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Agricultural Trade Reform Under the Doha Agenda: Ready for Takeoff?

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February 2007

Invited Paper for the 51st Annual Conference of the Australian Agricultural and Resource Economics Society, Queenstown, New Zealand, 14-16 February 2007. This paper is a product of the World Bank's DfID-funded project on the implications of the Doha Agenda for developing countries (www.worldbank.org/trade/wto). The authors are grateful for helpful comments from project participants, for tariff-cutting data from CEPII staff in Paris (with special thanks to David Laborde), and for funding from the UK's Department for International Development. The views expressed are the authors' alone and not necessarily those of the World Bank and its Executive Directors, or the countries they represent, nor of the countries or agencies providing financial support for this research project.

Abstract

A successful agreement on agriculture is critical for an overall agreement under the Doha negotiations. But before the final agreement is known, some critical decisions must be made about issues such as resumption of the negotiations, and the key tradeoffs to be made following resumption. We consider four of the most controversial areas of the agricultural negotiations: the relative importance of domestic support, market access and export subsidies; the sensitive-product exceptions sought for all countries; the additional special product exceptions sought for developing countries; and the proposed special safeguard mechanism. We show that the decisions made on reform in these areas will have a critical influence on whether the negotiations achieve their objectives of promoting trade reform and reducing poverty. In the end, we are cautiously optimistic about the potential for the negotiations to deliver a substantial outcome.

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Will Martin and Kym Anderson

The negotiations on agriculture under the WTO's current Doha Development Agenda (DDA), like in the previous GATT rounds of multilateral trade negotiations, have encountered major difficulties over many years. Because of the complexity of the issues involved in agricultural trade reform, negotiations under Article 20 of the Uruguay Round Agreement on Agriculture began in early 2000, almost two years before the Doha Ministerial at which a broader Round of negotiations was initiated (WTO 2004a). Building on these negotiations, the Doha Ministerial declaration in September 2001 specified goals for agriculture of increasing market access; reducing, with a view to phasing out, export subsidies; and making substantial reductions in domestic support. However, the deadlines in 2003 for "modalities" and draft commitments were missed, and the Ministerial Conference in September 2003 at Cancún, ended in disarray. A new framework agreement was reached on 1 August 2004, but only limited progress was made by the Hong Kong Ministerial at the end of 2005, and the negotiations were suspended in July 2006.

A critical decision facing WTO members in 2007 is whether to push forward with these negotiations. Key inputs to members' decisions presumably will be assessments of whether the potential gains are sufficiently large and widely enough distributed relative to any (political or economic) costs to provide a basis for an outcome that would command consensus at the WTO, and whether it is likely that the negotiations will ultimately be able to secure these potential gains, given the ambivalence towards trade reform in Brussels, Washington, new Delhi and numerous other capitals. In the terminology of WTO Director-General Pascal Lamy, a key question – before negotiations can take off again – is whether the shape of a landing zone can be discerned.

At this point, many things about outcomes potentially available from the negotiations are unknown. However, some key decisions about the outcome may need to be taken quite quickly when parameters become available. For instance, it appears likely that an outline of a potential agreement between the main players may not be available until late February or early March 2006, and yet decisions about continuation of Trade Promotion Authority in the United States will likely need to be taken in March. If analysts wait until all the information needed to make an informed decision is available, it may be too late to assist the process. Under these circumstances, it is useful to take stock of the information that is currently available about the potential shape of an agreement, and to attempt to provide some approaches to thinking about the key uncertainties that remain.

In this paper, we examine some of the key issues involved in the negotiations that will likely be relevant to decisions about their continuation. To this end, we first examine the broad features of the proposals for reform of agricultural trade currently under discussion. We then consider three of the most controversial areas of the agricultural negotiations: the relative importance of market access, domestic support and export subsidies; market access issues such as the sensitive-product exceptions sought for all countries, the additional special product exceptions sought for developing countries, and the proposed special safeguard mechanism; and then domestic support issues. Some conclusions on implications for the DDA once it resumes are provided in the final section.

The broad shape of a potential agreement

While much is not known about the shape of a potential agreement, a great deal has been agreed, and the range of possibilities for other features of the agreement is spanned by proposals from different WTO members. In this situation, much can be done to organize our ignorance in a way that will allow informed assessments to be made more quickly once additional information about the shape of a potential agreement is available.

Key features of a potential WTO agreement on agriculture include: a complete phase out of export subsidies, reductions in WTO-bound tariffs under the market access pillar, and reductions in WTO-bound domestic support.

The one pillar that looks relatively straightforward is export subsidies, where the agreement to completely abolish these measures was reached at the Hong Kong Ministerial in late 2005. Subsidies under this pillar have been relatively minor in recent years compared with in the 1980s' lead-up to the GATT's Uruguay Round (Hoekman and Messerlin 2006), so we will not focus on this reform in detail. It is worth noting that developing countries have pushed hard for the abolition of these subsidies. Their perceptions of the damage to the health and legitimacy of the trading system from these measures apparently have outweighed the short-term gains some of those developing countries have received (in terms of foreign currency savings) from buying those subsidized exports. Bringing agriculture into line with non-agricultural goods by making farm export subsidies illegal would be a major achievement in and of itself.

The likely reduction in actual applied agricultural tariffs that might result from the DDA is particularly difficult to assess since not only is the depth of cuts unknown, but also countries will have flexibilities to subject some tariff lines to reduced disciplines on bound tariffs.

Similarly, assessment of the implications of disciplines on domestic support is complicated by the critical role not just of overall reductions in domestic support, but of caps on support to specific commodities. However, recent research allows us to form some structured assessment of the likely implications of these key features of potential agreements, particularly now that analysts' databases include both the bound and the applied levels of domestic support and bilateral tariffs rates.

One very early point of agreement in the negotiations was on the use of formula approaches for negotiating improvements in market access, domestic support and export subsidies. This agreement perhaps reflects the need for more structured procedures than prevailed in some of the earlier negotiations under the GATT, when a smaller number of members found it more practical/desirable to negotiate on a request-and-offer basis. It may also reflect the limited success of request-and-offer negotiations relative to formula-based negotiations in achieving liberalization. Baldwin (1987, pp. 42-3) notes that the

second through to the fifth multilateral negotiating rounds yielded tariff reductions of only 2.5 percent per round, as against 35 percent in the Kennedy Round of the 1960s and 30 percent in the Tokyo Round of the 1970s. The use of the formula approach provides a better basis for ex ante analysis than is possible in a request-an-offer negotiation, or in one based on a general rule such as the 36 percent average-cut formulation adopted in the Uruguay Round.

Before we can evaluate any proposals, we need to have some idea of the relative potential importance of the three different pillars of the negotiations: market access (tariffs); domestic support (direct subsidies); and export subsidies. Absent this, we cannot begin to estimate the implications of an overall package.

The relative importance of the three ‘pillars’

A continuing issue for negotiators is the need to strike a balance between the effort devoted to the three different pillars of the negotiations—market access, domestic support, and export competition. One surprising feature of the debate on this balance has been—in our view—a persistent tendency to over-emphasize the gains that might be obtained from disciplines on domestic support. A recent EC newsletter on agricultural trade policy (European Commission 2006) sets out to “explode the myths surrounding world trade”. First among these purported myths is a widely-quoted World Bank research result, first publicized in Anderson and Martin (2005) and since explored in detail in Anderson, Martin and Valenzuela (2006), that market access barriers are overwhelmingly important as a source of potential costs from global agricultural trade barriers.

The EC paper draws on a USDA study (2001, p. 6) which reports that market access contributes 54 percent of the impact of global liberalization, domestic support 32 percent and export subsidies 10 percent. It compares these results with World Bank estimates putting the contribution of market access barriers at 93 percent and an OECD (2006) study that puts it at 79 percent. The problem with this comparison is that it does not compare like with like. The cited USDA numbers refer to the impact of reform on *international food prices*, whereas the World Bank result refers to the impact on global

economic welfare. Later in the USDA report (2001, p. 37), numbers are provided on global welfare impacts, suggesting that tariffs account for 89 percent of potential global gains and export subsidies for 1 percent – very close to the more-recent World Bank estimates.

We think that it is preferable to consider the impact of the policy instruments on welfare, rather than on international prices. Welfare measures take into account the full impact of a policy change on the economy— through changes in the costs faced by consumers, through the net returns to producers, and through changes in government revenues. While world price impacts are important, their effects on various countries' national economic welfare depend on the situation of the country: increases in world prices generally make exporting countries better off, while making importing countries worse off, so it is not easy to infer the impact on developing countries as a group.

A set of comparable results for welfare impacts is shown in Table 1. From that table, it is clear that the three studies are consistent in indicating that market access barriers are overwhelmingly important as potential sources of welfare gains from reform. Because of small but important differences in their models, databases and parameter values, they differ somewhat on the importance of Domestic Support. But the policy-relevant conclusion, that market access increases are much more important than domestic support reductions in their potential to generate global welfare gains, is consistent across all three studies.

Further, this result is not just an artifact of the computable general equilibrium models used in these studies. The general point that domestic subsidies are likely to be much less important than market access barriers was first highlighted by Snape (1987, 1991) early in the Uruguay Round. He pointed out that subsidies are likely to be much less important than market access barriers because subsidies involve outlays by treasuries and must pass the scrutiny of annual budget reviews, while tariffs usually generate government revenue and are subjected to review much less frequently.

Hoekman, Ng and Olarreaga (2004), using a simpler partial equilibrium framework and extremely detailed information on tariffs plus official WTO data on domestic subsidies, also established the importance of agricultural market access barriers. Their findings were even stronger than the Anderson, Martin and Valenzuela (2006)

results cited above. They found that reductions in domestic support would yield less than one percent of the gains obtainable from reductions in market access barriers.

Because of the controversy surrounding the World Bank numbers, the Anderson/Martin/Valenzuela study (recently published in the WTO's own refereed journal) was designed to provide more intuition into the basis for this repeated research finding. To ensure transparency, they used widely available data and began with an extremely simple back-of-the-envelope model. Their results confirmed the overwhelming importance of market access found in the earlier studies. The main determinants of their finding were the much greater importance of tariffs as a form of support, and the fact that domestic subsidies distort only production while tariffs distort both production and consumption. While domestic support contributed almost 40 percent of OECD support to primary agriculture, it was much less important for the agricultural processing activities that are also covered by the WTO negotiations. Further, non-OECD countries provide much less of their support to primary and processed agriculture in the form of budget-busting domestic subsidies than do OECD countries. Overall, they estimated even with their simple back-of-the-envelope model that domestic subsidies accounted for less than 15 percent of global support to agriculture.

Despite these results, we are in full agreement that domestic support should not be ignored in the Doha negotiations. Domestic support turns out to be extremely important for some products of great interest to developing countries. This is particularly so for cotton, where Anderson and Valenzuela (2006) estimate that abolishing domestic subsidies on cotton would provide almost 80 percent of the \$147 billion in total welfare gains to Sub-Saharan Africa from cotton market reform. There is also a systemic risk that restraints on market access barriers unaccompanied by restraints on domestic support could lead some high-income countries to replace market access barriers with distorting domestic support.

A better interpretation of the policy message of these results is surely that reductions in domestic support cannot, alone, be expected to realize very much of the potential global trade and welfare gains sought from the negotiations (WTO 2001, para 2), and that achieving improvements in market access is extremely important for a successful outcome in these negotiations.

Market access issues

The recent report by the Chairman of the negotiations on agriculture (WTO 2006) provides an indication of the points of agreement, and of difference, in the negotiations. A key point of agreement is on a tiered or banded formula, under which the cuts in higher tariffs are higher than the cuts in lower tariffs. This agreement is important from the viewpoint of economic efficiency, since the cost of a tariff rises with the square of its rate, so that reducing higher tariffs is sure to generate greater economic gains than a similar-sized cut to lower tariffs. It is also important in that it rules out an important route to avoidance of disciplines during the Uruguay Round—making larger reductions in lower tariffs in order to attain a target average-cut in tariffs. The choice of four bands allows for progressive increases in the rate of cut on tariffs, while reducing, relative to a two- or three-band solution, the potential problems of discontinuities associated with changes in the cut to tariffs (Jean, Laborde and Martin 2006).

Major sources of contention regarding the negotiations on market access involve the depth of tariff cuts in these four bands, and the placement of their boundaries. Three key proposals made in October 1995, and still relevant to the current bilateral negotiations, are those of the European Commission, the G-20 group of developing countries, and the United States. As is evident in Table 2, these differ in the placement of the bands, and in the depth of the proposed cuts. The EC proposal involved higher limits on the bands, and hence application of the higher tariff cuts to a smaller proportion of tariffs, and lower cuts within each band. The G-20 formula was more aggressive, with slightly lower boundaries for the tariff bands and higher cuts in each band. The US proposal was the most aggressive, with lower boundaries for the bands, and higher cuts within each band. In addition to the formula, each of these proposals involved a tariff cap. In the high-income countries, the EC and the G-20 specified 100 percent, while the United States specified 75 percent. For the developing countries, the EC and the G-20 specified 150 percent.

Given the complexity of these tiered formulas, their impacts are frequently summarized by their impact on a measure comparable with the Uruguay Round result—the average-cut in tariffs.¹ On this measure, the proposed G-20 formula without exceptions or a tariff cap would result in a cut of almost 52 percent in EU bound tariffs—almost one and a half times the comparable measure in the Uruguay Round (36 percent), even before allowing for the understatement arising from this measure in the Doha context, where it ignores the fact that the largest cuts are being made in the highest tariffs. For most countries, the cut in the average bound tariff is considerably larger than the average-cut. The cut in the average applied rate is frequently considerably smaller, however, because of the presence of binding overhang-- that is gaps between the bound tariff rate and the applied rate.

Turning to the formula for developing countries, it is clear that this involves smaller cuts in any given tariff, both because of the broader bands and the smaller cuts in tariffs within each band. The fact that developing country tariff bindings are generally higher than those of the industrial countries means that the cuts in their average bindings are larger than might be suggested by simple comparison of the G-20 developing and developed country formulas. The proportionality principle enunciated in the framework guiding these negotiations since 1 August 2004 requires that the tariff cuts in developing countries should be smaller than those in industrial countries (WTO 2004b, para 40). In the few cases covered by the simulations produced by WTO members, the resulting average-cut in the tariffs of major developing countries is between 2/3 of the cut resulting from the G-20 formula and 2/3 of the cut resulting from application of the EC formula to industrial countries.

The degree of binding overhang is typically greater in developing countries than in industrial countries² (Jean, Laborde and Martin 2006, p. 91). This means that even a comparable cut in tariff bindings in industrial and developing countries implies a smaller reduction in developing than in developed countries. Further, these impacts are very different both between commodities and between countries. One important complicating

¹ In the context of the Uruguay Round, this measure overstated the extent of improvement in market access, since countries were allowed to make larger cuts in smaller tariffs. In the context of the Doha agenda, the average-cut understates the improvement in market access since the higher cuts are made in higher tariffs.

² Binding overhand in the high-income countries averages 18.5 percent of the binding, while it averages 44 percent of the binding in developing countries.

factor for dealing with this problem is the fact that some countries, and notably China, have very little binding overhang and, hence, cuts in bound tariffs translate into much sharper reductions in their agricultural tariffs than in countries with greater binding overhang.

As is typically the case in a formula-based trade negotiation, a great deal of attention has focused on the flexibilities and exceptions to be permitted from the agreed disciplines under the formula. As noted by Francois and Martin (2003), a tariff-reduction formula is inherently arbitrary. It therefore seems likely that allowing some flexibility to account for the particular interests and concerns of importing countries may allow a greater degree of liberalization than would be feasible in the absence of flexibilities—but only if the cuts in the formula are deeper by a sufficiently large amount as to overcome the diminution of market access resulting from use of the flexibilities.³ The key challenge for negotiators is to identify an approach to defining and treating flexibilities that will lead to this felicitous outcome, and avoid unintended the sharp losses in market access that can arise from seemingly-modest amounts of flexibility (Jean, Laborde and Martin 2006).

There are essentially three broad areas of flexibility under discussion—sensitive products to be available to all countries; special products to be available to developing countries only; and a special safeguard mechanism that would allow developing countries to temporarily increase their tariffs above bound levels. We consider each in turn.

Sensitive products

The approach to flexibilities taken under the Doha agenda is more promising than that in the Tokyo Round, where products were exempted from liberalization by being withdrawn from liberalization (Baldwin 1987). Under the Doha agenda, the treatment of sensitive products, in particular, has been constrained by the requirement that “substantial improvements in market access should be achieved for all products” (WTO 2004b, p. A-6). This has required that at least some cuts be made even in products deemed

³ Anderson and Neary (2006) show that there are important differences between the tariff reductions that increase welfare and those that increase market access.

“sensitive”. A key challenge when dealing with flexibilities is to ensure that they do not eliminate the liberalization that is the objective of the negotiations. There is a number of approaches to ensuring this, with one of the most obvious being the number or percentage of tariff lines on which smaller reductions can be undertaken. Another potentially important restriction is restrictions based on the share of imports covered or, as in the case of developing-country non-agricultural flexibilities, on both the number of tariff lines and the share of imports (WTO 2004b, p. B-2). The size of the tariff cuts on sensitive products is another important parameter, whether specified in absolute terms or as a percentage of the formula cut. Another potentially important factor is whether the tariff caps included in the formula specifications should apply to sensitive products. A final parameter affecting the degree of liberalization achieved is whether liberalization should include expansion of any tariff-rate-quotas applying to sensitive products.

In the initial phases of the negotiations, very few of the parameters for sensitive products were defined. Analysis of the potential impact of sensitive products reported in Anderson and Martin (2006) made clear that the number of tariff lines alone was unlikely to be sufficient to achieve a reasonable balance between flexibility and discipline. This problem is illustrated starkly in Figure 1, which shows the cut in the weighted average EU applied tariff relative to the share of tariff lines treated as sensitive. This graph is based on the “tiered-formula” used in Anderson and Martin (2006), and assumes no liberalization of sensitive products. The products to be classified as sensitive are chosen based on the extent to which the reductions in bound tariffs cut applied tariffs, and the importance of the products as imports.

With zero sensitive products, Figure 1 shows that the average tariff would be reduced by 40 percent under these assumptions. As the percentage of sensitive products allowed rises, the cut in the average tariff declines very rapidly. Strikingly, with one percent of products exempted, the cut in the average tariff falls by half. With ten percent of products exempted, the cut falls to an eighth of its original level. The reason for this striking finding is very simple: some tariff lines are much more important than others in terms of their potential contribution to improvements in market access. The important goods for this purpose tend to be those on goods that are major imports, for which applied tariffs are initially high, and for which there is little gap between bound and

applied tariff rates. As Figure 1 makes clear, it would be extremely difficult to contain the adverse impact on market access of completely excluding products from liberalization simply by restricting the number of products excluded—especially since the range for the percentage of products to be treated as sensitive was from 1 to 15 percent (WTO 2006, p. 4). This suggests that it is important to focus not just on the number of tariff lines treated as sensitive, but also on the treatment of these products—a range that extended from 20 to 70 percent in the draft modalities (WTO 2006).

In this respect there appears to have been considerable progress in the negotiations. The EC, which has been the primary *demandeur* on sensitive products, has indicated a willingness to make substantially greater efforts to reduce tariffs on these goods than seemed likely at an earlier stage. Tariff reductions of 50 percent of the formula cut, together with an expansion of TRQs based on 80 percent of the foregone price reduction have been discussed. A major concern with this formulation is that, at least in its initial version, it assumed an elasticity of import demand of -1, a value far below the usual range of estimates at the tariff line level. For example, Hummels and Klenow (2005) cite a range from -5 to -10 for this elasticity at the six-digit level. If adjusted for a more appropriate value of the import demand elasticity, however, this approach would appear to provide much more market access than seemed likely at an earlier stage of the negotiations. A range of proposals for TRQ expansion has been put forward, including some based on shares of domestic consumption as well as on initial shares of consumption.

Two other key elements of flexibility are reserved for developing countries. The first is special products (SPs), and the second the special safeguard mechanism (SSM), and both were included in the Hong Kong Ministerial declaration (WTO 2005).

Special products

Special products appear to be intended to deal with the problems for the livelihoods of small producers in developing countries. The best articulated proposal of this nature focuses on improving food security, livelihood security and rural development. Some criteria include that the product be a staple food, that it have large

shares in food expenditure in the country, and that it be produced by subsistence farmers. In general, in trade negotiations, flexibilities are agreed in the expectation that they will allow deeper cuts through the formula for negotiations. If, however, products are special, then it is less obvious that their exclusion would require a compensating increase in the ambition of the formula.

Some have expressed concerns that protection policy for such products may reduce the food and livelihood security of many poor people, while seeking to improve the income situation of farmers who are net sellers of food products. This concern arises from the fact that poor people in poor countries are known to have extremely high expenditure shares on food—Cranfield, Hertel and Preckel (2006) estimate that, for the poorest households, this share is 73 percent of total expenditure. At the same time, subsistence farmers tend to focus on production of staples for their own consumption. If a poor, subsistence-oriented person has an income from grain production valued at \$100 at world prices – but consumes \$90 worth of grain and sells only \$10 worth of grain – then raising the price by 10 percent will only increase household income by \$1. By contrast, it would reduce the income of a poor household that needed to buy all of its staple foods by \$7.30. The exact numbers will depend on the situation of the specific country, and it may be that, for some products in some countries, use of these flexibilities would reduce poverty and improve livelihood security. It is desirable therefore to evaluate this effect empirically rather than simply to assume that protection policies would improve livelihood security.

A preliminary analysis by Ivanic and Martin (2006) presented to a World Bank seminar on October 17, 2006, which has benefited from substantial criticism and suggestions for improvement, found that food price policies that raise the prices of importable staple foods above the levels that would otherwise have prevailed would raise poverty in most of the countries considered. Their study focuses very simply on the effect of changes in policies affecting the domestic prices of food, ignoring changes in world prices on the grounds that it is examining unilateral changes in the policies in individual, small countries. For reasons of data and timing, the study covers only four poor countries: Nicaragua, Pakistan, Vietnam and Vietnam. However, there is considerable evidence (Christiaensen and Demery 2006; Jaramillo and Lederman 2006) that, in a wide range of

poor countries, most poor households, including poor rural households, are net buyers of food. Some of these households are farm families who choose to use their limited resources to produce some cash crops in addition to food. Others are simply poor net consumers dependent on non-farm sources of income.

Unfortunately, none of the studies designed to provide an analytical framework for selection of special products appears to have considered the impacts of protecting staple foods on the food and livelihood security of poor households. Some of these studies even conclude that a higher expenditure share for a staple food should make it more suitable for treatment as a special product, for which protection is potentially expected to contribute to income security and food security (Herath 2005).

Much of the policy analysis supporting proposals for special products appears to be based on a presumption, from detailed studies of episodes of liberalization such as that undertaken for rice in Vietnam, that raising agricultural prices would reduce poverty, and hence improve income and food security. Ivanic and Martin (2006) also find that raising the price of rice in Vietnam would lower poverty. This reflects a number of factors including the fact that Vietnam is a net exporter of rice, and that farming resources are widely distributed. This case of a net exporter has no real relevance to the special products debate, since protection cannot be expected to raise the price of an exportable good. Another argument advanced by proponents is that studies of global liberalization find that world agricultural trade liberalization causes food prices to rise, and poverty to fall in Latin American countries (Morley and Pineiro 2004). But this argument ignores the fact that the Latin American countries that were the focus of the Morley-Pineiro study are generally net exporters of agricultural products, and that the Morley-Pineiro study includes the gains to poor people resulting from the liberalization of developing countries' trade barriers that is an inherent part of their global liberalization experiment.

Another concern about special-product exceptions has come from developing country exporters of agricultural products, such as Thailand, Malaysia, Paraguay, Uruguay and Argentina. These countries note that south-south trade has been the most rapidly-growing part of world agricultural trade (Aksoy and Beghin 2005), and are concerned that extensive use of special product exceptions might reduce their opportunities to participate in further growth.

For the reasons outlined above, we are concerned about the risk that raising the prices of staple foods is more likely to increase poverty in poor countries than to lower it. We recognize that this need not always be the outcome. A key finding of the major study on trade and poverty by Hertel and Winters (2006) was that the relationship between trade reform and poverty is very complex, although there was a general tendency for greater liberalization to result in poverty reductions. Another key finding was the potential importance of complementary policies in influencing poverty reduction outcomes.

Another insight into the matter comes from the earlier literature on the evolution of agricultural trade policies with economic development. As noted by Anderson and Hayami (1986) and Lindert (1991), governments tend to respond to changes in the interests of particular groups as the economy evolves. At low income levels, basic foods have high expenditure shares for the influential urban population. By contrast, the relatively large farm population is much less effectively organized, and has less interest in the price of food precisely because poor farmers are subsistence-oriented, typically selling only a small share of their output in the market, and relying only on a limited degree on purchased inputs. However, as countries grow, both of these factors change, and the power of farm interests increases relative to urban interests. Urban consumers become more numerous and harder to organize, and begin to be less concerned about the price of food as its share of their expenditure falls. Farmers become less numerous, and hence easier to organize, and also become more commercially oriented, and hence more concerned about food prices. With the rapid economic development in many of today's developing countries, there is a risk that exceptions given now will result in higher protection in future, as the relative power of the farm lobby increases.

Market access with and without sensitive and special product exceptions

A careful evaluation of the impact of proposed market access reforms shows that their impact on tariff rates is strongly influenced by both binding overhang and by the flexibilities under discussion. To illustrate this, we consider a tariff simulation based on the G-20 formula discussed above, and examine its impact on average applied tariffs in a

wide range of countries. While the application of the formula to the bound tariff rates is relatively straightforward, the country exceptions and the flexibilities require explanation. In accordance with the Framework Agreement (WTO 2004b), the least developed countries are not required to make reductions. In accordance with the Hong Kong Ministerial Declaration, a group of Small and Vulnerable economies is permitted flexibility, here interpreted as being required to make no tariff reductions. Regarding flexibilities, all countries are assumed to be able to treat four percent of their products as sensitive, subject to tariff cuts equal to 50 percent of the formula cut.⁴ If these products are covered by a Tariff-Rate-Quota, then we assume that TRQ expansion adds an additional element of liberalization, equal to 66 percent of the formula tariff cut. We assume that developing countries are permitted to treat 10 percent of their agricultural tariff lines as special products subject to no liberalization.⁵ These products are selected from an indicative list of products identified by ICTSD (2005) as likely to meet the criteria for special product treatment. This set of commodities was ranked by the extent to which tariff revenues would fall following application of the formula, and the largest tariff-loss items selected first, until the 10 percent limit was reached. After completing the process of identifying special products, attention turned to sensitive products, which were again chosen according to the loss of tariff revenue associated with these products.

Given the procedures outlined in Table 3, the bound tariffs were cut according to the formula and other rules identified. The impacts on applied rates were determined on the assumption that applied rates are reduced only where the new bound rate is below the initial applied rate.

The resulting tariff levels presented in Table 4 highlight several important features of the G-20 formula and its implications for applied tariffs. The first is that the formula alone, without flexibilities, would imply quite sizeable cuts in applied tariffs in the industrial countries. The average applied tariff on agricultural and food products in high income countries falls by exactly half, from 15.8. to 7.9 percent. Average applied tariffs are cut by more than half in the EU/EFTA, from 13.7 percent to 6.4 percent and in Japan, from 29.2 to 12 percent. Tariffs are cut by less than half in the United States, from

⁴ The 4 percent is half of the 8 percent of tariff lines sought by the EU, the *demandeur* on this issue.

⁵ The G-33 is seeking sensitive product status for 20 percent of its tariff lines.

2.4 to 1.7 percent partly because the tiered formula requires smaller cuts in lower tariffs. Applied tariffs are cut substantially in the Republic of Korea and Taiwan (China), from 53.1 to 34.6 percent, a reduction of 35 percent. These cuts are smaller than in other high-income economies because they are able to self-designate as developing economies, and hence receive more lenient treatment.

The reductions in applied tariff rates required by the formula are much smaller in developing economies than in the developed. For low- and middle-income countries as a group, the reduction in average tariffs is from 13.9 to 12.5 percent, a cut of roughly 10 percent. The main contributors to this small cut in tariffs are the more-lenient nature of the formula for developing countries (including both the placement of the bands and the size of the cuts), and the greater degree of binding overhang in developing countries. China has one of the largest tariff reductions of developing country members, from an applied rate of 10.4 to 7.8 percent, a reduction of 2.6 percentage points or 25 percent of the initial tariff level. This relatively large cut reflects the lack of binding overhang in China's tariff schedule. Thailand, also, has a larger-than-average tariff reduction, because of limited binding overhang and relatively high agricultural tariffs.

Many developing countries are required by the G-20 formula only to make quite small reductions in agricultural tariffs. In India, the reduction would be from 49.8 to 46.1 percent, a cut of 7.5 percent of the initial tariff rate. Bangladesh, as an LDC, would not be required to make any cuts. For South Asia as a whole, the reduction would be from 33.7 percent to 31.9 percent, a cut of just over 5 percent of the initial tariff. In Sub-Saharan Africa, the average reduction would be from 17.3 to 16.7 percent, a cut of 3.5 percent from the initial tariff rate.

The use of flexibilities, in column 3 of Table 4, has quite different impacts on the different economies and groups. Even though the high-income countries are much more restricted in their use of flexibilities—having access only to sensitive product treatment, and not to the stronger flexibilities for special products—they are likely to derive much more political “benefit” from these flexibilities. With sensitive product provisions, the high-income countries would be able to make much smaller cuts in their tariffs. Instead of having to halve their tariffs, going from 15.8 to 7.9 percent, they would need to reduce their tariffs only to 12.3 percent, a cut of 22 percent instead of 50 percent. These

flexibilities would have a particularly large impact in Japan, where the tariff cut would decline from 59 percent to 28 percent.

In developing countries, the flexibility provisions have a much smaller impact on tariffs than in the high-income countries. When flexibilities are permitted, the post-formula tariff rises from 12.5 to 13.7 percent. While the cut in the average tariff falls from 10 percent to 1.5 percent, this is a change of only 1.2 percentage points in the size of the cut, as compared with 4.4 percentage points in the high-income countries.

This may seem, at first sight, surprising, since developing countries are, under our assumptions, permitted to completely exclude up to 10 percent of tariff lines as special products, and to take advantage of the same sensitive product provisions as the high-income countries. There are, however, two likely contributing factors. One is the much lower level of cuts in applied rates noted above. With cuts that are so much smaller than in the high-income countries, it is perhaps not surprising that the flexibilities would have a smaller impact. Another likely contributing factor is smaller variation in the tariff structures of developing countries relative to high-income countries.

Special safeguard mechanism

The Uruguay Round agreement on Agriculture provided countries that had converted their non-tariff barriers into tariffs through the process of tariffication access to a special safeguard (SSG) for these products. An effect of this was to allow most high-income countries access to this contingent protection measure. Developing countries, by contrast, rarely had access to this measure since they rarely used the tariffication provisions, and generally made use of the option for “ceiling” bindings. The Hong Kong Ministerial Declaration (WTO 2005, p. A6) indicates agreement to include an special safeguard mechanism (SSM) with a quantity trigger designed to provide temporary protection in response to import “surges”.

It is clear that price volatility can be a serious problem, particularly for producers with inadequate access to finance for intertemporal smoothing of consumption. However, one must be aware that safeguard instruments focused on import “surges” are not necessarily synonymous with revenue stabilization. Whether they are or not depends on

the source of the shocks and on the elasticity parameters in the markets involved. They might be so if the shocks are exclusively from exogenous world prices, but need not be so if the shocks arise from domestic sources such as crop yields, and certainly will not be so if the import surges arise from variations in domestic demand.

Another important point to consider is the risk that such schemes will be captured by vested interests. The history of price stabilization schemes is replete with schemes whose avowed purpose was to stabilize, but whose actual effect was largely to raise prices (perhaps EU intervention policies, or the Australian wool reserve price scheme) or to lower them (perhaps many commodity boards in Africa) depending on the power of the dominant interest groups involved. This history suggests a need for caution in the design of such an instrument if it is not to lead merely to weakening of hard-won WTO disciplines whose ultimate role is to reduce the ability of special interests to create trade distortions.

Quantity triggers of the type discussed in G-33 (2006), Paraguay and Uruguay (2006) and USA (2006) pose particular dangers for three reasons. The first is the risk that they will run counter to the objectives of the mechanism. If implemented—perhaps because of interest-group pressure—in response to a shock to domestic demand, they will actually destabilize domestic prices and producer revenues. The second is the risk that they will allow the market to be closed very frequently, rather than merely under the exceptional circumstances envisaged in proposals for such a mechanism. Simulations reported by Paraguay and Uruguay (2006) suggest that this could be the case with the parameters included in the G-33 proposal. A third risk is of cumulative market closure, again perhaps in response to interest group pressures. If a measure is invoked, imports can be expected to decline, and the lower level of imports becomes part of the trigger for the following three years. This, in turn, makes it easier to invoke the measure in subsequent years.

In addition to these concerns about the impact of an SSM at the individual market level, there are concerns about the impact on global markets. If trade expands, or world prices fall, it is likely that a number of markets would introduce safeguard measures. A consequence of this is likely to be increased instability of world markets. This instability

would, in turn, lead to pressure for more intensive use of safeguards, and hence to further increases in world market instability.

The challenge in this area seems to be to devise an approach that allows the risks to be managed in a way that meets the valid concerns of those proposing the SSM with the risks of exacerbating distortions to world markets. Doing this will require careful attention both to the design of the measures used and to the specification of magnitudes such as the quantity price triggers to be adopted. Unfortunately, the current research base seems inadequate to meet the needs of policy makers in this area.

Domestic support issues

There has been considerable dissatisfaction with the constraints on domestic support negotiated under the Uruguay Round Agreement on Agriculture. Part of the problem was that the commitment levels negotiated by the USA and the EU in that Round were too high, partly because of the choice of base years in the agreement. Part was because these constraints only applied to agriculture as a whole, and not to its components. Another source of concern was the fact that the *de minimis* limits for product and non-product-specific support were not only substantial (5 percent), but could be counted twice, allowing a larger amount of such support than was perhaps originally envisaged.

In addition, it had become clear that one of the intended constraints on domestic support had become an escape valve, allowing the industrial countries to vaporize some of their support commitments. The intent of the negotiators in including support provided by administered prices in the Aggregate Measure of Support (AMS) appears to have been a good one—to impose an additional constraint on this form of protection. However, it created an opportunity for WTO members to relax their constraints by replacing such support by a system, potentially identical in effect, under which prices were not administered but managed by indirect support. An administered price could be replaced by one simply posted and observed so that policies could be adjusted to support it. Since no administered price can be maintained without supporting trade measures, the effective

economic distinction between the two is small. Under WTO law, however, the administered price support is included in the AMS while support provided by a trade measure is not. As a consequence, countries can remove such support from their current estimates of WTO support, while leaving it in the commitments that included this form of support.

Attempts to reform these measures are following the traditional GATT philosophy of “the more restrictions the better”. The latest proposals include restrictions on the Aggregate Measure of Support, on the Overall Trade-Distorting Support, on the Blue Box (support tied to production-limiting programs), on De Minimis support, and on support to individual commodities.

Proposals by the US, the EU and the G-20 in October 2005 still underpin the current negotiations. Brink (2005) provides an excellent introduction to the black art of WTO constraints on domestic support. Some key features of these proposals are summarized in Table 5. Fortunately a tiered-formula approach to reducing domestic support is proposed, such that the largest reductions are to be made in the countries with the largest absolute amount of domestic support.

Figure 2 shows the extent to which committed levels of the Aggregate Measure of Support exceed the actual levels, and shows just how much the commitment levels must be cut if they are to begin to reduce actual levels of support. It shows that only the USA is likely to face substantial cuts in actual support levels under all of the proposals under discussion—perhaps part of the reason that it is more defensive in this area of the negotiations than in other areas. However, the EU might also need to make reductions in support relative to historical levels under the US and G-20 proposals.

Conclusions

There appears to have been significant progress on some of the key parameters in the current negotiations under the Doha Development Agenda. If press reports are correct in indicating that there is now greater willingness amongst the major industrial countries to move on market access and domestic support than was the case when the negotiations

were suspended in mid-2006, then there would appear to be a good basis for the resumption of negotiations as announced by the WTO Director-General in early February 2007. While the headline reductions in tariffs and domestic support are misleading in that they overstate the required reductions in actual support, they are nonetheless large reductions relative to the reductions achieved in the Uruguay Round. In market access, they are also focused on reducing high tariffs, tariff peaks and tariff escalation in ways not attempted in the Uruguay Round. In domestic support, they involve critically important restrictions on blue box measures and on product-specific support as well as substantial headline reductions in total support. In export subsidies the reduction to zero that has been agreed to already is an undeniably important achievement.

The reductions in tariff bindings in developing countries, too, are large relative to those undertaken in previous rounds. The proportionality principle leads to them being smaller than those in the industrial countries, while the greater binding overhang in developing countries leads to their impact on applied tariffs being smaller again. Exceptions for least developed countries and small and vulnerable developing economies reduce the political pain for – but also the economic gain received by – these countries. Proposals for special product exceptions in developing countries allow countries to maintain tariffs higher than would be possible in the absence of these flexibilities. If these products are chosen according to criteria such as being important staple foods produced by subsistence farmers, there is a risk that this will reduce the income security of many poor people who are net buyers of food.

Recent advances in databases and analytical tools mean that we in the research community can contribute much more directly to informing policy decisions and prospective negotiating positions. This is a very different situation from that prevailing in previous rounds, where it was not possible to make useful analytical contributions in the later, more detailed, and more contentious stages of these negotiations. We should, however, be well aware that such analyses are likely to be deeply controversial.

Despite the advances that we have made, it is clear that we, as analysts, need to work hard to improve our analytical toolkits in this trade policy field. One area where we need to go further is in analyzing the impacts of policy reforms on households, and particularly on poor households, rather than simply on countries as a whole. Another is to

take into account the dynamic impacts of reform, perhaps using some of the approaches developed in work following Melitz (2003) and surveyed in Francois and Martin (2007).

While much more, and better, analysis is needed once more-definitive offers are available, the evidence to date suggests that what is (possibly) within the reach of negotiators is a very substantial agreement—much more so than the Uruguay Round agreement in terms of cuts both in bound tariffs and subsidies and in actual delivered levels of farm protection and support. The potential Doha agreement on agriculture is part of a broader agreement including what appears to be a substantial reform of non-agricultural tariffs plus an as-yet unknown degree of commitment to reform policies affecting markets for services. We note and understand that many developing countries are cautious about undertaking major liberalization commitments. Our hope is that, when deciding what commitments to make, the governments and citizens of those countries will at least be aware that economic analyses suggest that deeper liberalization generally leads to great income gains and—particularly if accompanied by appropriate complementary policies—to greater reductions in poverty.

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Table 1: Relative impacts on global economic welfare of agricultural trade reform from market access, domestic support and export subsidies

	(percent)		
	World Bank	OECD	USDA
Market access	93	79	89
Domestic support	5	19	10
Export subsidies	2	2	1

Source: Anderson, Martin and Valenzuela (2006), OECD (2006 and USDA (2001)

Table 2: Proposed cuts in bound agricultural tariffs for high-income and developing countries, October 2005^a

(percent)

High-income countries						Developing countries	
Proposed by:							
EC		G-20		USA		EC & G-20	
Tiers	Cuts	Tiers	Cuts	Tiers	Cuts	Tiers	Cuts
					end of tier		
0 – 30	45	0 – 20	45	0 – 20	65	0 – 30	25
30-60	45	20-50	55	20 – 40	75	30 – 80	30
60-90	50	50-75	65	40 – 60	85	80 – 130	35
90 →	60	75 →	75	60 →	90	130 →	40
Tariff Cap	100		100		75		150

^a The US formula differed from the others in involving increasing tariff cuts within bands. For simplicity, only the maximum tariff cuts in each tier are shown.

Source: Compiled by the authors, drawing on EC (2005), (G-20 2005), and (USA 2005)

Table 3: Details of various agricultural tariff cut scenarios, various regions ^a

	High-income	Developing	LDCs	SVEs
Bands	0/20/50/75	0/30/80/130	no lib	no lib
Cut – proportional	45/55/65/75	25/30/35/40		
Tariff Cap	100 percent	150 percent		
Sensitive products	4 percent -of tariff lines. Cuts reduced by half (tariff revenue criterion). For products with a TRQ, the cuts were set at 2/3 of the formula cut to incorporate the impact of TRQ expansion according to the EU proposal. No cap.			
Special products	No cut for up to 10 percent of agricultural tariff lines taken in the ICTSD sectors (tariff revenue criterion). No cap. Where applicable, special products are chosen before sensitive products.			

^a Republic of Korea treated as a developing country for agriculture; a developed country for NAMA reform. LDCs are the 50 countries identified in the UN list of Least Developed Countries. The Small and Vulnerable Economies considered were: Antigua & Barbuda, Barbados, Bolivia, Dominica, Dominican Republic, El Salvador, Fiji, Grenada, Guatemala, Honduras, Mauritius, Mongolia, Nicaragua, Papua New Guinea, Paraguay, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago. Paragraph 6 countries (those with less than 35 percent tariff bindings) were identified as Cameroon, Congo, Côte d'Ivoire, Cuba, Ghana, Kenya, Macau, Mauritius, Nigeria, Sri Lanka, Suriname, Zimbabwe

Source; Authors' compilation

Table 4: Implications of tiered formula cuts for agricultural and processed food tariff rates, by region

(percent)

	Initial Applied	G-20 Formula	G-20 w/- Exceptions
World total	15.0	9.8	12.8
<u>High income countries</u>	15.8	7.9	12.3
<i>Australia & New Zealand</i>	2.6	1.7	2.2
<i>EU 25 plus EFTA</i>	13.7	6.4	8.8
<i>United States</i>	2.4	1.7	2.0
<i>Canada</i>	9.0	4.5	7.7
<i>Japan</i>	29.2	12.0	21.1
<i>Korea and Taiwan</i>	53.1	34.6	52.2
<i>Hong Kong and Singapore</i>	0.1	0.1	0.1
<u>Low and middle income countries</u>	13.9	12.5	13.7
East Asia and Pacific	12.3	10.1	11.9
<i>China</i>	10.4	7.8	9.8
<i>Indonesia</i>	5.0	5.0	5.0
<i>Thailand</i>	17.1	14.7	16.4
<i>Vietnam*</i>	36.7	36.7	36.7
<i>Rest of East Asia</i>	12.3	9.4	12.3
South Asia	33.7	31.9	33.6
<i>Bangladesh</i>	12.7	12.7	12.7
<i>India</i>	49.8	46.1	49.6
<i>Rest of South Asia</i>	21.4	21.4	21.4
Europe and Central Asia	14.5	13.9	14.4
<i>Russia*</i>	13.5	13.5	13.5
<i>Turkey</i>	16.7	14.6	16.6
<i>Rest of ECA</i>	15.2	14.1	15.1
Middle East and North Africa	12.5	10.5	12.4
Sub Saharan Africa	17.3	16.7	17.3
<i>South Africa</i>	8.6	8.2	8.6
<i>Selected Sub Saharan Africa</i>	22.4	20.9	22.4
<i>Rest of Sub Saharan Africa</i>	17.4	17.0	17.3
Latin America and the Caribbean	9.7	9.2	9.6
<i>Argentina</i>	6.8	6.6	6.7
<i>Brazil</i>	5.0	4.9	4.9
<i>Mexico</i>	10.2	9.1	10.2
<i>Rest of LAC</i>	10.6	10.4	10.5
Rest of the World	12.6	12.3	12.3
WTO developing countries	16.6	13.7	16.4
Middle income countries	11.9	10.4	11.7
Low income countries	21.8	20.9	21.8

*Excluded from the liberalization scenario as they were not members when the scenario was developed. This table draws on joint work with David Laborde of CEPII and Dominique van der Mensbrugghe of the World Bank.

Source: Authors' simulations with detailed tariff data from CEPII

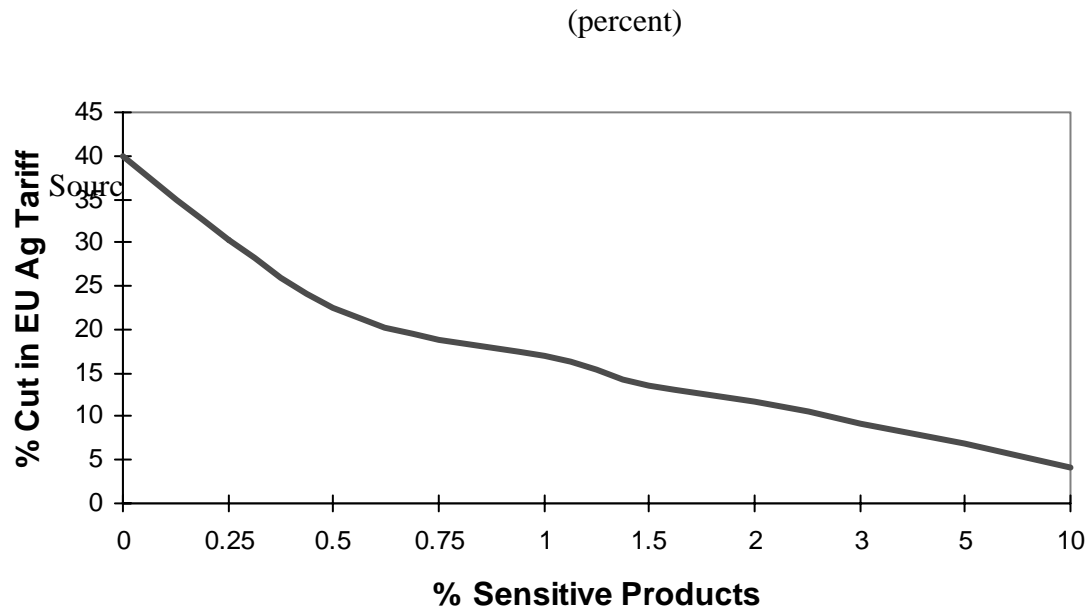
Table 5: Domestic support proposals by the US, the EU and the G-20 as of October 2005

(percent)

	USA	EU	G-20
AMS			
EU	83	70	80
Japan	83	60+	80
USA	60	60	70
Canada	37	50	60
Brazil	?	?	60
OTDS			
EU	75	70	80
Japan	53	?	75
USA	53	60	75
Canada	31	50	70
Brazil	?	?	?
Cut <i>de minimis</i> by:	50	80	Adjust to overall cap
Cap on Blue	2.5	5	5

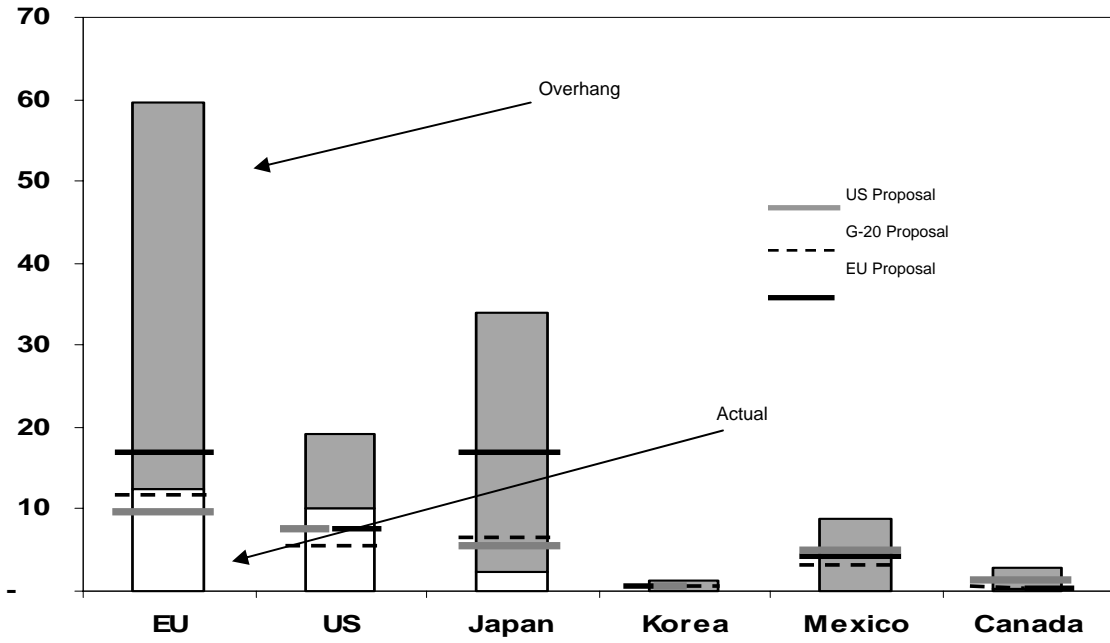
Source: Authors' compilation based on Brink (2005)

Figure 1: Impact of altering the proportion of sensitive products on the reduction in average agricultural tariffs



Source: Martin and Anderson (2006).

Figure 2: The extent of the cuts required to cut actual support



Note: The shaded portion of the bars shows the gap between the maximum commitment levels, and actual support levels.

Source: Martin and Anderson (2006).