additional duty applied on applied tariffs ("*ad-valorem SSM duty*")
Draft Modalities texts	6 December 2008	Progress reported but still short of a clean text.
Members' submissions (G-33, Ukraine, Costa Rica, Australia, Canada, SVEs, ACPs, African Group)	Jan. - Sep. 2010	Discussions on several elements related to the application of the SSM: pro-rating, SVEs treatment, Seasonality, offset, cross-checking, normal trade.

¹ Paragraph 2.6 refers to the tariff reduction formula for developing countries in the G20 text.

future negotiations on the SSM which are likely to form a central component of the post-Bali workplan.

In the following section, the changing global market context is described, and elements that could influence the forthcoming negotiations are highlighted. In section 3, the previous FAO analyses which investigated experience of net food importing and least developed countries across 15 commodity groups during the period 1984-2000 is extended through to 2013. Particular attention is paid to the incidence of import surges under a number of different scenarios and in different countries and country groupings.
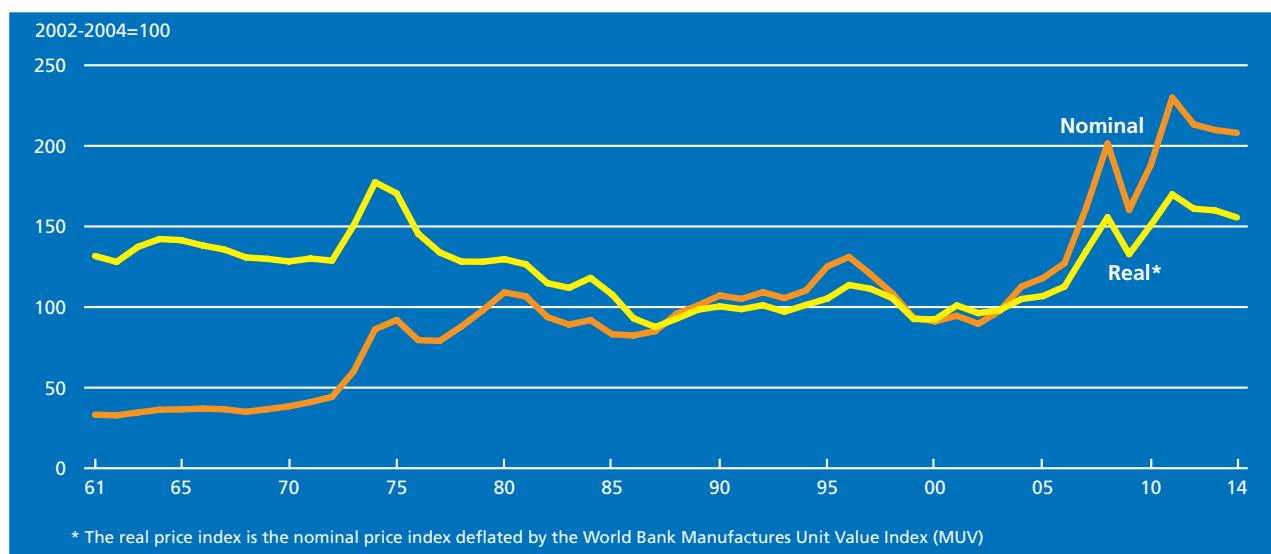
2   New global market context

The FAO Food Price Index (Figure 1) provides an indication of the significant changes in global market conditions that followed the rapid increases in global food prices in 2007/08. Real food prices had started to increase in the early 2000s after two decades of relatively stable and historically low real food prices. Following a second peak in the index in 2011, prices have fallen, but still remain significantly higher than in the 1980s and 1990s.

During the period 2010-2014, there has also been a greater level of change in the FPI (Figure 2). Following a rapid

increase in the index during the second half of 2010 and early 2011, prices declined during 2011. Prices then remained in a band approximately 200 – 220% higher than the base period of 2002-2004, but with still quite significant intra-year variability.

The individual commodity price indices (Figure 2b) underlying the FPI demonstrate that the intra-year price trends are very different across the main commodity groups. While meat prices were relatively stable, dairy, sugar and cereals saw significant price movements in the year April 2013-April 2014.

Figure 1   FAO Food Price Index

* The real price index is the nominal price index deflated by the World Bank Manufactures Unit Value Index (MUV)

Source: FAO (2014) AMIS Market Monitor April 2014

Figure2a   FAO Food Price index 2010-2014
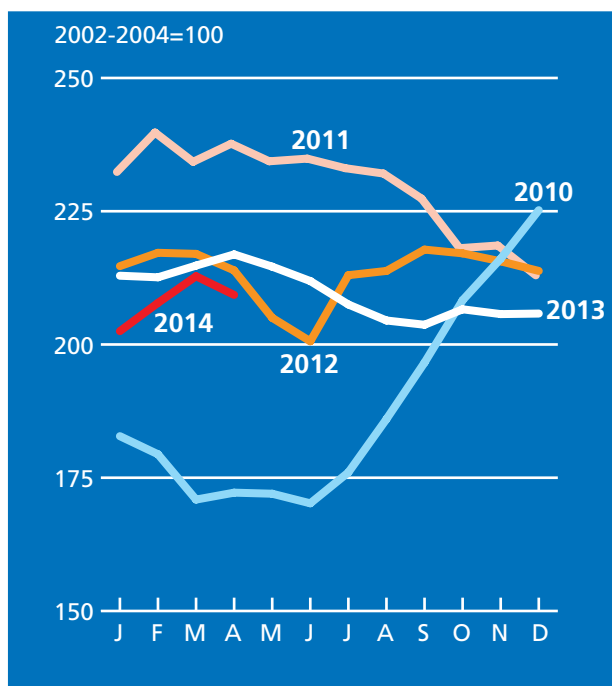

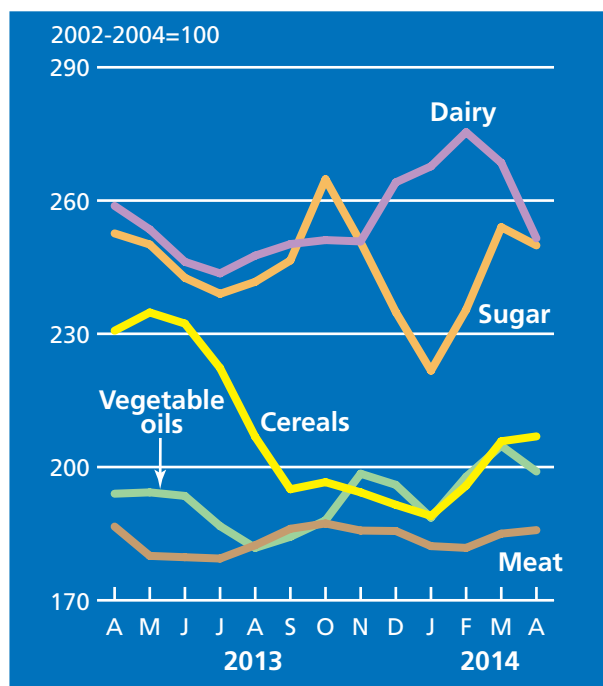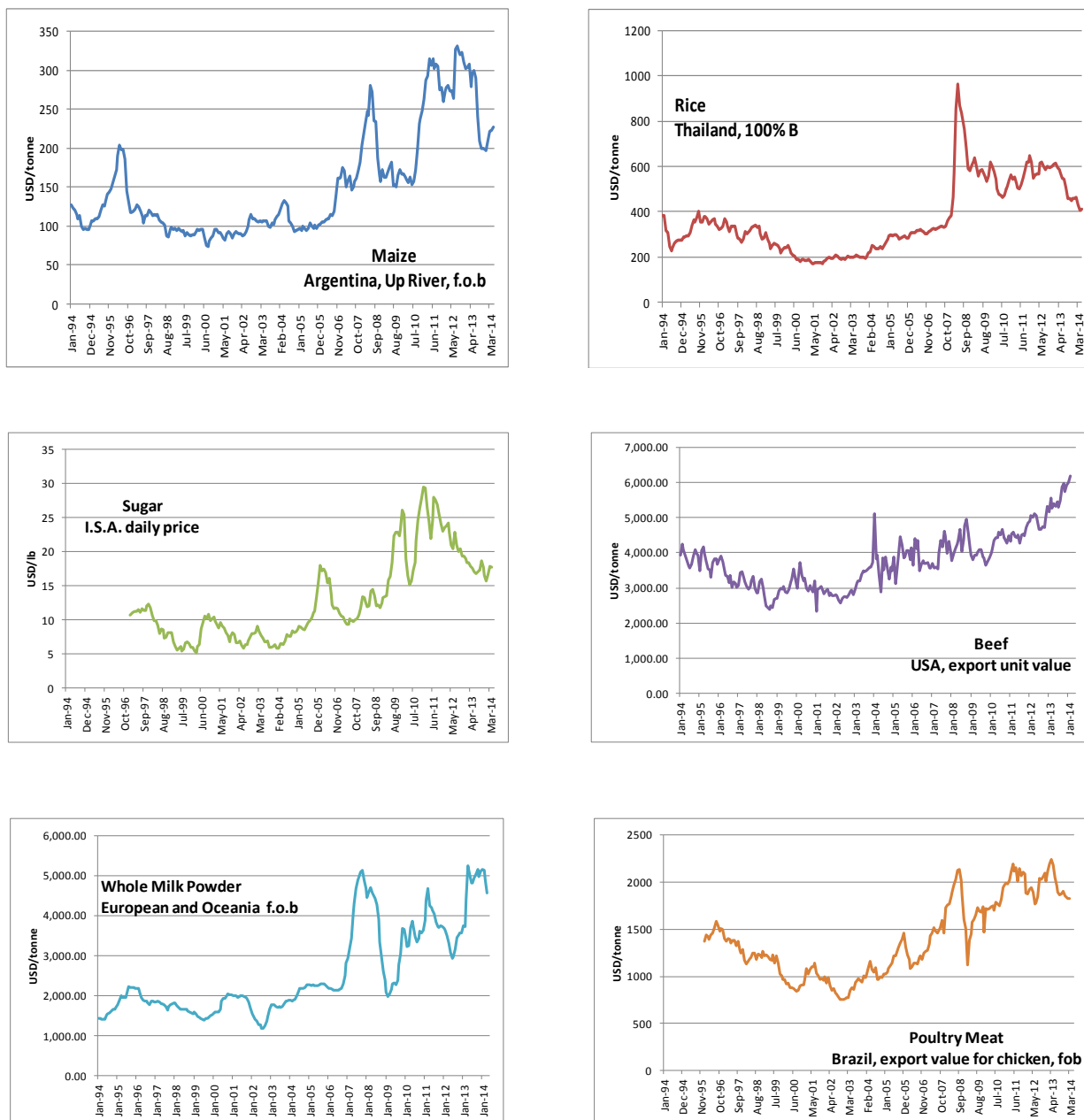**Figure2b   FAO Food Commodity Price indices**

Figure 3   Selected global commodity prices 1994-2014

Source: FAO (2014a)

Figure 2b also demonstrates that whilst at the aggregate level, prices are significantly higher on average than they were in the 1980s and 1990s, it is important to understand the differential patterns at the individual commodity level.

Examples of trends in individual commodity groups are shown in Figure 3 which, while depicting relatively stable prices during the 1990s and early 2000s, show quite different patterns of price changes since the mid 2000s.

Maize and rice prices peaked in 2007, but while maize prices saw further peaks in 2010 and 2011 before falling, rice prices remained relatively stable. By contrast meat prices have continued to increase over the period.

There have been equally significant changes in levels of imports of the analysed commodity groups by food importing developing countries during the past three decades. Despite the fact that global food prices have risen significantly since

the 1990s, volumes have also risen rapidly (see Figures 4a-d). The following graphs present indices of import volumes to an aggregate of developing countries[2] for 15 commodities groups.

For cereals, levels of imports by the developing country aggregate have increased significantly since 2000 (Figure 4a). Imports of meat products have increased even more rapidly since 2000, particularly pigmeat and poultry meat

(Figure 4b). Trends in dairy products are mixed with butter imports remaining relatively constant but with significant increases in cheese and WMP (Figure 4c). The oilseed group is characterised by smooth increases in palmoil and sunflower imports and continued volatility in rapeseed imports (Figure 4d).

In aggregate (and on average), the increased import volumes are likely to maintain upward pressure on global
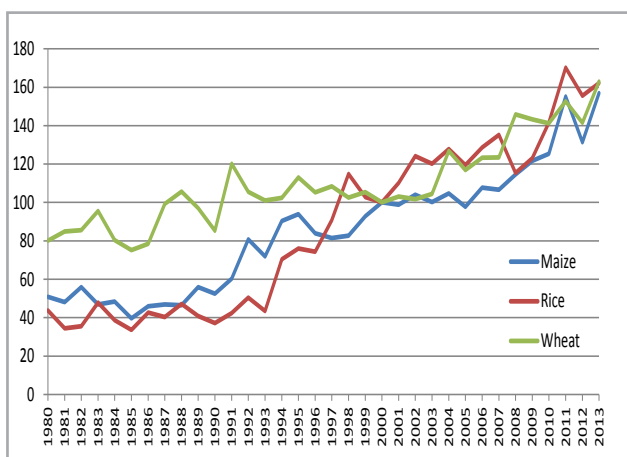
Figure 4a Cereals indexed import volumes (2000=100)

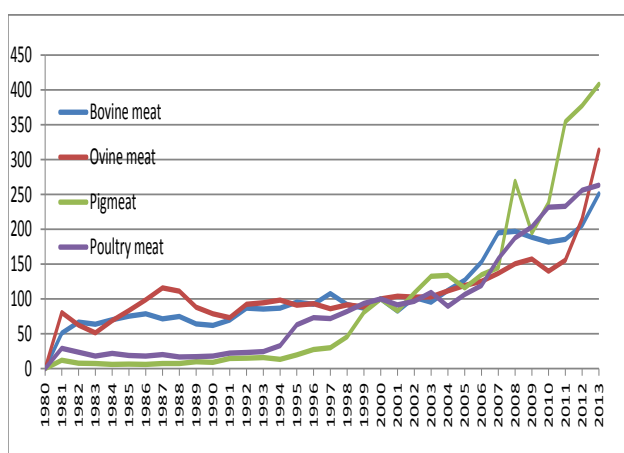**Figure 4b Meat products indexed import volumes (2000=100)**

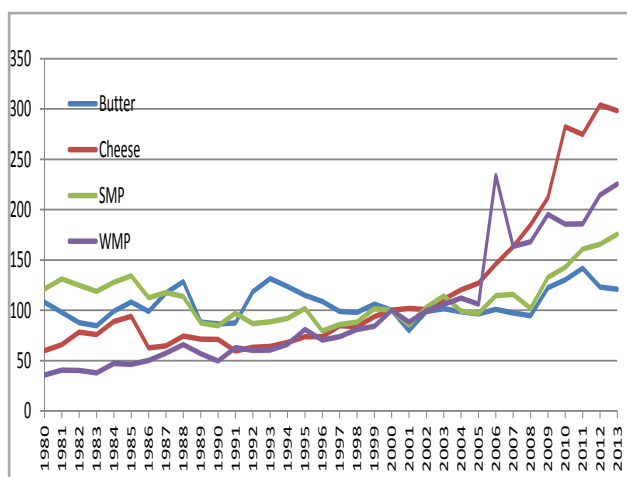**Figure 4c Dairy products indexed import volumes (2000=100)**

Figure 4d Oils indexed import volumes (2000=100)

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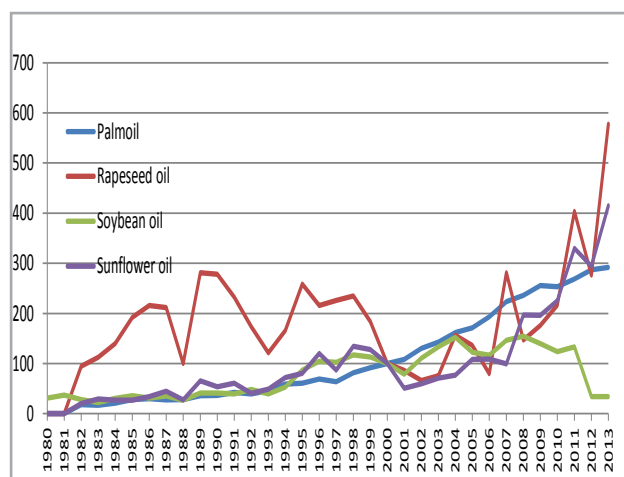
[2]   The developing countries included in this aggregate were selected for analysis in FAO (2005) on the basis of their inclusion in the 2004 listings of Net Food Import Dependent Countries (NFIDC) and/or Low Income Food Deficit Countries (LIFDCs) and/or Least Developed Countries (LDCs). A number of countries have graduated from these lists since 2004, but for the sake of consistency and comparison, the same sample of countries is used in the current analysis. The aggregate covers 103 developing countries, one more than in the previous FAO analysis because China and Chinese Taipei are represented separately in this analysis. The full official name of Chinese Taipei in the WTO is "Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu"

prices. At this aggregate level, the previous association that was often made between increased imports and depressed prices does not appear to have been maintained since 2000.

The significant increases in imports are reflected in the rapid growth of food import bills during the past decade, particularly among LDCs and NFIDCs (Figure 5). Figure 6 illustrates that the increased food import bill is not driven solely by higher import prices, but by rapid increases in commercial import volumes.

The changing global market context therefore creates a very different scenario with respect to expectations regarding the incidence of surges: both aggregate import volumes and prices have been increasing significantly. The incidence of surges is likely to be quite different to that identified during periods of relatively stable prices when import volume increases were often associated with depressions in prices. In the following section, the relationship between price trends and volume trends is examined in the context of identifying import surges.

Figure 5   Cereal Import Bills 2001/2 to 2013/14
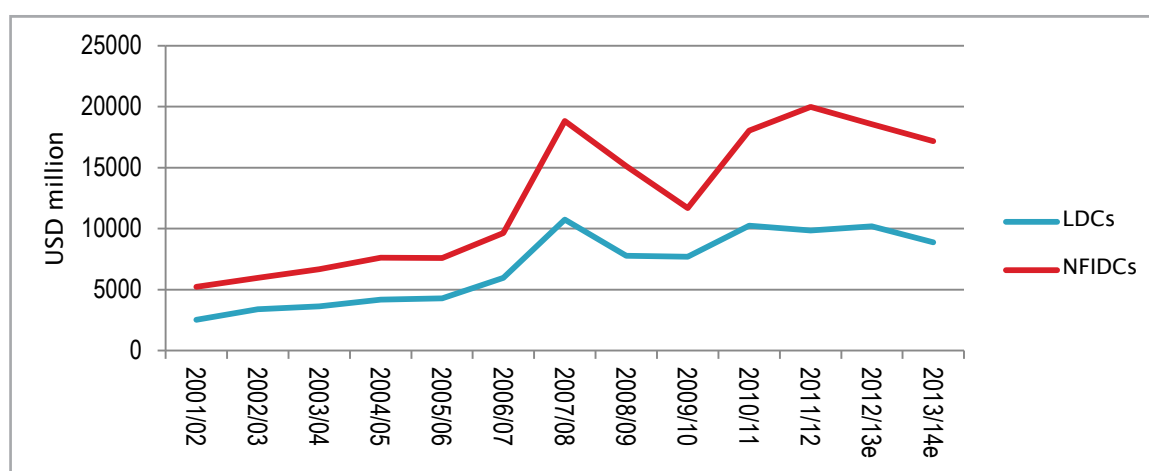
Source: Author calculation based on FAO (2013)

Figure 6   Commercial cereal imports and food aid volumes (NFIDC + LDC)
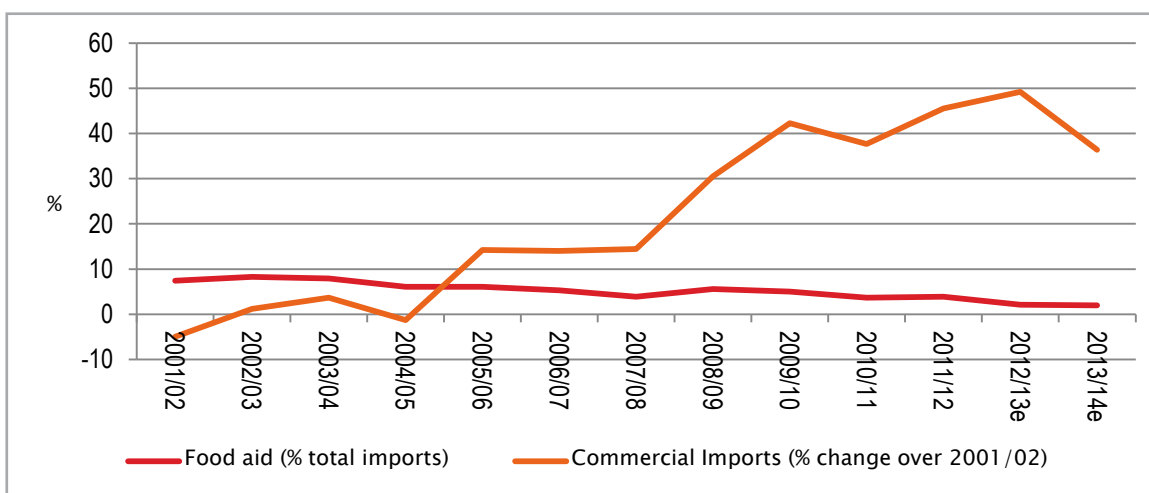
Source: Author calculation based on FAO (2013)

3 Experience with Import Surges: an update of previous analyses

3.1 Definitions and approach

The term "import surge" has been used to highlight two types of potential shocks to domestic agriculture sectors which may arise from increased openness to trade: (i) increases in volumes of imports from one year to the next and (ii) depressions to domestic market prices that may result from increased connectivity to global market prices.

It is important to note that the incidence of surges in imports does not necessarily imply negative implications for the importing country. As documented in FAO (2006) and FAO (2011) increases in imports can be the result of domestic shortfalls due to climatic or other reasons, or simply reflect increased per capita consumption, which may have outstripped the growth capacity of domestic agriculture sectors. However, as reported in FAO (2006a) there are many cases where surges have been potentially disruptive to domestic agriculture sectors. Countries need effective mechanisms through which to manage trade in order to mitigate potential negative effects of import surges in such cases.

Although the analysis in this paper reflects the incidence of surges it should not therefore be taken to imply that a surge will necessarily be the result of external market events, nor that it will necessarily have negative impacts, nor that the application of a safeguard remedy would be appropriate or indeed likely in all of the identified cases.

The analysis reported in this section updates the previous FAO analysis on developing country experience with import surges. Annual import quantity data from FAOs Commodity Balance database for 15 key commodities groups is analyzed for 103 developing countries[3] for the thirty year period 1984-2013. Although the use of annual data precludes analysis related to seasonality and pro-rating, the approach was chosen to allow consistent and comprehensive coverage across all developing countries to the most recent period possible.

As explained in FAO (2006a) there is no agreed definition of an import surge nor of a methodology for assessing and measuring import surges. In that publication, it was noted that the definitions tend to be based inter alia on differing thresholds with an import surge said to have occurred when the actual imports surpass that threshold. There is no set level of threshold that has been widely accepted, although a volume surge is generally conceived of as occurring when imports exceed a moving average of the previous three years plus a certain percentage above that average. As previously reported in FAO (2005), the selection of the threshold can have a significant effect on the determination of the existence of an import surge. In investigating the incidence of volume surges in this paper, two different thresholds are first used to provide a broad picture of the incidence. The thresholds, the moving average of the previous three years plus 30% (MA3+30) and the moving average of the previous three years plus one standard deviation (MA3+sd) are used to demonstrate the importance of the definition of an appropriate threshold level. The choice of MA3+30 is based on (i) its widespread use in previous analyses and (ii) an apparent preference for this type of threshold in relation to the negotiations to date. The MA3+sd is introduced in the analysis because it can more accurately reflect the level of variability in imports. In the succeeding discussions the relative merits of these alternative threshold definitions are discussed.

Using the MA3, different threshold levels are then applied to deepen the understanding of the incidence of surges at the country and product level. These threshold levels, which have been referred to both in WTO (2008 Rev.4) and in WTO (2008, TN/AG/W/7) include 110%, 120% and 140% in addition to the 130% applied in the more general analysis. Particular attention is also paid to the incidence of surges across different country groupings, namely the G33, SVEs, LDCs, RAMS, and NFIDCs.

For the analysis of price depressions, previous analyses explored the use of both historical reference prices and different forms of moving average. Given the significant upward shift in price levels over the past decade, the use of historical references prices (such as 1984-1986 averages) is largely irrelevant. The incidence of price depressions over the thirty year period is therefore investigated first using MA3 and MA5 and then with different threshold levels applied to the MA3 (MA3x90% and MA3x85%).

3.2 Incidence of volume surges in general

3.2.1 Surges by product

Table 2 presents the results for the MA3+30 by commodity. The total number of surges identified during the 30 year period is given in column B, broken down by 10 year period in columns C-E, and then with the last decade broken down into 5 year periods to reflect the pre- and post- 2007/08 price increases (columns F and G). Similarly results are presented in Table 3 for MA3+1sd and as a percentage of the total number of possible cases in tables 4 and 5.

With reference to Tables 2 and 4, the highest incidence of surges during the whole period occurs in meats (bovine, pig and poultry all with incidences of greater than 20% of possible cases), to a slightly lesser extent in dairy products (all greater than 15%), 10% or lower in most oilseeds, and with a mixed pattern in cereals.

3.2.2 Changing incidence of surges over time

It is noted that across time periods, a higher incidence of import surges was observed in 1994-2003 than in 1984-1993

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³ See footnote 2

Table 2   Number of identified volume surges – MA3+30% threshold

	Total	Ten Year Periods			Five Year Periods	
	1984-2013	1984-1993	1994-2003	2004-2013	2004-2008	2009-2013
Maize	504	196	189	119	73	46
Rice	470	186	192	92	54	38
Wheat	271	108	87	76	43	33
Bovine meat	663	208	238	217	142	75
Ovine meat	553	152	201	200	139	61
Pigmeat	741	217	306	218	145	73
Poultry meat	732	228	291	213	126	87
Butter	548	178	182	188	112	76
Cheese	536	140	210	186	118	68
SMP	594	130	223	241	125	116
WMP	487	105	199	183	104	79
Palmoil	409	190	176	43	35	8
Rapeseed oil	303	148	128	27	9	18
Soybean oil	352	177	152	23	13	10
Sunflower oil	275	76	147	52	30	22
Total	7438	2439	2921	2078	1268	810

Note: Calculation for 103 countries. Number of identified surges = cases where actual volume exceeds threshold

Table 3   Number of identified volume surges – MA3+1sd

	Total	Ten Year Periods			Five Year Periods	
	1984-2013	1984-1993	1994-2003	2004-2013	2004-2008	2009-2013
Maize	568	181	202	185	106	79
Rice	779	249	287	243	123	120
Wheat	649	205	218	226	138	88
Bovine meat	900	266	297	337	187	150
Ovine meat	618	168	209	241	151	90
Pigmeat	963	237	355	371	201	170
Poultry meat	1066	270	371	425	200	225
Butter	635	191	206	238	136	102
Cheese	806	191	285	330	172	158
SMP	586	141	208	237	113	124
WMP	545	126	210	209	119	90
Palmoil	525	173	210	142	78	64
Rapeseed oil	220	121	77	22	7	15
Soybean oil	394	162	174	58	33	25
Sunflower oil	246	65	121	60	31	29
Total	9500	2746	3430	3324	1795	1529

Note: Calculation for 103 countries. Number of identified surges = cases where actual volume exceeds threshold

Table 4   Identified volume surges as a percentage of all possible cases (MA3+30%)

	Total	Ten Year Periods			Five Year Periods	
	1984-2013	1984-1993	1994-2003	2004-2013	2004-2008	2009-2013
Maize	16%	19%	18%	12%	14%	9%
Rice	15%	18%	19%	9%	10%	7%
Wheat	9%	10%	8%	7%	8%	6%
Bovine meat	21%	20%	23%	21%	28%	15%
Ovine meat	18%	15%	20%	19%	27%	12%
Pigmeat	24%	21%	30%	21%	28%	14%
Poultry meat	24%	22%	28%	21%	25%	17%
Butter	18%	17%	18%	18%	22%	15%
Cheese	17%	14%	20%	18%	23%	13%
SMP	19%	13%	22%	23%	24%	23%
WMP	16%	10%	19%	18%	20%	15%
Palmoil	13%	18%	17%	4%	7%	2%
Rapeseed oil	10%	14%	12%	3%	2%	3%
Soybean oil	11%	17%	15%	2%	3%	2%
Sunflower oil	9%	7%	14%	5%	6%	4%

Note: Percentages calculated as number of identified "surges" where actual imports exceed threshold divided by the total possible cases.
Total possible cases = Number of countries multiplied by number of years in period.

Table 5   Identified volume surges as a percentage of all possible cases (MA3+1sd)

	Total	Ten Year Periods			Five Year Periods	
	1984-2013	1984-1993	1994-2003	2004-2013	2004-2008	2009-2013
Maize	18%	18%	20%	18%	21%	15%
Rice	25%	24%	28%	24%	24%	23%
Wheat	21%	20%	21%	22%	27%	17%
Bovine meat	29%	26%	29%	33%	36%	29%
Ovine meat	20%	16%	20%	23%	29%	18%
Pigmeat	31%	23%	34%	36%	39%	33%
Poultry meat	34%	26%	36%	41%	39%	44%
Butter	21%	19%	20%	23%	26%	20%
Cheese	26%	19%	28%	32%	33%	31%
SMP	19%	14%	20%	23%	22%	24%
WMP	18%	12%	20%	20%	23%	17%
Palmoil	17%	17%	20%	14%	15%	12%
Rapeseed oil	7%	12%	7%	2%	1%	3%
Soybean oil	13%	16%	17%	6%	6%	5%
Sunflower oil	8%	6%	12%	6%	6%	6%

Note: Percentages calculated as number of identified "surges" where actual imports exceed threshold divided by the total possible cases.
Total possible cases = Number of countries multiplied by number of years in period.

Figure 7 Incidence of surges by commodity and time period (MA3+30)
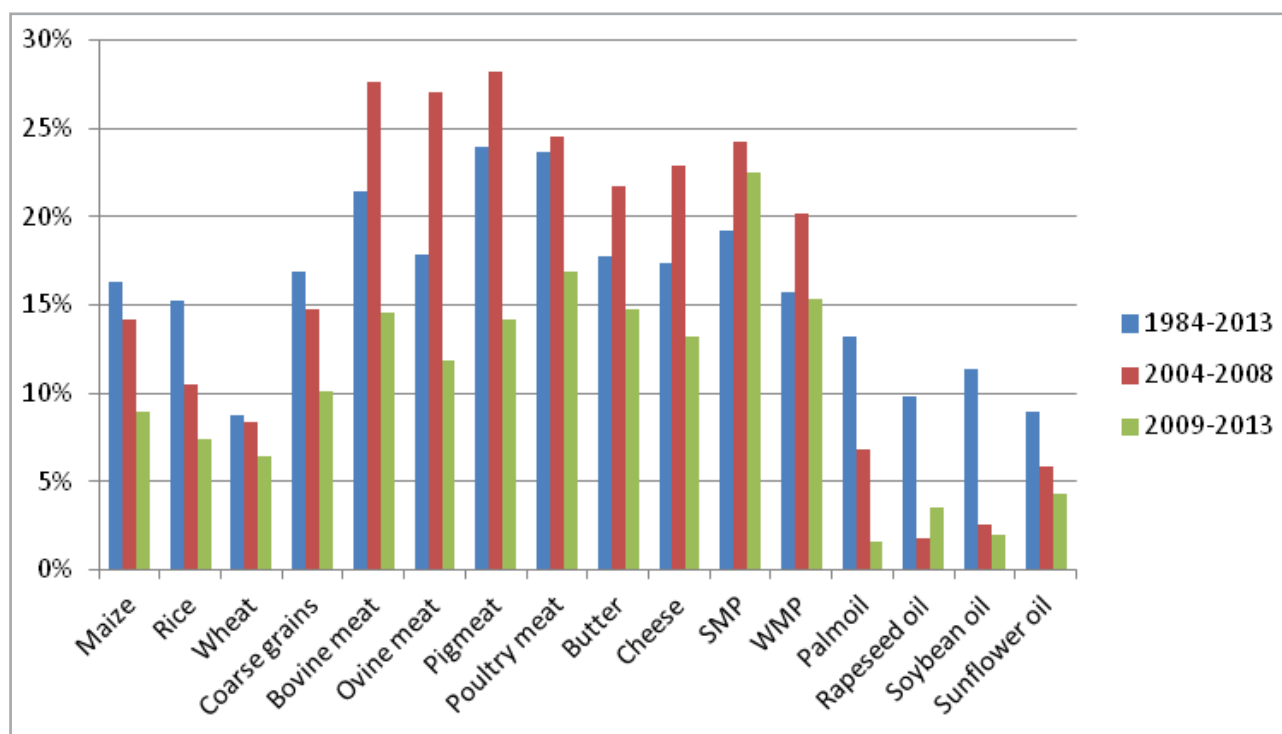
(mainly meat and dairy) while in the remaining groups there was a reduction (mainly cereals and oilseeds). By contrast, all but two of the commodity groups (butter and SMP) saw falling incidence, often significantly, from the period 1994-2003 to 2004-2013. The most significant falls were observed in oilseeds.

Looking at the last decade (2004-2013) – see also Figure 7 – it is observed that the incidence of surges in all commodities (except rapeseed which was already low) fell significantly in 2009-2013 when compared to 2004-2008, with total surges in 2009-2013 at approximately two-thirds of the 2004-2008 level. It should be noted that this was not due to a reduction in imports as explained later in the section.

Tables 3 and 5 show the results for MA3+1sd. On average, the number of surges identified is higher and while the patterns across commodity groups and periods are similar to those observed with MA3+30, the extent to which the number of surges falls off in the most recent 5 year period is much less significant. Some interesting differences are however noted including the higher incidence of surges in wheat (21% vs 9% of possible cases); the lower incidence in rapeseed and sunflower oil; and poultry and SMP having a higher incidence in 2009-2013 than in 2004 -08.

3.3   Understanding the pattern of volume surges

In understanding the differing incidences across the two threshold "definitions", it is necessary to investigate the relationship between the actual levels of imports and the thresholds by examining country/commodity cases.

Figures 8 - 17 provide examples of several different types of import trend, with a surge identified where actual imports exceed the MA3+30 or MA3+1sd respectively in a particular year.

In the first five cases (Figures 8-12), where imports have increased across the period, the MA3+30 threshold sits significantly above the import level, while the MA3+1sd tracks imports more closely. The MA3+30 threshold identifies no surges, but the MA3+1sd many. In the next two cases (Figures 13 and 14) where there is significant inter year variability in imports, MA3+1sd sits above MA3+30. In the last three cases a more mixed pattern occurs.

Imports of palm oil to Pakistan have risen relatively constantly at between 5 and 10% per year since the early 1990s with very limited variation around the trend. As a result, the MA3+30 is maintained in a position significantly above the actual level of imports and no surges are identified. By contrast, the MA3+1sd reflects the low level of variability, maintaining a course similar to the import curve, but in "smoothing" the trend, picks up a number of surges

Although imports are more variable in Egypt wheat, Ghana wheat , Indonesia wheat and Philippines butter, the positive trends in imports creates a similar pattern, with the MA3+30 threshold not "identifying" any surges, but the MA3+1sd identifying 8, 8, 10 and 11 for the respective products.

By contrast, imports of rice to Indonesia (Figure 13) have been more volatile with an increasing, albeit variable, upward trend to 2000 and then a declining trend but with significant inter year variability during the 2000s. As a result, the MA3+1sd, reflecting the variability, sits above the MA3+30.

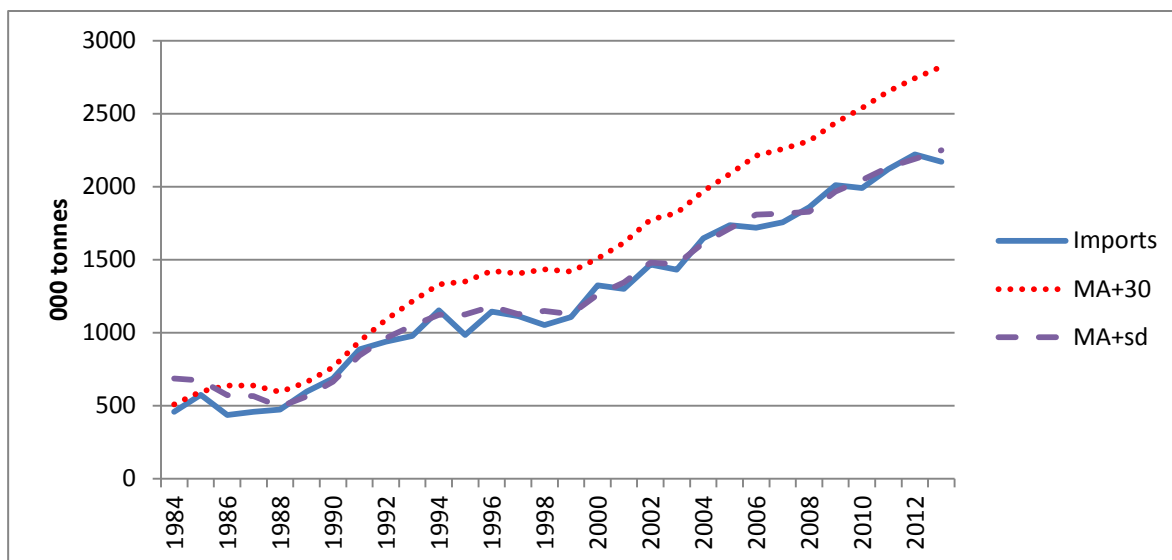**Figure 8   Pakistan Palm Oil imports and thresholds (000 tonnes)**

Figure 9   Egypt wheat imports (000 tonnes)
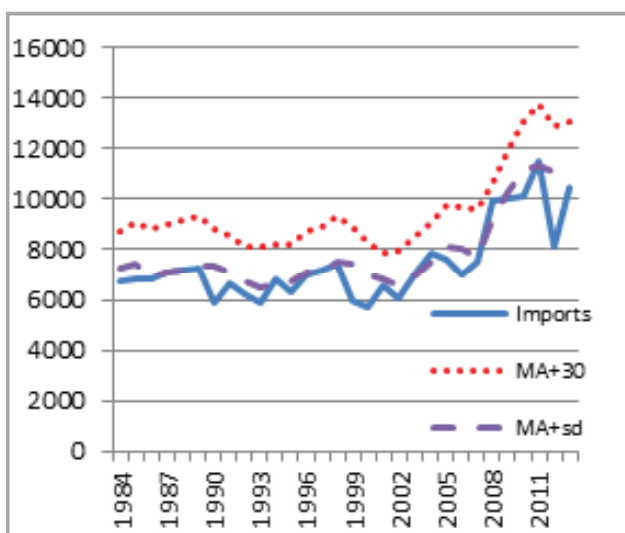
Figure 10 Ghana wheat imports (000 tonnes)
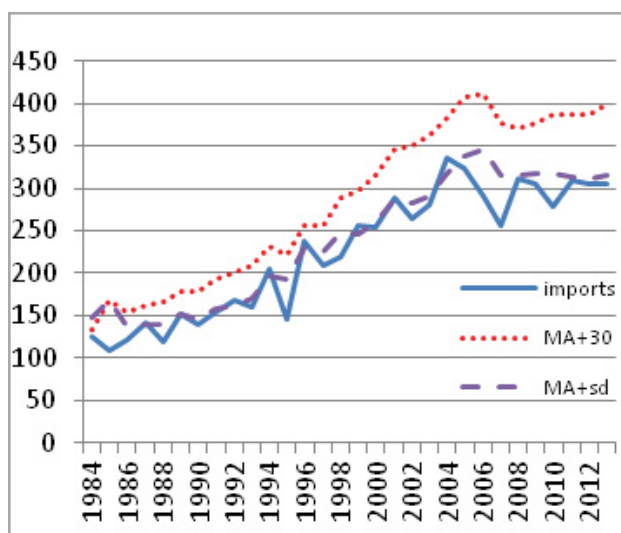

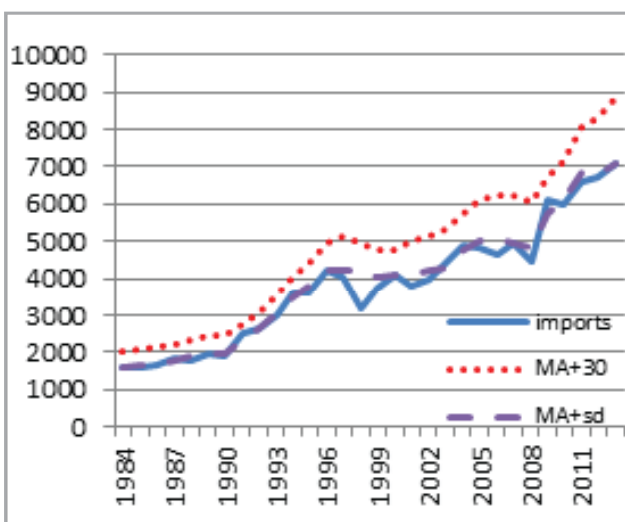**Figure 11 Indonesia wheat imports (000 tonnes)**

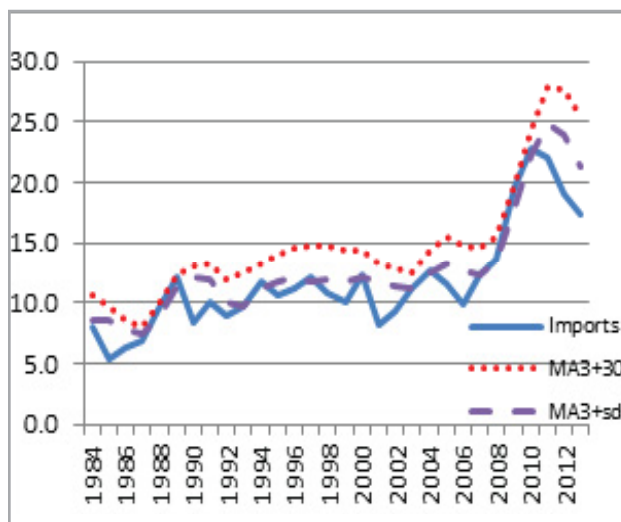**Figure 12 Philippines butter imports (000 tonnes)**

Figure 13 Indonesia rice imports (000 tonnes)
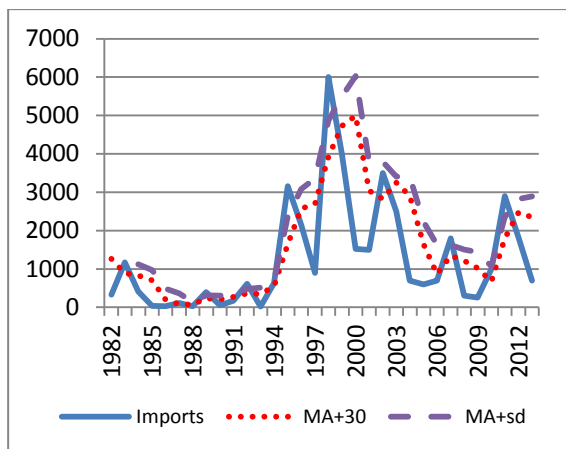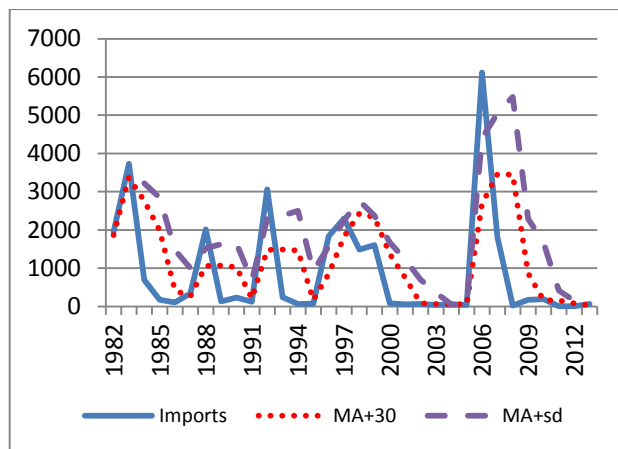

Figure 14 India wheat imports (000 tonnes)

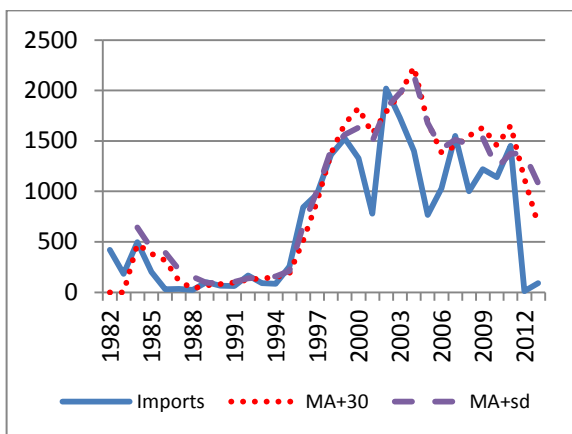**Figure 15: India soybean imports (000 tonnes)**

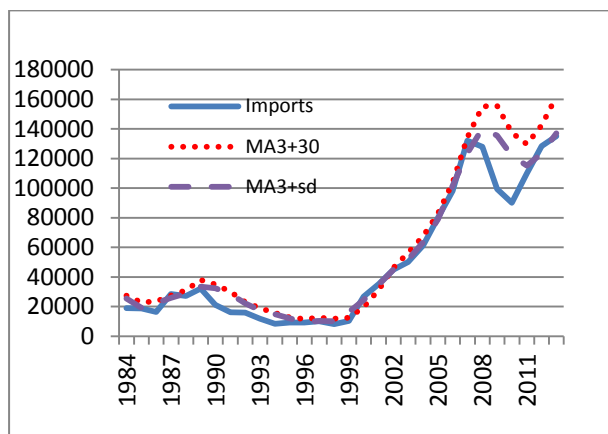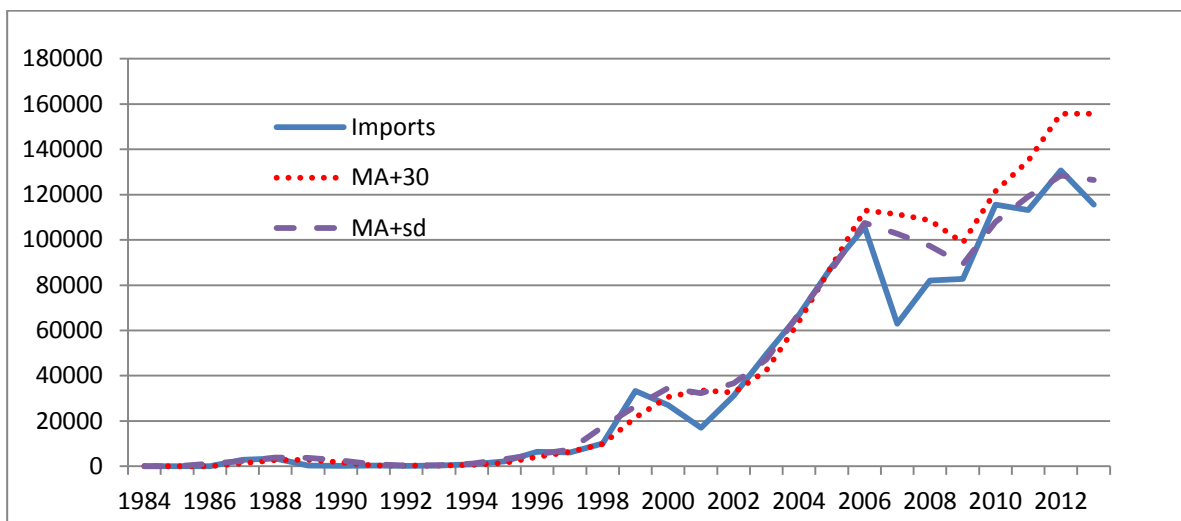**Figure 16: Angola bovine meat imports (000 tonnes)**

Figure 17 Chinese Taipei poultry meat imports (tonnes)

However, in this case the MA30 only picks up additional one surge because of the extent of year to year variation. A similar observation is made with India wheat.

More mixed patterns are observed with imports of soybeans to India. These have a similar year to year variation to Indonesia rice but around a more level trend during the 2000s. As a result, the variation reflected in the MA3+1sd has a similar effect to the threshold as the MA3+30 resulting in a similar incidence of trends during that period. With Angola bovine meat imports the pattern varies by decade. MA3+30 picks up 3 surges, while MA3+sd picks up 16 surges with the majority in the last two decades.

With Chinese Taipei poultry meat the MA3+30 identifies 10 surges (3-6-1 per decade), while the MA3+1sd identifies 8 (2-3-3 per decade). In the second decade, the MA3+30 is more sensitive than the MA3+sd as imports are more volatile, whereas in the third decade, the MA3+sd is more sensitive as imports are steadily increasing.

The analysis using two different thresholds is useful in demonstrating that the pattern of imports is a key variable in determining the incidence of surges under different threshold choices. Where imports are rising relatively constantly, the MA3+1sd is more sensitive to identifying surges, whereas for imports that follow a more variable trend, the MA3+30 identifies a greater number of surges.

Care is therefore needed in drawing conclusions as to the most appropriate threshold, both in terms of the effectiveness of a safeguard mechanism and in relation to concerns about its potential use.

3.4 Implications of the threshold level by country and product

Given the concerns regarding the relative sensitivity of the two types of threshold to different patterns of imports, it is instructive to deepen the analysis to understand how different countries and country groupings may be affected by increases or reductions in the threshold level. In this subsection, countries are first categorized by incidence of surge and the sensitivity of the top ten countries to changes in the threshold level assessed. The incidence is then assessed by country grouping.

3.4.1 Incidence by country

The pattern of imports is also a determining factor in the analysis of the incidence of surges across different countries. Using the, on average, less sensitive MA3+30 threshold, countries are groups into tiers of decreasing incidence of surge (Table 6), where incidence refers to the total number of surges identified across the commodities in each country during the thirty year period (total possible cases = 450 per country).

While it is the larger developing countries with relatively more mixed net trade positions with respect to the different commodities that tend to have the highest incidence of surge, it is also interesting to note that there is a lower incidence of surges in key net food importing countries such as Egypt and Indonesia and the high proportion of Island States, traditionally heavily reliant on food imports, falling into the category of below 60 surges during the 30 year period.

Table 6   Country ranking in terms of incidence of surge (1984-2013)

100+	India, China, Zimbabwe, Ecuador, Kenya, Nigeria, Pakistan, Uganda, Tanzania
90-99	Venezuela, Malawi, Nicaragua, Benin, Ghana, Mali, Zambia, Madagascar, Bangladesh, Rwanda, Togo
80-89	Egypt, Honduras, Indonesia, Mozambique, Korea DPR, Mauritania, Mongolia, Dominican Republic, Kyrgyz Republic, Nepal, Burkina Faso, Haiti, Congo
70-79	Myanmar, Niger, Angola, Guinea, Sierra Leone, Tajikistan, Chad, Botswana, CAR, Peru, Cambodia, Cote d' Ivoire, Morocco, Burundi, Tunisia, Cameroon, Georgia, Senegal
60-69	Albania, Guinea Bissau, Philippines, Sri Lanka, Jordan, Laos
Below 60	Cuba, Cape Verde, Gabon, Armenia, Djibouti, Namibia, Swaziland, Maldives, Vanuatu, Papua New Guinea, Solomon Islands, Mauritius, Jamaica, Samoa, Dominica, Lesotho, St Vincent & the Grenadines, Tonga, St Kitts & Nevis, St Lucia, Trinidad & Tobago, Barbados

Table 7 shows how the level of the threshold affects the number of surges by country and their ranking in the top 10 countries by incidence of surges. The different threshold levels of 110%, 120%, 130% and 140% above the three year moving average are applied and the ten countries with the highest incidence of surges listed in the table. Although the incidence of surges falls in each country as the threshold in increases, China, India, Tanzania, Zimbabwe, Kenya and Pakistan remain consistently in the top 10 countries, with Morocco and Ghana more susceptible to surges at the low thesold level and Nigeria and Uganda entering the list when the threshold is higher. This suggests that the extent of the surges that the latter faced were somewhat more pronounced.

Table 8 confirms the fall in incidence as the threshold is increased, but also reveals that the distribution of surges across countries becomes more concentrated as the threshold increases, with 16.2% of surges observed in the top 10

countries at the 140% threshold compared to 13.6% at the 110% threshold.

Figure 18 shows the incidence of surges by product in the top 10 countries (using MA3+30). Although India records the highest incidence overall, the distribution across commodities is more even than for other countries. For example, as compared to China where surges are more concentrated in meat products, or in Zimbabwe where they are concentrated in meats and in dairy. Across the top 10 countries, the incidence is found to be highest in bovine meat, pigmeat and poultry meat.

3.4.2   Incidence by country group

The incidence of volume surges is also analyzed by selected country groups that are likely to be more concerned to have access to an effective safeguard against the potential negative impacts. Table 9 depicts the average number of identified

Table 7   **Top-10 countries in terms of number of incidences at different threshold levels**

110%		120%		130%		140%	
China	201	China	168	India	140	India	119
India	180	India	159	China	136	Zimbabwe	110
Tanzania	169	Zimbabwe	147	Zimbabwe	128	China	108
Morocco	167	Ecuador	132	Ecuador	111	Kenya	98
Angola	166	Kenya	131	Kenya	110	Ecuador	94
Kenya	166	Tanzania	125	Nigeria	104	Nigeria	88
Nicaragua	162	Pakistan	124	Pakistan	103	Tanzania	87
Pakistan	160	Ghana	121	Uganda	103	Pakistan	87
Zimbabwe	160	Malawi	120	Tanzania	102	Nicaragua	85
Ghana	159	Venezuela	119	Venezuela	96	Uganda	84

Table 8   **Number of surges of the top 10% of the countries analyzed**

Threshold	Top 10%	Total surges	%
110	1371	10086	13.6
120	1107	7416	14.9
130	935	5884	15.9
140	791	4873	16.2

Table 9   **Average number of surges per country   analyzed in each group**

Country group		Geographical region	
G33	76	Africa	79
SVEs	56	Eastern Asia	89
LDCs	77	Southern Asia	89
RAMs	74	South-East Asia	74
NFIDCs	66	Caribbean	57
Total	74	Total	74

Figure 18 Surges by commodity for high incidence countries (1984-2013)

	India	China	Pakistan	Equador	Kenya	Nigeria	Uganda	Tanzania	Zimbabwe
■ Maize	10	10	8	7	10	6	10	10	9
■ Rice	11	10	8	8	6	3	9	8	4
■ Wheat	8	9	8	0	6	3	10	3	6
■ Bovine meat	11	15	10	7	7	11	10	7	12
■ Ovine meat	9	14	8	9	4	7	5	5	6
■ Pigmeat	13	16	8	12	12	10	5	11	12
■ Poultry meat	9	11	6	9	10	11	7	8	12
■ Butter	11	4	8	12	6	9	8	7	12
■ Cheese	9	3	5	9	9	9	6	6	11
■ SMP	9	5	8	10	10	7	5	6	9
■ WMP	8	5	6	9	10	8	7	4	12
■ Palmoil	6	8	0	8	0	9	6	8	8
■ Rapeseed oil	7	9	10	4	5	6	5	6	4
■ Soybean oil	8	8	2	1	8	5	6	7	5
■ Sunflower oil	11	9	8	6	7	0	4	6	6

surges per country in each of the groups. It is notable that countries in the SVEs (perhaps reflecting the finding in table 6) observe significantly fewer surges on average, with the Caribbean as a geographical grouping also reflecting that lower average number. It should be noted that given the sample of countries selected for analysis (NFIDC, LIFDC and LDC listed in 2004), the countries included in the groupings in Table 9 may not be fully representative of all countries in those negotiating groups. The average numbers should therefore be considered as representing only those countries included in the sample.

Figure 19 shows the total proportion of surges by negotiating group across the different time periods. For SVEs in particular, significantly fewer surges are identified in the 2009-2013 period.

Finally, figure 20 illustrates the relative sensitivity of the SVE group to the increasing threshold level, indicating that although the incidence of surges identified is at a comparable level to the group as a whole at low level thresholds, that the proportion of surges drops off more rapidly when the threshold level increases. This suggests that the depth of the surges maybe lower on average in this country group and

therefore less likely to be defined as a surge at the higher threshold levels.

3.5 Price depressions

Price depressions on domestic markets as a result of greater openness to trade and global market instability has also been expressed as being a concern of some developing countries and has been examined in previous FAO analyses. A key question of interest in extending the analysis is the extent to which price depressions might be revealed during periods of increasing global market prices. In the absence of comprehensive data sets on domestic c.i.f. prices, it is not possible to undertake the analysis at the country level. The analysis in this paper follows the approach adopted by Sharma (2006) where key international market prices are used as a proxy. These data are updated to 2011 using FAOSTAT data. Sharma analyzed the incidence of price depressions under a number of different threshold scenarios, finding the use of moving averages more useful than the use of historical reference prices or Olympic averages. The current analysis therefore uses MA3 and MA5 to identify the incidence of price depressions.

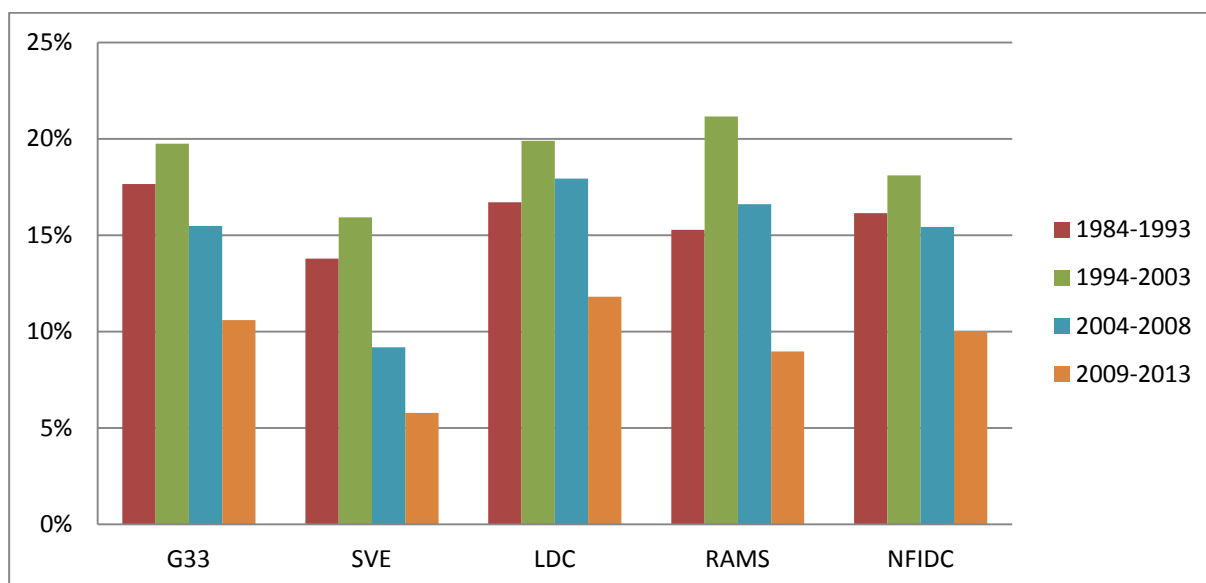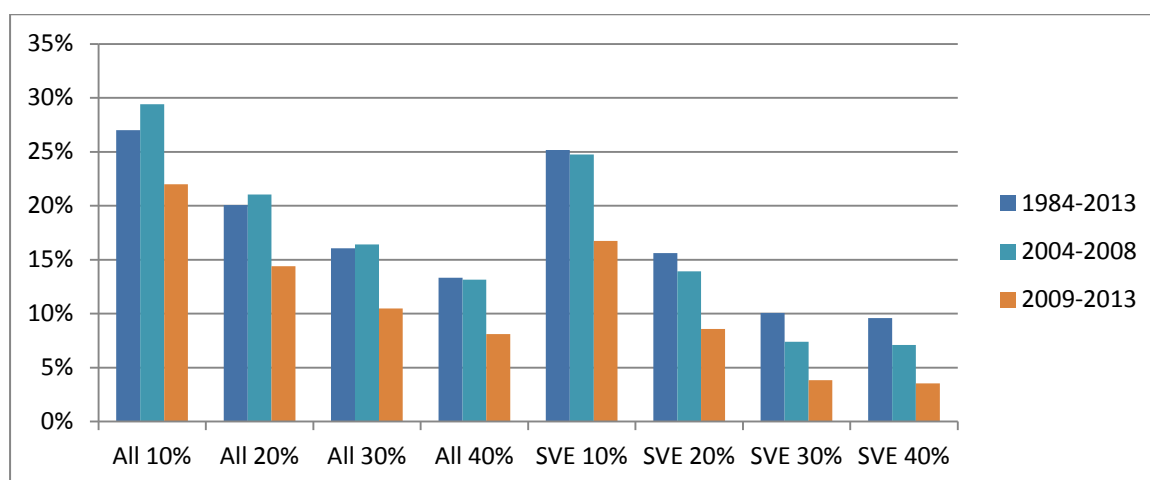**Figure 19 Proportion of surges over time by country group**

Figure 20 Sensitivity of different threshold levels (all countries compared to SVEs)

3.5.1   Price depressions during periods of increasing prices

The following figures for maize and beef clearly demonstrate that during periods of rising prices, the moving averages fall below the actual price line and that "price depressions" are identified only with a significant drop in prices (for example with maize in 2009), far less frequently than in the pre-2000 period. This suggests however that when prices are volatile, even around an increasing trend, a price trigger would remain a useful component of a safeguard mechanism.

3.5.2   The incidence of price depressions at different threshold levels

In discussing the triggering of safeguard remedies in the context of price depressions however, thresholds are set below the moving average, for example at 15% below the moving average (MA*0.85) making the triggering of a safeguard even less sensitive to price falls.

Table 10 show the number of times a "price depression" is identified for different threshold levels applied to the MA3 and MA5. The total number of depressions identified in the MA3 case falls by more than half from 217 at 100% to 106 at 90% and then by almost half again to 62 at the 85% threshold.
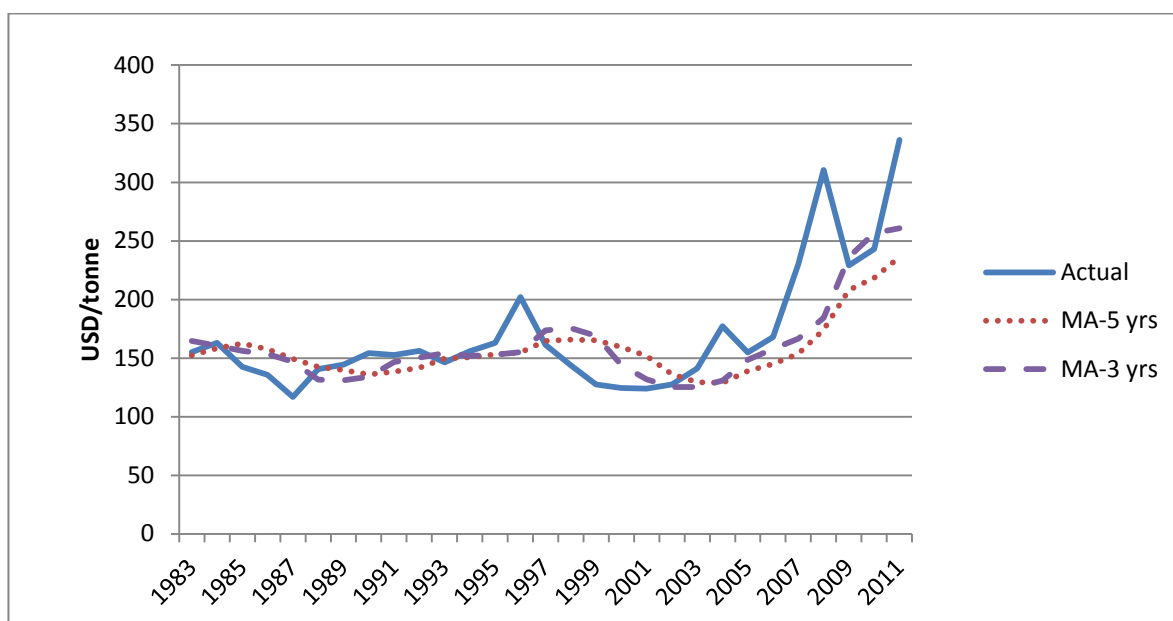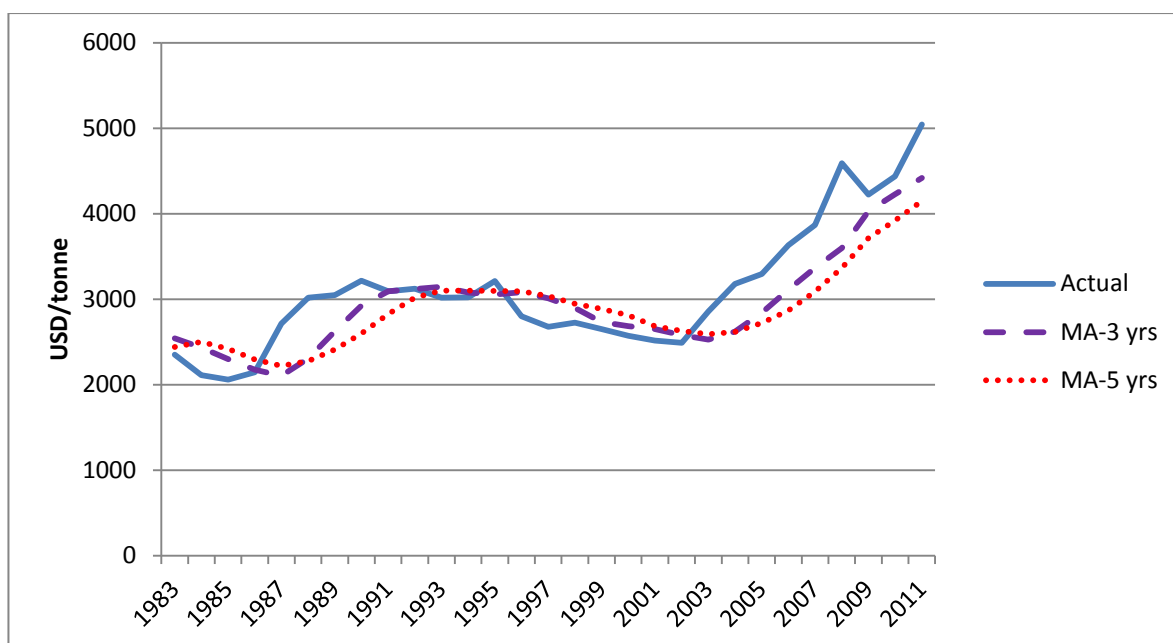
Figure 21 Maize import prices

Figure 22 Beef import prices

The declines for the MA5 are more gradual. The patterns are observed for most products represented in the table.

Expressed as a percentage of the total possible instances of surges in Table 11, it is observed that the 100% threshold "triggers" often – in more than 30% of cases for all product examples except ovine meat, and in excess of 50% of cases for wheat and for wheat flour. By contrast, setting the threshold at 85% of the MA results in a far lower number of "price depressions" being identified in the analysis, with half of the products seeing price depressions in less than 10% of possible cases and three product recording no incidences at all during the 29 year period. This finding confirms the sensitivity of the incidence of "triggering" to the threshold set, even within the narrow range of 85% to 100%.

3.5.3 The incidence of price depressions across time

In comparing the incidence of price depressions during the period of relatively low global commodity prices (as used in the previous analysis) to the more recent higher price period, one might expect to observe a lower incidence of price depressions, particularly during a period of rising prices. Table 12 demonstrates the significant reduction in the number of identified depressions between 1983-2003 and 2004-2011, using the MA3*90% threshold. In comparison to the 102 incidences recorded in the 21 years to 2003, only 4 cases (wheat, butter, SMP and WMP) are recorded in the 8 years between 2004 and 2011.

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Table 10 **Incidence of price depressions under different threshold levels (1983-2011)**

Products	100%		90%		85%	
	MA-3	MA-5	MA-3	MA-5	MA-3	MA-5
Wheat	17	15	9	8	6	5
Wheat flour	15	14	5	8	3	4
Maize	12	11	5	7	3	4
Rice, milled eq.	14	13	8	9	5	5
Sugar, raw	13	16	7	9	6	7
Sugar, refined	12	13	6	10	6	7
Bovine Meat	13	13	3	3	0	1
Ovine Meat	7	7	5	7	0	1
Pig Meat	10	12	7	8	3	5
Poultry Meat	12	13	5	8	2	3
Butter	14	12	6	7	3	7
Cheese	13	10	4	5	0	2
SMP	13	10	7	7	5	3
WMP	12	11	3	4	1	0
Palmoil	11	11	7	9	5	7
Rapeseed Oil	10	10	7	7	5	6
Soybean Oil	9	10	6	8	4	6
Sunflower Oil	10	9	6	7	5	5
Total	217	210	106	131	62	78

Note: 100% threshold = MA3; 90% threshold = MA3*0.9; 85% threshold = MA3*0.85

Table 11 **Incidence of price depressions as a percentage of total possible cases**

Products	100%		90%		85%	
	MA-3	MA-5	MA-3	MA-5	MA-3	MA-5
Wheat	59%	52%	31%	28%	21%	17%
Wheat flour	52%	48%	17%	28%	10%	14%
Maize	41%	38%	17%	24%	10%	14%
Rice, milled eq.	48%	45%	28%	31%	17%	17%
Sugar, raw	45%	55%	24%	31%	21%	24%
Sugar, refined	41%	45%	21%	34%	21%	24%
Bovine Meat	45%	45%	10%	10%	0%	3%
Ovine Meat	24%	24%	17%	24%	0%	3%
Pig Meat	34%	41%	24%	28%	10%	17%
Poultry Meat	41%	45%	17%	28%	7%	10%
Butter	48%	41%	21%	24%	10%	24%
Cheese	45%	34%	14%	17%	0%	7%
SMP	45%	34%	24%	24%	17%	10%
WMP	41%	38%	10%	14%	3%	0%
Palmoil	38%	38%	24%	31%	17%	24%
Rapeseed Oil	34%	34%	24%	24%	17%	21%
Soybean Oil	31%	34%	21%	28%	14%	21%
Sunflower Oil	34%	31%	21%	24%	17%	17%

Note: Total possible cases = 29. Incidence = number of cases where price falls below threshold

Table 12 Comparing the incidence of depression in low and higher price periods MA3*90

Products	Total	1983-2003	2004-2011
	MA-3	MA-5	MA-3
Wheat	9	8	1
Wheat flour	5	5	0
Maize	5	5	0
Rice, milled eq.	8	8	0
Sugar, raw	7	7	0
Sugar, refined	6	6	0
Bovine Meat	3	3	0
Ovine Meat	5	5	0
Pig Meat	7	7	0
Poultry Meat	5	5	0
Butter	6	5	1
Cheese	4	4	0
SMP	7	6	1
WMP	3	2	1
Palmoil	7	7	0
Rapeseed Oil	7	7	0
Soybean Oil	6	6	0
Sunflower Oil	6	6	0
Total	106	102	4

Table 13 Incidence of price depressions using export prices 2001-2013

Products	Number			Percentage		
	100%	90%	85%	100%	90%	85%
Wheat (US, Hard Winter)	2	2	0	15	15	0
Maize (US)	3	0	0	23	0	0
Rice (Thailand)	5	1	1	38	8	8
Sugar	6	3	1	46	23	8
Bovine Meat (US)	3	0	0	23	0	0
Ovine Meat (New Zealand)	3	1	0	23	8	0
Pig Meat (US)	4	1	0	31	8	0
Poultry Meat (Brazil)	3	1	1	23	8	8
Butter (EU &Oceania)	4	3	1	31	23	8
SMP (EU &Oceania)	3	2	2	23	15	15
WMP (EU &Oceania)	4	2	2	31	15	15
Palmoil* (NW Europe)	1	1	1	20	20	20
Rapeseed Oil* (Europe)	1	1	0	20	20	0
Soybean Oil* (Dutch)	1	1	0	20	20	0
Sunflower Oil* (NW Europe)	1	0	0	20	0	0
Total	44	19	9	21	9	4

* 2009-2013

Table 14 **Use of the SSG by developing countries (1994-2012)**

HS code	Barbados		Costa Rica		Nicaragua		Philippines		Korea		Chinese Taipei	
	Price	Vol	Price	Vol	Price	Vol	Price	Vol	Price	Vol	Price	Vol
02	3						10				50	59
04											95	44
05											4	
07	12		3				3		26	9	23	17
08	2										17	7
10			15		8				11	6	10	13
11									24	23	9	12
12									43	29	9	12
13										2		
15											7	8
16	6						1	1			22	16
17											4	3
18											13	7
19											39	37
20											32	38
21									1	5	4	6
23										1		
35									1			
Total by trigger	23	0	18	0	8	0	14	1	106	75	338	279
Total by country	23		18		8		15		181		617	

Unfortunately, a comparable database covering the years 2012 and 2013, during which prices have declined somewhat from 2011 peaks is not yet available. However, an examination of available export prices for similar products indicates that depressions would have been observed for sugar, ovine meat, palmoil, rapeseed oil and soybean oil in 2013 at the same MA3*90 threshold. Table 13 suggests that the significant reduction in the number of identified price depressions as the threshold is decreased is maintained, even when 2012 and 2013 data are included.

3.6 Update of the use of the SSG

Another, albeit incomplete (due to country coverage and notification) proxy indicator of the incidence of import surges is provided by the use of the existing SSG. The Special Agricultural Safeguard (SSG) is a provision of the Uruguay Round Agreement on Agriculture that may be invoked by a World Trade Organization (WTO) Member for a product subject to tariffication and for which application of the special safeguard is designated in the Member's Schedule. It allows WTO Members to impose additional tariffs on agricultural products if their import volume exceeds defined trigger levels or if prices fall below specified trigger level.

Currently 33 WTO members (the EU counted as one) have reserved their rights to use the SSG. Out of these, 23 are developing countries. Despite this, only 37% (2291) of the overall tariff lines involved are attributed to developing countries. Out of the 23 developing members, 10 are G33 members: Barbados, Botswana, El Salvador, Guatemala, Indonesia, Korea, Nicaragua, Panama, Philippines and Venezuela. Table 14 shows the use of the SSG by tariff code and implementing country.

During the 19 year period represented in the table, only 6 developing members have made use of this mechanism. Barbados, Costa Rica, Nicaragua and Philippines have used only the price-triggered mechanism (with one exception of the Philippines using the volume-trigger in 2002). These four countries have only used the price-triggered mechanism 63times and the volume-triggered mechanism once (Philippines as already mentioned) while the other two developing countries (Korea and Chinese Taipei) are the main developing country users of the mechanism (price-triggered: Korea 106, Chinese Taipei: 279 times). In terms of products: Meat products (02+16) represented 20%; Fruits & Vegetables (07+08) 14%; Liquid Milk (04+19) 25%; and Rice, beans and peanuts (10+12+15+20) 32%.

4   Implications for the design of the SSM

4.1   Changing incidence and the rationale for the SSM

The preceding analysis of import volume trends and global import prices demonstrates that the incidence of "import surges" has changed significantly since the early 2000s, reflecting the change from a context of low and relatively stable prices to the new market context of higher and possibly more volatile prices. In the past 5 years, the incidence of volume surges has fallen significantly in all commodity groups and, on average across the 103 developing countries on which the analysis was based. The incidence of price depressions between 2004 and 2011 fell to zero in a most commodity groups.

While the sharp fall in the incidence of price depressions is unsurprising during a period in which prices rose significantly, the fall in the incidence of volume surges does not reflect a reduction in imports in response to higher prices. Indeed, far from being the result of lower levels of imports (or lower rates of increases in imports) the reduced incidence of volume surges has been identified during a period in which imports of many commodities by many food importing developing countries has been increasing significantly.

The rationale for the SSM therefore remains solid, despite the changing global market conditions, albeit with relatively greater importance of the volume trigger during periods of higher prices. Under these conditions, the rationale for cross-checks between increases in import volumes and price depressions appears weaker.

The analysis also confirms that despite the slightly higher incidence in meat products, surges continue to affect all commodity groups, albeit to a lesser extent in the oilseeds in the past decade and therefore that the availability of an SSM across all products remains an appropriate component of the mechanism.

4.2   *Sensitivity of the thresholds and appropriate trigger levels*

The identification of an "import surge" is of course dependent on the choice of threshold level. The analysis has demonstrated the sensitivity of the incidence of surges to both the type of threshold and to the level of that threshold.   The analysis suggests that a threshold based on a moving average plus a certain percentage is likely to be relatively insensitive to volume surges where imports are growing relatively constantly, whereas one incorporating a component of the variability (or lack of) such as the MA3+1sd, maybe more sensitive. In cases where there is greater volatility in import levels, the MA3+30 is however likely to be more effective. Such conclusions carry through to the design of the SSM in that the choice of the trigger level will significantly affect the effectiveness of the mechanism.

Confirming previous analyses, the number of incidences of price depressions appears to be more sensitive to the level of the threshold than the volume surges. A reduction in the threshold from 90% to 85% on the three year moving average results in a significant reduction in the identification of price depressions. This suggests that particularly careful consideration is required in the setting of a price trigger within the mechanism.

4.3   Differential experience of different country groups and alternative treatment

The analysis of import patterns and the incidence of surges across food importing developing countries suggests that different countries will find a given mechanism more or less effective to their individual requirements. While introducing differentiation into the mechanism may be problematic, consideration could be given to the use of different trigger levels by country group.

The investigation by country group suggests that import patterns and hence the effectiveness of different trigger levels can differ quite significantly. The SVEs as a group appear to have a lower incidence of surges, particularly where thresholds are set at a higher level. This indicates that the depth of volume surges felt in this sample of countries was lower than in other groups. Given their relatively high reliance on food imports as a proportion of total consumption, surges are unlikely to create significant deviations from the moving average, but the fact that similar incidences are observed in SVEs as in the aggregate group suggests that the potential for negative ramifications exists. For such countries, a more sensitive (lower volume trigger) may therefore be appropriate.

5 References

FAO (2005) A special safeguard mechanism for developing countries. FAO Trade Policy Technical Notes on issues related to the WTO negotiations on agriculture. FAO, Rome

FAO (2006) Import surges: What are they and how can they be identified? FAO Briefs on Import Surges. No.1. FAO, Rome

FAO (2006a) Import surges: What is their frequency and which are the countries and commodities most affected? FAO Briefs on Import Surges. No.1. FAO, Rome

FAO (2011) Agricultural Import Surges in Developing Countries: Analytical framework and insights from case studies. FAO, Rome

FAO (2013) FAO Statement to the WTO Committee on Agriculture

FAO (2014) AMIS Market Monitor. April 2014

FAO (2014a) Commodity Price data

Sharma, R. (2006) Triggers and Remedy for Special Safeguard Mechanism. FAO Commodities and Trade Division. FAO, Rome

Sharma, R and J.A. Morrison (2005) Considerations for the design of a Special Safeguard Mechanism. Paper presented at the IATRC summer symposium. Seville. 19-21 June

WTO (2005) Hong Kong Ministerial Declaration. WT/MIN(05)/DEC. 22 December 2005

WTO (2008) Revised Draft Modalities for Agriculture. TN/AG/W/4/Rev.4 6 December 2008

WTO (2008) Revised Draft Modalities for Agriculture: Special Safeguard Mechanism TN/AG/W/7 6 December 2008

WTO (2010) Refocusing discussions on the Special Safeguard Mechanism: Outstanding Issues and Concerns on its Design and Structure. Submission by the G-33. TN/AG/GEN/30. 28 January 2010