The Special Safeguard Mechanism: Findings from a Simulation Exercise

This information note presents the findings of an ICTSD-commissioned simulation exercise which seeks to evaluate various proposals for a Special Safeguard Mechanism (SSM) that would allow developing countries to defend themselves from import surges and prices depressions[1]. The study aims to analyse the proposal made by the G-33 developing country group at the WTO[2], and those of other trading partners, by examining how the imposition of different requirements might affect the use of the safeguard in six different country case studies.

The simulation exercise seeks to shed light on three particular issues: 1) the historical frequency and severity of import surges and price depressions in the countries studied; 2) the extent to which countries would be able to access the safeguard, by quantifying how often temporary tariff increases or 'remedies' could be applied under different conditions[3]; and 3) the effectiveness of the safeguard in bridging the gaps between import and domestic prices through the imposition of additional safeguard duties.

Methodology

A simulation model was developed for the study, using data on monthly import volumes and prices, and also on domestic prices. The data used was mainly from 2000 to 2005. Twenty-seven commodities were analysed in six countries: China, Ecuador, Fiji, Indonesia, the Philippines and Senegal. The study made use of available statistics on production and consumption, and data on tariff-rate quota (TRQ) commitments and most-favoured nation (MFN) tariffs. Any findings should be treated with some degree of caution, as data was sometimes

---

[1] *The full report on the simulation exercise is available separately, under the title "Implications of proposed modalities for the Special Safeguard Mechanism: a simulation exercise", by Raul Montemayor, ICTSD, October 2007.* http://www.agtradepolicy.org/output/resource/SSM_Montemayor.pdf

[2] *JOB(06)/64, G-33 proposal on a Special Safeguard Mechanism for Developing Countries, 23 March 2006.*

[3] *Such as the duration of the base period used to establish the import levels that would 'trigger' additional duties; and the 'threshold' that establishes the degree of variation from this base period that would permit the imposition of the safeguard duty.*

Figure 1: Methodology for assessing how often import volumes trigger the SSM
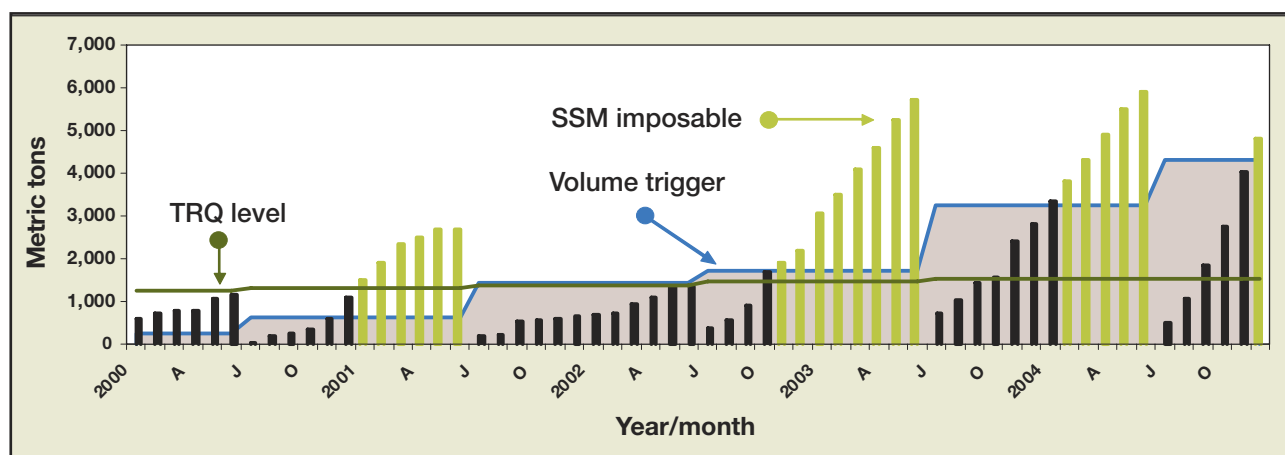
incomplete, and the study was relatively limited in scope: the results should therefore be considered as primarily indicative rather than conclusive.

Figure 1 illustrates the approach used to measure how often the safeguard would be triggered by import volume increases. The blue line represents the volume trigger, based on a three-year moving average, and the green line represents the TRQ level. The vertical bars for each month represent the cumulative volume of imports for each year. The graph shows that when the cumulative volume of imports goes beyond the trigger level, safeguard duties can be imposed. These months are indicated in light green. In some of the months in early 2000, the vertical bars are in black, indicating that the safeguard cannot be imposed, despite import volumes exceeding the trigger level. This is because in these months the TRQ has not yet been filled.

In Figure 2, the blue line represents the price trigger, using a three-year moving average, and the vertical bars represent monthly prices per kilogram. When the prices go below the price trigger, the SSM can be imposed: these months are shown in green. Again, the early months of 2000 are shown in black, even though prices are well below the trigger level, because the TRQ has not yet been filled, as shown in the previous graph.

For both the volume and price SSM, access rates are defined as the percentage of total months (bars) during which SSM can be imposed (green bars).

Figure 3 illustrates how effectiveness is measured. The blue line represents the wholesale domestic price and the vertical bars represent the monthly import prices inclusive of tariffs. On the latter, the brown segment represents the CIF price, the green

Figure 2: Methodology for assessing how often price depressions trigger the SSM
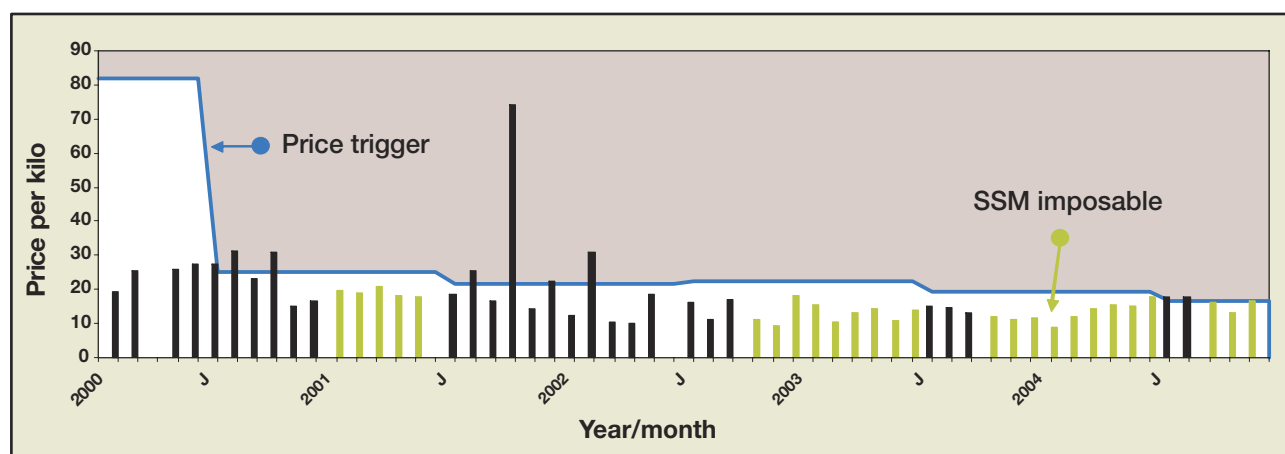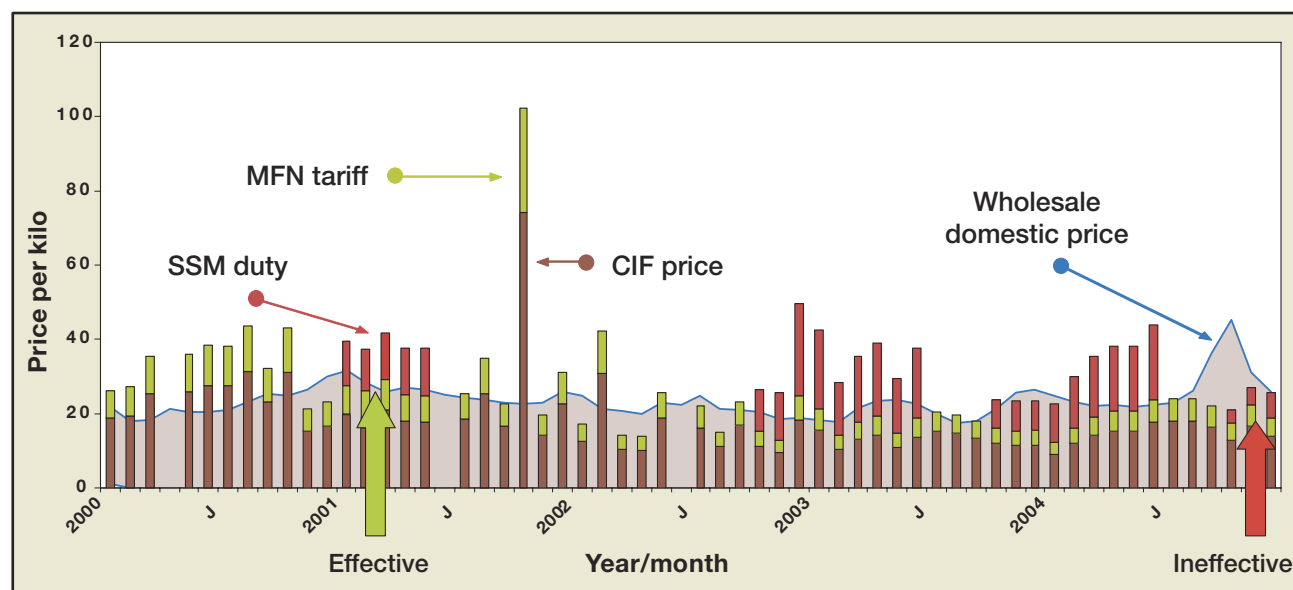
Figure 3: Methodology for assessing SSM effectiveness

segment represents the MFN tariff, and the red segment represents the additional SSM duty, if it can be imposed.

In computing SSM effectiveness rates, the model first determines the percentage of total months during which CIF prices plus MFN tariffs fall below domestic prices by a certain percentage. Then it computes the percentage of these "problematic" months during which the SSM can be invoked (with red bar) and is able to raise import prices to a certain threshold.

Frequency and severity of imports

The analysis revealed that the frequency of import volume surges and price depressions was significant among the commodities covered by the study, and in the countries analysed (see figures 4 and 5). On average, cumulative imports exceeded three-year import volume moving averages by more than ten percent in about one out of every six months. Price depressions occurred slightly more often, with import prices falling below a three-year moving average in a little over one out of every five months.

When only import quantity surges and price depressions that exceeded historical averages by 30 percent were analysed, they still occurred with significant frequency in about one out of every ten months covered.

Accessibility of the safeguard

The simulations show that import volume increases would trigger the safeguard 29 percent of the time if the safeguard was only activated when imports exceeded the three-year moving average of import volumes by more than ten percent – a ten percent threshold. Import price declines could trigger the safeguard rather more often: the safeguard could be imposed 45 percent of the time when imports prices fell below three-year moving averages of import prices. The additional duties could still be levied almost as often even if thresholds were raised to 30 percent (see figures 6 and 7).

Although the G-33 has proposed that countries should be allowed to impose safeguard duties for up to twelve months, safeguard duties could still be accessed nearly as easily when this maximum period was reduced to six months, or only up to the end of the year. Access improved perceptibly when a July-June implementation cycle was used instead of a calendar year, and more so when countries were also allowed to impose safeguard duties on in-quota imports (see figures 8 and 9).

The simulations showed that average import volumes tended to be lower, and therefore more susceptible to triggering safeguard duties, when they were based on data from a greater number of years (see figures 6 and 7). One possible explanation is that developing country imports are generally on the rise: averaging a longer series of data thus includes more years when import volumes were lower. In contrast,

3

Figure 4: Incidence of import surges and price depressions, by commodity and by magnitude
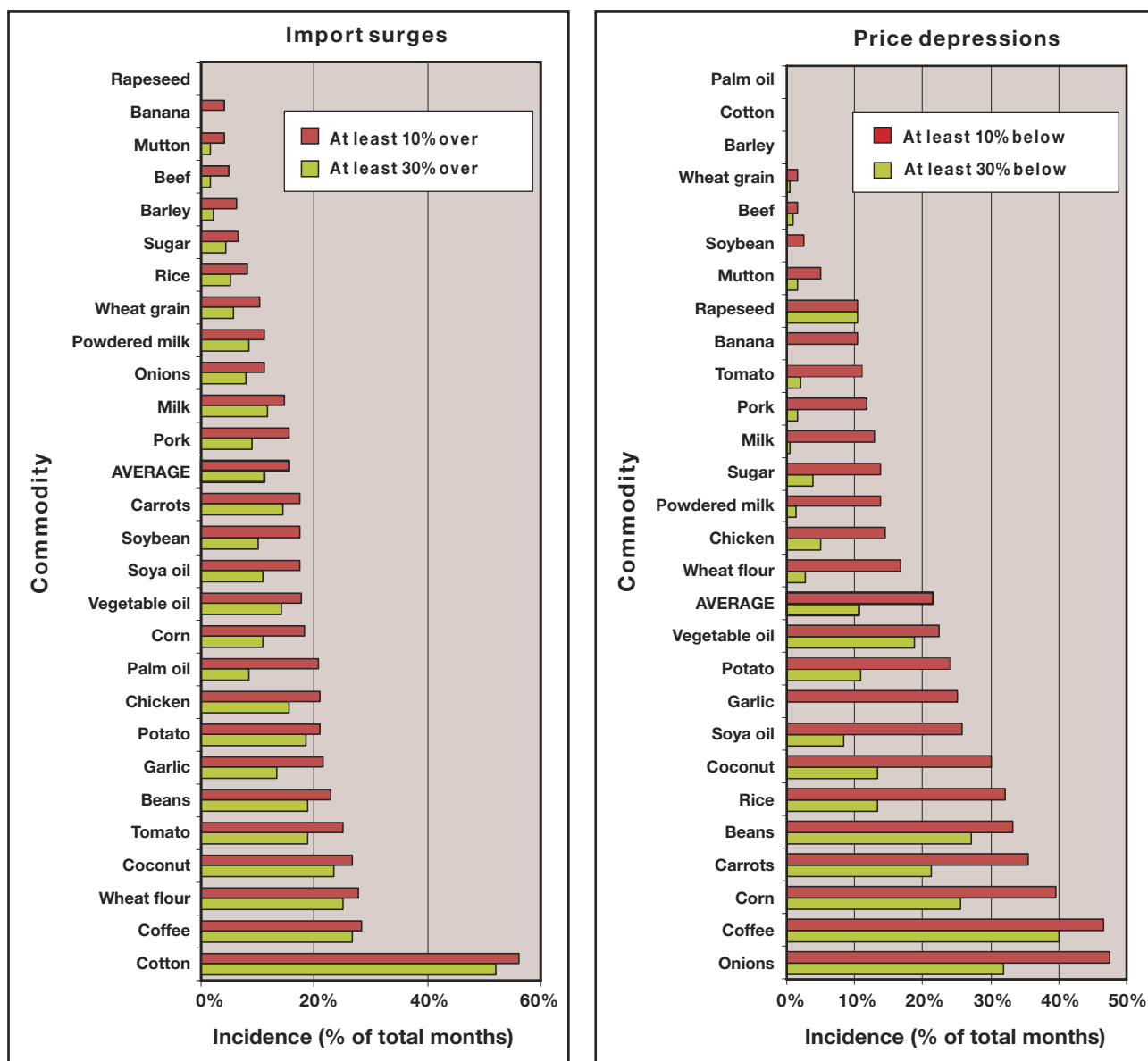
Import surges

Commodity (top to bottom): Rapeseed, Banana, Mutton, Beef, Barley, Sugar, Rice, Wheat grain, Powdered milk, Onions, Milk, Pork, AVERAGE, Carrots, Soybean, Soya oil, Vegetable oil, Corn, Palm oil, Chicken, Potato, Garlic, Beans, Tomato, Coconut, Wheat flour, Coffee, Cotton

Legend: At least 10% over; At least 30% over

Incidence (% of total months) — axis 0% to 60%

Price depressions

Commodity (top to bottom): Palm oil, Cotton, Barley, Wheat grain, Beef, Soybean, Mutton, Rapeseed, Banana, Tomato, Pork, Milk, Sugar, Powdered milk, Chicken, Wheat flour, AVERAGE, Vegetable oil, Potato, Garlic, Soya oil, Coconut, Rice, Beans, Carrots, Corn, Coffee, Onions

Legend: At least 10% below; At least 30% below

Incidence (% of total months) — axis 0% to 50%

Figure 5: Incidence of import surges and price depressions, by country and by magnitude

Import surges

Country (top to bottom): Indonesia, China, Ecuador, Fiji, AVERAGE, Senegal, Philippines

Legend: At least 30% over; At least 10% over

Incidence (% of total months) — axis 0% to 25%

Price depressions

Country (top to bottom): Indonesia, China, Ecuador, Fiji, AVERAGE, Senegal, Philippines

Legend: At least 30% below; At least 10% below

Incidence (% of total months) — axis 0% to 40%

Figure 6: The effect of different base periods and thresholds on SSM accessibility, by commodity

10% versus 30% volume thresholds

- 10% volume threshold
- 30% volume threshold

Commodity (top to bottom): Barley, Wheat grain, Palm oil, Mutton, Cotton, Sugar, Beef, Soya oil, Vegetable oil, Chicken, Pork, Banana, Milk, AVERAGE, Coffee, Rapeseed, Coconut, Soybean, Potato, Beans, Wheat flour, Corn, Rice, Tomato, Powdered milk, Onions, Carrots, Garlic

Accessibility (% of total months)

5 versus 3 year triggers

- 3 year triggers
- 5 year triggers

Commodity (top to bottom): Barley, Wheat grain, Palm oil, Mutton, Cotton, Sugar, Beef, Soya oil, Vegetable oil, Chicken, Pork, Banana, Milk, AVERAGE, Coffee, Rapeseed, Coconut, Soybean, Potato, Beans, Wheat flour, Corn, Rice, Tomato, Powdered milk, Onions, Carrots, Garlic

Accessibility (% of total months)

Figure 7: The effect of different base periods and thresholds on SSM accessibility, by country

10% versus 30% volume thresholds

- 30% volume threshold
- 10% volume threshold

Country (top to bottom): China, Philippines, Educador, AVERAGE, Senegal, Fiji, Indonesia

Accessibility (% of total months)

5 versus 3 year triggers

- 5-year triggers
- 3-year triggers

Country (top to bottom): China, Philippines, Educador, AVERAGE, Senegal, Fiji, Indonesia

Accessibility (% of total months)

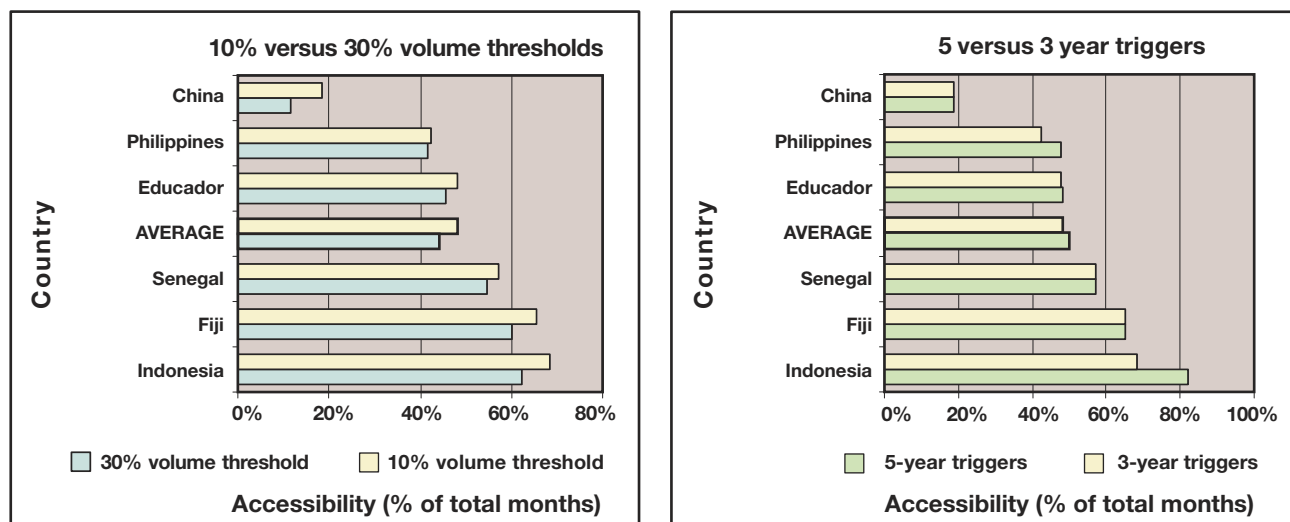## Figure 8: The effect of different implementation and imposition periods on SSM accessibility, by commodity
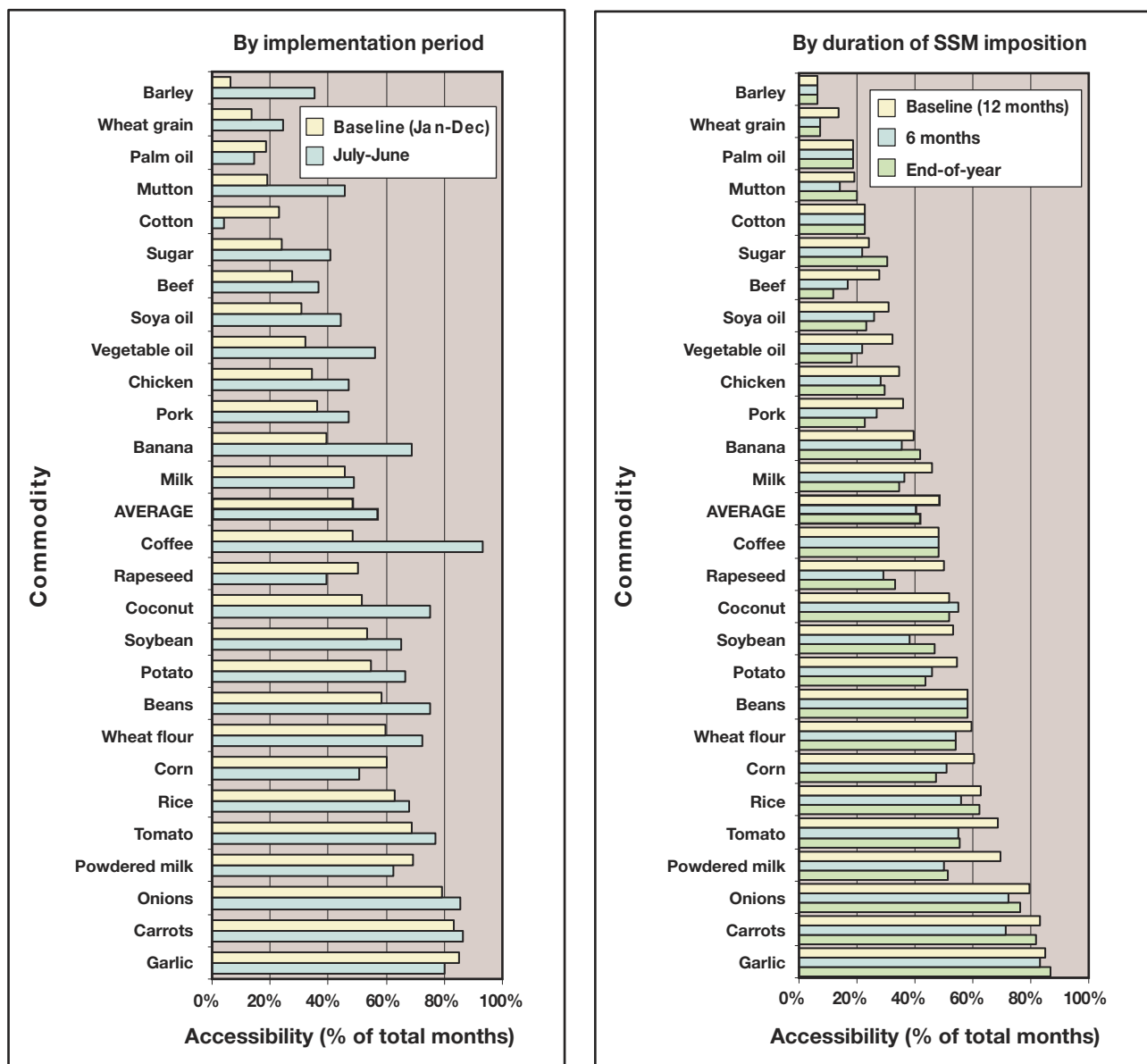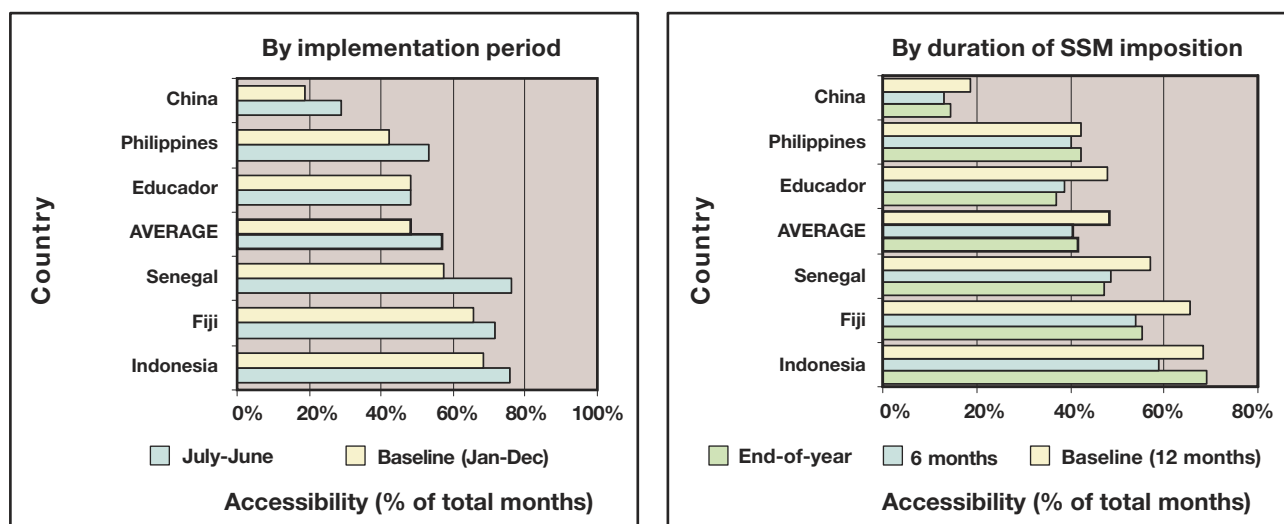

By implementation period

Legend:
- Baseline (Jan-Dec)
- July-June

Commodities (top to bottom): Barley, Wheat grain, Palm oil, Mutton, Cotton, Sugar, Beef, Soya oil, Vegetable oil, Chicken, Pork, Banana, Milk, AVERAGE, Coffee, Rapeseed, Coconut, Soybean, Potato, Beans, Wheat flour, Corn, Rice, Tomato, Powdered milk, Onions, Carrots, Garlic

X-axis: Accessibility (% of total months), 0% to 100%
Y-axis: Commodity

By duration of SSM imposition

Legend:
- Baseline (12 months)
- 6 months
- End-of-year

X-axis: Accessibility (% of total months), 0% to 100%
Y-axis: Commodity

Figure 9: The effect of different implementation and imposition periods on SSM accessibility, by country

By implementation period

Countries (top to bottom): China, Philippines, Educador, AVERAGE, Senegal, Fiji, Indonesia

Legend:
- July-June
- Baseline (Jan-Dec)

X-axis: Accessibility (% of total months), 0% to 100%
Y-axis: Country

By duration of SSM imposition

Legend:
- End-of-year
- 6 months
- Baseline (12 months)

X-axis: Accessibility (% of total months), 0% to 80%
Y-axis: Country

average import prices tended to be lower when fewer years of data were used. This could be due to the general downward trend in international commodity prices in the periods covered by the simulation (primarily 2000-2005).

Overall, however, a five instead of three-year base period for both volume and price import averages resulted in a slightly better access rate for the SSM (50 percent rather than 48 percent). While some Members could interpret this as a signal to push for five rather than three-year averages, this finding also suggests that protracted debates over the duration of the base period may be unnecessary, since each would allow safeguard duties to be imposed almost as often as the other. However, some caution should be used in analysing these results, both because data gaps might have compromised the accuracy of the computation and because the results for individual commodities vary widely.

If however domestic consumption rather than imports is used to calculate volume triggers, as has been the case for the existing Special Safeguard (SSG)[4], the SSM would probably be triggered less often. If the triggers were set to at least five percent of average domestic consumption in the preceding three years, the SSM could be accessed 45 percent of the time, as opposed to 48 percent of the time when three-year import averages were used solely to determine volume triggers. In many instances, however, historical import and consumption data were not available, so the resulting access levels were probably overstated. If complete data were available, it is likely that triggers would rise to at least five percent of historical consumption levels, and access rates would decline as a result.

The second critical factor affecting access to the SSM concerns thresholds, or the degree of deviation from the triggers that would allow the invocation of either volume or price-based safeguard duties. Simulation results suggest that higher volume thresholds will not significantly impair access to safeguard duties – although gaps in the data mean that these findings are only indicative. If the volume threshold is increased from ten percent to 30 percent while the price threshold is kept constant at ten percent,

for example, overall access rates only decline from 48 percent to 44 percent of total months.

The simulations indicate that the maximum period for imposing SSM duties could be shortened without substantially sacrificing reasonable access to the safeguard. Even if the additional duties cannot be imposed for longer than six months, for example, they would still enable the safeguard to be used in 40 percent of total months – only slightly less often than the 48 percent access rate obtained if additional duties can be applied for a twelve month period, as proposed by the G-33. In fact, allowing SSM duties only up to the end of the year yielded a better result (42 percent) than when a six-month limit was imposed.

If a slight reduction in the access rate is acceptable to SSM proponents, the adoption of the end-of-year modality that was used for the Uruguay Round SSG may help speed up negotiations, and would ensure almost the same level of access as that provided by other proposed imposition periods. This could also help prevent SSM duties from leading to lower import levels in the following year, thereby unduly deflating the average import volumes for subsequent years – a concern expressed by some exporting countries, and echoed by the chair of the agriculture negotiations, Ambassador Crawford Falconer[5]. Notably, the simulations seem to indicate that any losses in access from an end-of-year limit to imposition periods could be more than recovered by shifting from a calendar to a July-June implementation period.

The availability of the SSM was more than halved when so-called 'market tests' were imposed, i.e. when volume surges had to coincide with price depressions in order to trigger safeguard duties. The simulations showed that access to the measure declined very substantially from the baseline level of 48 percent to only 19 percent of total months if remedial duties were disallowed during periods when average prices and volumes did not deviate from corresponding averages in preceding years by more than ten percent. For several commodities, the market test effectively rendered the SSM useless. In this regard, it could be argued that the link between import volumes and prices is not always symmetrical,

---

[4] *The SSG was established in article 5 of the Uruguay Round Agreement on Agriculture. The new SSM was proposed in part because of the difficulties which developing countries have had in using the SSG.*

[5] *Paragraph 109 of the "Draft Modalities for Agriculture", TN/AG/W/4.*

nor do abrupt movements in both volumes and prices need to coincide in order to result in serious harm to producers in importing countries.

Finally, the simulations clearly show that if countries are allowed to impose safeguard duties on in-quota imports, access rates improve dramatically. Overall access rates increased from 48 percent to 59 percent of total months when duties on in-quota imports were allowed, and would increase still further if the analysis were to be confined to countries and commodities with tariff quota commitments.

Effectiveness of the safeguard

On average, in six out of twelve months in a year, the prices of imports – inclusive of MFN bound duties – fell below corresponding domestic prices by more than ten percent. Safeguard duties were available in about four of these six "problematic" months, but were effective in reducing the price gaps to less than ten percent in only two of the months concerned.

When using the baseline threshold and remedy settings[6], soybeans came up with the best effectiveness rating, with safeguard duties being able to prop up import prices to more than 90 percent of domestic prices in 74 percent of the months when prices were cheaper by ten percent or more. Potatoes had a similar effectiveness rate, although had a much lower incidence of problematic months, as can be seen in Figure 10. Among the commodities that experienced episodes of imports priced at least ten percent below domestic prices, wheat flour, pork, vegetable oil, garlic, and wheat grain suffered from comparatively low effectiveness rates, with safeguard duties being able to provide sufficient remedies in less than ten percent of problematic months. Overall, SSM measures were effective in only 37 percent of problematic months.

Although price-based SSM measures were more accessible than volume-based remedies, the two were more or less as effective in addressing problems created by cheap imports. Figure 11 shows that if only the volume-based safeguard is allowed, access is limited to 39 percent of problematic months, as against 64 percent in the baseline setting, while the effectiveness of the safeguard duties slid to 24 percent. If, on the other hand, only price-based measures were allowed, safeguard duties were available in a higher 55 percent of problematic months, during which they were effective only 23 percent of the time.

The effectiveness of the remedy did not appear to be considerably influenced by adjustments in the way import prices were converted to local currencies, or when imposition periods were adjusted from twelve to six months or only up to the end of each year. There also appeared to be some room for increasing thresholds and reducing remedies without unduly impairing the quality of the SSM. However, given the relatively low tariff profile of the countries included in the study, access and effectiveness rates deviated less abruptly from baseline results if safeguard duties and remedy caps were quoted in absolute percentage points instead of as percentages of bound tariffs.

Effectiveness rates improved when July to June was used as the annual implementation cycle, instead of a calendar year. Effectiveness was improved even more significantly when countries were allowed to impose safeguard duties on in-quota imports. The SSM became available in three out of every four months when duties could be applied to in-quota imports, compared to a little less than one-third in the baseline scenario, and was effective in addressing problematic price gaps in almost half of the problematic months, as against only 37 percent when countries were not allowed to impose the safeguard until the quota had been filled.

The simulations show that proposals to impose a 'market test' on the use of SSM duties would result in a drastic decline in effectiveness rates, which would be cut from 37 percent to 12 percent of problematic

---

[6]   The baseline scenario for the price trigger is that outlined in the G-33 proposal of 23 March 2006, JOB(06)/64. The baseline scenario for the volume trigger is based on one of the bracketed options outlined in the chair's Draft Possible Modalities text of June 2006, JOB(06)/199. In this, although the thresholds between ranges were tightened, the volume-based remedies in absolute percentage point terms were effectively doubled. The text however retained the G-33 proposal's parameters for the price-based setting. For consistency, the revised schedule of SSM duties set out in the 2006 draft modalities text was used as the baseline for the simulations on SSM effectiveness. Further details are available in "Implications of proposed modalities for the Special Safeguard Mechanism: A simulation exercise", by Raul Montemayor, ICTSD, October 2007: http://www.agtradepolicy.org/output/resource/SSM_Montemayor.pdf

Figure 10: Baseline incidence of problematic months, and access and effectiveness rates, by commodity
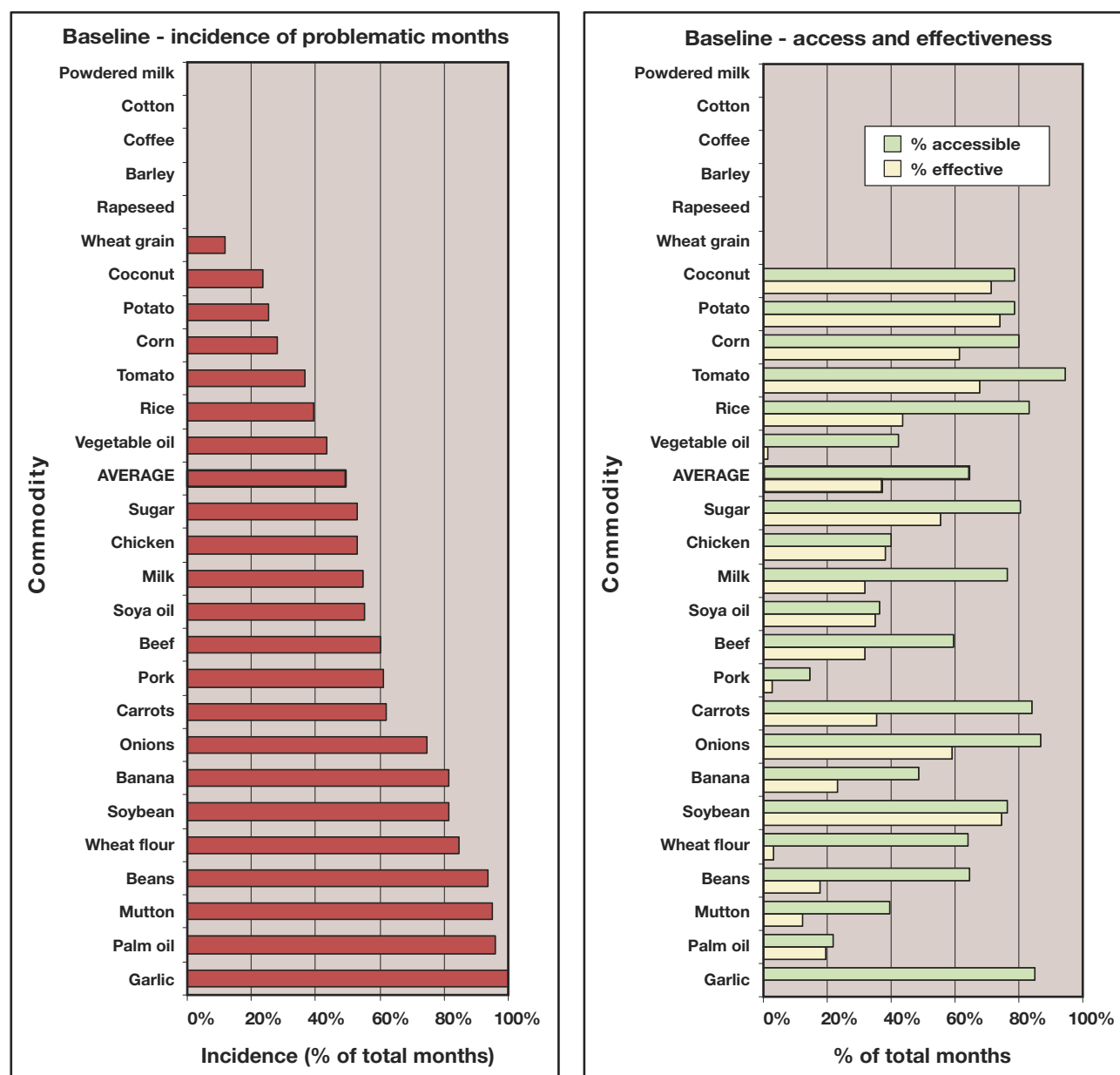

months. All commodities and countries covered by the study suffered noticeable declines in their individual effectiveness rates when this requirement was introduced (see figures 12 and 13).

Effectiveness rates would also be significantly impaired if the additional safeguard duties were not allowed to take overall tariff levels beyond the maximum permitted 'bound' rates agreed during the Uruguay Round[7]. If this limit was imposed, the SSM became virtually useless, becoming effective in only two percent of problematic months. Among the 20 commodities covered that registered positive effectiveness rates under the baseline scenario, eleven saw their effectiveness rates drop to zero, while the rest experienced declines of at least 88 percent compared to baseline levels. Ambassador Falconer's paper envisaged that least-developed countries (LDCs) would be exempt from this restriction: indeed, they would otherwise have had no access to SSM remedies, since their proposed exemption from any tariff reduction in the Doha Round would have meant that even the slightest safeguard duty application would have brought them over starting tariff levels. Notably, the SSG contains no such restriction on exceeding bound tariff levels.

[7] *See paragraph 110 of the "Draft Modalities for Agriculture", TN/AG/W/4.*

Figure 11: Comparative effects of volume and price safeguards on access and effectiveness, by commodity
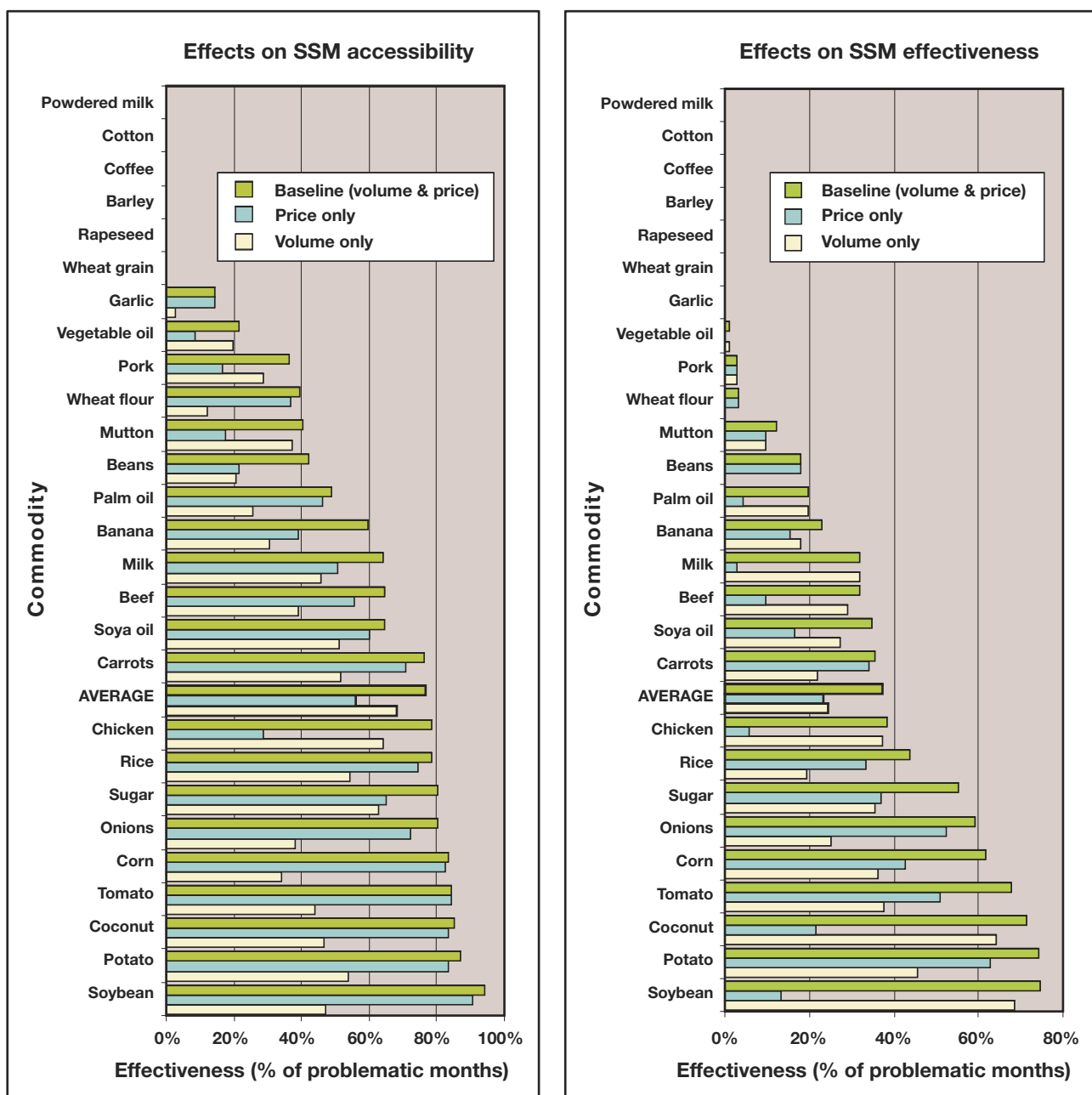
The simulation results suggest that the quality of the SSM can be improved if five instead of three-year averages are used to determine triggers, and if countries retain the option to use a July-June implementation cycle. Where applicable and advisable, countries could also consider the implications of unilaterally lowering their bound tariffs on selected products to in-quota levels in exchange for enhanced access to the SSM. A legal opinion would however be needed to determine whether such a move would allow a country to start imposing safeguard duties on imports falling within their original TRQ commitments.

Additional considerations

The simulation did not specifically address the issue of product coverage, but did demonstrate that commodities and countries vary greatly in their susceptibility to import surges and price depressions. These findings can however by complemented by a number of analytical observations.

While some WTO Members have suggested that exported commodities should be excluded from SSM coverage (on the basis that, if a country is able to export a commodity to the world market it is

presumably competitive enough not to need protection from competing imports), it is also conceivable that, if a country's marketing infrastructure is weak, production in remote areas might have to be exported to nearby foreign markets while the same product is imported to satisfy demand in consumption areas. It is also conceivable that local produce is sometimes exported in exchange for similar imported products of a different grade, variety or quality.

Again, while some exporting countries have expressed concern that the SSM may be applied frequently and arbitrarily on a large number of agricultural products, limiting product coverage may not be a workable or effective solution to this. A better approach may be to retain the broad product coverage proposed by the G-33, whilst ensuring that triggers, thresholds, and remedies are able to prevent arbitrary and unreasonable application of safeguard duties. This could ensure that countries can maintain the safeguard for all the commodities they need to cover, while providing exporting countries with reassurance that their exports will only be subject to additional duties in truly problematic situations.

If, however, product coverage is eventually restricted in some way, the simulation results could allow countries to identify specific commodities that tend to be particularly vulnerable to import surges and price depressions. These can then be cross-referenced with national lists of domestically produced commodities that are important for food security, livelihood security and rural development, as well as substitute products, before being ranked and a final selection made on the basis of the permitted number of products or permitted share of total tariff lines.

Although some exporting countries have proposed that imports under preferential trade agreements be excluded from calculations of volume and price averages and from the determination of whether safeguard duties could be imposed, it was unfortunately not possible to model this proposed restriction in the simulations, as import statistics could not be disaggregated by source country. It was also impossible to separate those imports that are subject to MFN tariffs from those benefiting from preferential rates. This in itself raises questions about the extent to which such an approach could be put into practice in developing countries.

Figure 12: Effects of 'market test' and UR bound tariff cap on SSM effectiveness, by commodity
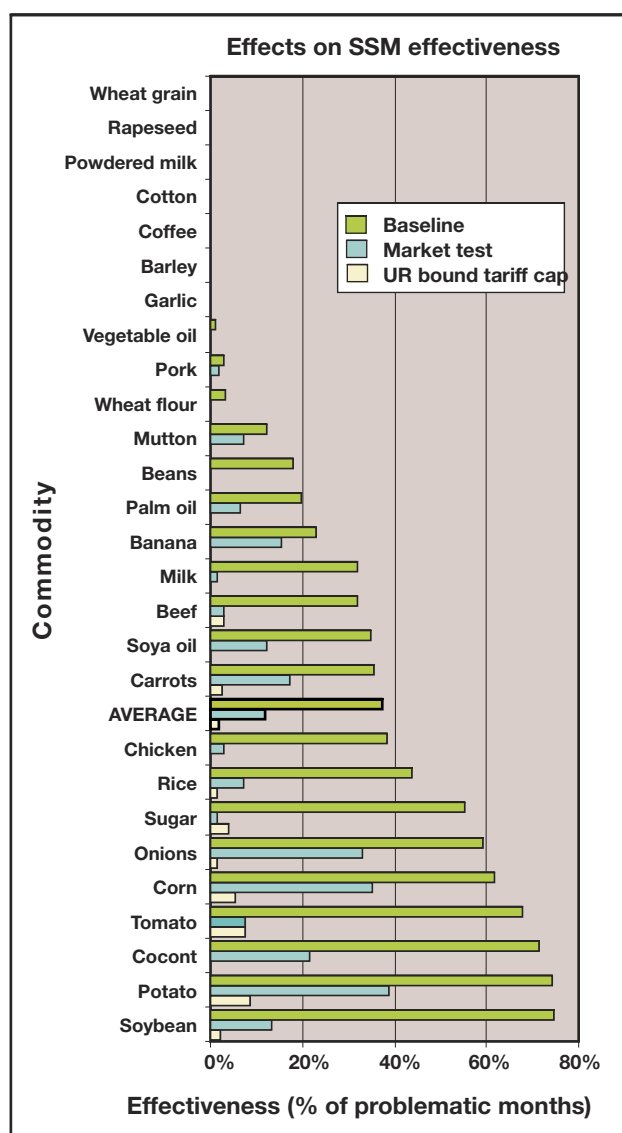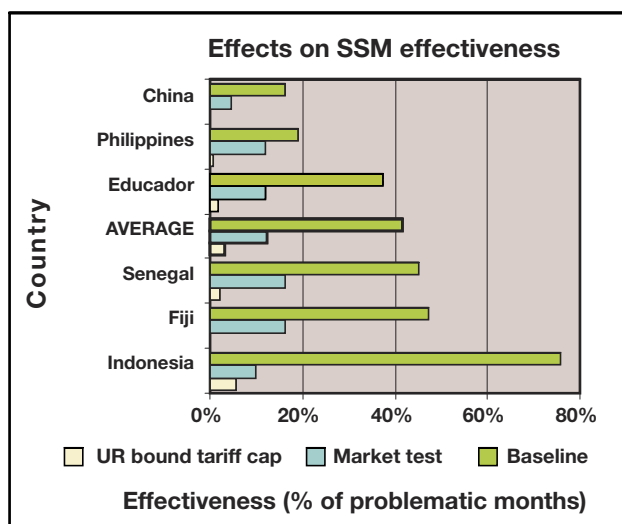

Figure 13: Effects of 'market test' and UR bound tariff cap on SSM effectiveness, by country

However, the simulation results do provide some indication of the possible effects of this proposal. When import levels had to exceed base period import volume averages by a minimum 30 percent threshold, safeguard duties could be imposed almost as often as when this threshold was only ten percent (keeping the price threshold constant at ten percent). Because increasing the threshold would have a similar effect to excluding preferential imports from the calculation of triggers, this result suggests that access to the safeguard might not decrease significantly.

It is not correct however to infer that excluding preferential imports from base period averages and minimum trigger thresholds can be accommodated without impairing the effectiveness of the safeguard. Preferential import volumes and prices vary greatly by country and commodity, and a uniform threshold adjustment will not be able to take into account all possible scenarios.

Conclusions

Although WTO Members appear to have substantial latitude to agree to higher threshold levels, and even to lower levels of safeguard duties, without reducing either the frequency with which the SSM can be triggered or its effectiveness in bridging price gaps, this does clearly have limits. Particular attention should be paid to proposals to introduce domestic consumption requirements for the calculation of triggers, or to require maximum permitted safeguard duties to be expressed as a percentage of bound tariffs – a requirement which could be particularly problematic if a country's bound tariffs are already low. Market tests could also have a significant impact on the usefulness of the mechanism, as could a requirement that safeguard duties must not exceed Uruguay Round tariff bindings. Priority should be given to price-based remedies, given their clear superiority over volume-based measures, and the fact that the harmful effects of imports (including volume surges) are normally expressed in the form of price depressions.

A potentially less controversial six-month limit to the period for imposing safeguard duties also appears to be bearable, as would a year-end limit modelled on the SSG. Proposed adjustments in foreign exchange rates in cases of severe depreciation also do not seem to have significant effects on the quality of the mechanism – although it would not do harm to retain them if this does not meet opposition.

Developing countries have made only modest use of the SSG, and this fact may go some way towards assuaging exporters' fears that the SSM will be abused through over-frequent use. Furthermore, since SSM duties would be effective in bridging problematic price gaps in only two out of every six "problematic" months in a year, normal historical levels of market access are unlikely to be extraordinarily impaired.

If developing countries are to use and benefit from the SSM, they need to upgrade their capacity to collect accurate data in order to be able to detect import surges and price depressions promptly, and impose safeguard duties when necessary. When considering eventual compromises in the agriculture negotiations, developing country delegates may also need to take into consideration the relative benefits to be gained from flexibility for their 'special products' and the advantages of an effective SSM.

© Tony Campbell | iStockphoto.com