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# Impact Of East Asia's Growth Interruption and Policy Responses: The Case Of Indonesia

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**Abstract**

Assessments to date of the consequences of implementing the Uruguay Round (UR) of multilateral trade negotiations have assumed medium-term rates of economic growth in East Asia that now seem unsustainable. This paper compares one set of those estimates to 2005 with an alternative set involving an interruption to East Asian economic growth in the late 1990s, using the global, economy-wide GTAP model. Attention focuses on results for Indonesia, the worst-affected country in the region. An important consequence of the crisis is that Indonesia is likely to become more agrarian for a time than it otherwise would have been. Also, both income levels and the gains from the UR will be lower at the completion of UR implementation in 2005 than would have been the case without the crisis. Hopefully this will boost support in Indonesia (and other East Asian countries) for a push to catch up through further unilateral, regional and global trade and investment liberalizations and domestic policy reform. The benefits to Indonesia from embracing further unilateral reform, as estimated by the GTAP model, are contrasted with the costs of the alternative strategy of reneging on UR commitments to liberalize trade. Of particular importance are policies affecting agriculture's capacity to be an engine of growth recovery.

# IMPACT OF EAST ASIA'S GROWTH INTERRUPTION AND POLICY RESPONSE: THE CASE OF INDONESIA

Kym Anderson and Anna Strutt

All of the forward-looking analyses of East Asia's economies of the past decade or so had been premised on the assumption that rapid national output and trade growth would continue. The dramatic withdrawal of financial capital from the region and the crash in the value of local currencies from late 1997 means that such analyses need to be revised. How much difference will two or three years of GDP decline in Indonesia and other East Asian economies make to projections of structural change in Indonesia, for example? Might we even see a re-agriculturalization of the economy? In particular, how will the crisis alter the expected effects on Indonesia of implementation of the Uruguay Round, and hence attitudes towards the efficacy of that and other economic policy reforms?

To help answer these questions, this paper uses a global, economy-wide model known as GTAP (Hertel 1997). That model was used recently to project the implications of economic growth and Uruguay Round trade policy reform at home and abroad for the structure of Indonesia's economy over the period to 2005 (Anderson and Pangestu 1998). We extend that work to consider the impact of an interruption to growth due to the current economic and financial crisis. We begin by modeling the effect of the growth interruption on the economy in 2005 without and then with Uruguay Round implementation. We then simulate two alternative possible trade policy responses to the crisis: either that Indonesia chooses to slow its trade reform program, or that it chooses to liberalize its markets even further than it is currently committed to under the Uruguay Round.

Results show that both the growth interruption and the choice of policy response could have substantial effects on sectoral growth rates and hence structural change.

Specifically, there could be a re-agriculturalization of the economy (which may be even greater if the current slump in oil prices persists). Trade and other policy choices are also shown to impact substantially on the level and sectoral distribution of output, wages, etc. The final section of the paper draws out some trade and sectoral policy implications of the findings.

## Projecting structural change to 2005

Economic development and on-going policy reforms in Indonesia and other countries of the world will change substantially the level, composition, and location of production and consumption during the next decade or so. As in Anderson et al. (1997) and Anderson and Pangestu (1998), we project global economic growth and structural changes from the GTAP model's base period of 1992 to 2005.[1] This is done initially using 1997 World Bank GDP, labour force, investment and population projections, together with the GTAP Version 3 data base and model. That GTAP data base divides the world economy into 37 sectors and 30 countries or country groups, but for the present analysis it is aggregated to 23 product groups and to five regions: Indonesia, other developing APEC economies, the rest of the world's developing and transition economies, high-income APEC economies, and the other-high income countries (Western Europe).

To project future changes in the global economy, we present two alternative baseline scenarios, the first reflecting similar assumptions to those used by Anderson and Pangestu (1998), the second taking into account the possible impact of the current economic crisis in Indonesia and some of the other East Asian countries.

### *First baseline scenario, 1992-2005*

For the first baseline scenario we adapt growth rates from Anderson et al. (1997) and Arndt et al. (1997). The upper half of Table 1 reports the assumed rates of growth in factors and real GDP (from which the implied rates of total factor productivity growth

[1] See Strutt (1998, Ch. 4) for details. The GTAP model does not include financial markets explicitly, so the focus is just on real variables in goods, services and factor markets and on trade and sectoral policy responses. For an empirical modeling analysis of the East Asian crisis in which financial markets and macroeconomic policies are the central focus, see for example McKibbin and Martin (1998).

may be derived) for the period from 1992 to 2005. Exogenous projections of each region's endowments of physical capital, unskilled and skilled labour, and population are utilized. These are based on combinations of historical data and World Bank projections of the growth in population, labour force, real GDP and investment.

For Indonesia, the assumed rates of factor and GDP growth in this first baseline scenario are, as in Anderson and Pangestu (1998), close to government expectations prior to 1998 and in line with past trends. Growth rates from Table 1 are applied to GDP, physical capital, unskilled labour, skilled labour, and the population level to simulate the cumulative change in them for 1992-2005. This gives our first baseline scenario.

### *Second baseline scenario: 1992-2005 with interrupted growth*

The second baseline assumes that the current financial crisis in Indonesia and other East Asian economies will have a significant dampening effect on economic growth for several years. For the historic period 1992-1997, the same growth rates are assumed as above in the first baseline scenario; and from 2000 to 2005 we assume that the economy recovers back to initial projected growth rates. In the three years 1998 to 2000, however, this scenario assumes that, for Indonesia, physical capital shrinks about 15 per cent and that this leads to job layoffs such that the amount of skilled labour employed as such shrinks by a similar amount and that jobs for unskilled labour cease to grow during those three years. Hence GDP falls by nearly a quarter over that period. We also assume GDP and factor growth rates average zero in other East Asian developing economies during that period, as detailed in the lower half of Table 1 for this second baseline scenario.

Even with what might be viewed as a relatively conservative modification to Indonesia's growth rates (given that GDP in 1998 is expected to be down 15 per cent in 1998), the 22 per cent decline in GDP between 1998 and 2000 has a large projected impact on total cumulative GDP growth in Indonesia over the full period 1992-2005. Cumulative growth is reduced from 130 per cent in the first baseline scenario to 48 per cent in our second slower-growth baseline. This is because the growth from the first five years is almost completely wiped out by the negative growth assumed for

Indonesia in the three years 1998-2000. Although the economy is assumed to resume rapid growth after 2000, it is from a much lower base than it would otherwise have been.

### *The changing structure of the global economy*

The structural changes projected for 1992-2005 have implications for the shape of the world economy as economies and their factor endowments grow at different rates. The structural change projections in our first scenario will also cause large relative shifts in production in the Indonesian economy. These effects are less in our second, slower growth scenario, however.

**Table 2 shows the changes in world output projected to 2005 in both the initial (2005) and the interrupted growth (2005ig) scenarios. The size of the world economy in the initial scenario is projected to increase by 43 per cent between 1992 and 2005, but only by 40 per cent in the Asian slowdown scenario. Under the initial scenario, the developing East Asian countries gain considerably in significance. Developing APEC economies including Indonesia were projected to increase their contribution to world output by around 55 per cent before the crisis hit. However, in the second scenario where the crisis is taken into account, Indonesia increases its contribution to world output by only 7 per cent and other APEC developing countries by only 33 per cent.** ***The changing structure of the Indonesian economy, 1992 to 2005***

All sectors in Indonesia can be expected to increase output between 1992 and 2005, even when growth is interrupted, according to the first two columns of Table 3. However, projected changes in the structure of production in Indonesia depend on the growth assumptions made. The on-going reduction in the importance of the agricultural and other natural resource based sectors is set to continue. This is shown by the numbers in parentheses in Table 3, which indicate the changing contribution to the composition of Indonesia's GDP. Even without the Uruguay Round being implemented, the projected contribution to GDP of each agricultural/natural resource industry would fall between 1992 to 2005, but each falls much less in the interrupted growth scenario (compare the parenthetic numbers in columns 1 and 2). That is, the

economy does not move as much towards manufacturing and service sectors when growth slows. Sectors that significantly increase their contribution to GDP, though again less so in the interrupted growth scenario, include other unskilled labour-intensive manufactures such as textiles and clothing.

Table 4 summarizes these changes in sectoral GDP shares. Note in particular that interrupted growth pushes projected shares of GDP in 2005 roughly half-way back to its 1992 level in the case of agriculture and food processing, compared with what would have been had the high economic growth rate of the past quarter century continued. The main reason for the differences between the two scenarios is given by Rybczynski (1955): in a comparative static situation, when the endowment of a subset of inter-sectorally mobile factors is reduced, the sectors using those factors relatively intensely will tend to shrink and other sectors expand, ceteris paribus. Since non-primary sectors use physical capital relatively intensely, and that factor is now relatively scarcer because of the crisis, the primary sectors' shares of GDP are higher and others are lower in the interrupted growth scenario (compare rows 2 and 3 of Table 4).[2] Real wages of unskilled workers are projected by our model to be in 2005 only 13 per cent above those in 1992 in the interrupted growth scenario, compared with 51 per cent above had high growth continued.

The effect of slower growth on the projected composition of exports is shown in Table 5. Agriculture and food's share of exports was expected to shrink dramatically over the 13-year projection period to 2005 as the light manufactures' share continued to grow, in line with past trends (cf the historical changes over two previous 13-year periods at the top of Table 5). But now with this interruption to economic growth, those changes are expected to be less. Table 6 details these trade changes for agriculture and food processing: the growth interruption lowers imports of those

[2] The above results are not very sensitive to changes in factor intensities: boosting the share of value added by unskilled labour (and lowering capital's share) in those manufacturing sub-sectors the use that factor relatively intensely changes the effect of the growth slowdown on GDP shares by only a small fraction of one per cent.

The slump in petroleum prices in international markets in the latter 1990s, which is expected to continue into the new millennium (World Bank 1998), may well add to the re-agriculturalization of the economy. The standard booming-sector theory in reverse tells us that a drop in the price of Indonesia's exports of energy raw materials (which had comprised about one-third of export earnings) would shrink the mining and perhaps non-tradables sectors but expand other tradables sectors, including agriculture (Corden 1984, Warr 1986).

products dramatically, but boosts exports of them. Hence the index of agricultural and food trade specialization (net exports as a ratio of the sum of exports and imports in value terms), which had fallen from 0.9 in the mid-1960s and 0.4 in the late 1970s to 0.2 in the early 1990s, is projected to fall by 2005 just to -0.28 under interrupted growth compared with -0.6 under high growth (see column 3). It means self sufficiency in those products falls from 101 per cent in 1992 to just 95 per cent instead of 93 per cent as projected under high growth (column 4). Likewise, the index of 'revealed' comparative advantage in this product group, which had fallen from 2.4 in the mid-1960s to 1.2 in the early 1990s, is projected to fall only to 0.6 by 2005 under interrupted growth compared with 0.3 under high growth (column 5 of Table 6).

## Uruguay Round liberalization

To help users model the global policy reforms agreed to in the Uruguay Round, which are being implemented over the ten years to 2005, Version 3 of the GTAP database provides post-Uruguay Round protection vectors which draw heavily on the work of the World Bank (Hertel 1997, Chs. 13, 14). Import tariff levels in the model are lowered, as are domestic agricultural supports and agricultural export subsidies; and MFA quotas which restrict textile and wearing apparel exports from low-cost suppliers to the industrialised markets, represented in GTAP as bilateral export tax equivalents in the exporting LDCs in the GTAP database (Hertel 1997, Chs. 3, 15), are reduced by the appropriate amount to simulate removal of MFA quotas.[3]

Trade reforms, such as the implementation of the Uruguay Round, offer important opportunities for the Indonesian and other economies as we move into the next century. However, for Indonesia these gains are being reduced somewhat because of the financial crisis. As measured by an equivalent variation in income, the reduction is estimated to be $296 million per year.

[3] Following Anderson et al. (1997). The starting point is the level of textile quotas as at 1992, which is the base year for Version 3 of the GTAP model. We assume that China will be fully integrated into the WTO by 2005 and hence, in our Uruguay Round simulation, that China reduces tariffs in accordance with the offer made by China to WTO member countries in late 1994 (Bach et al. 1996). Christian Bach generously provided post-WTO membership rates for China for the full disaggregated GTAP data base. These tariff reductions may be conservative, as the offer was unacceptable to the WTO members at the time.

The biggest gains from the Round are expected to go to the textile and clothing sector which, with the lifting of 'voluntary' export restraints under the MFA reform, would have increased its GDP share from 5.2 to 7.5 per cent. The proportional increase in the interrupted growth scenario is similar, but from a lower base of 4.5 to 6.9 per cent (column 3 of Table 4). That means the GDP shares for primary sectors, including agriculture, are lowered by the Round, but from a higher base in the case of the interrupted growth scenario. Agriculture's share of GDP falls by almost 1 percentage point, as does that of 'other primary' sectors, in both scenarios (compare rows 2 and 3 with rows 4 and 5 in Table 4).

In terms of export shares, Table 5 shows the huge expected changes to the composition of exports of manufactures should Indonesia indeed receive the expanded access to US and EU textile and clothing markets that are promised in the UR Agreement. With interrupted growth, however, there is less expansion of the textile sector and hence less to gain from that part of the UR reform. The sector's share of merchandise exports is thus expected to rise from 20 to 43 per cent rather than to 50 per cent between 1992 and 2005.[4] Primary sector export shares would be larger in that case, with agriculture's being nearly twice as large (falling from 11 per cent in 1992 to 4.4 instead of 2.3 per cent in 2005). Self sufficiency in food and agricultural products (production as a percentage of domestic consumption at market prices), which was 101 per cent for Indonesia in 1992, would have fallen to 91 per cent by 2005 with continued high growth and implementation of the UR. The growth interruption raises that projection for 2005 to 96 per cent (column 4 of Table 6).

## The impact of altering Indonesia's trade liberalization

When an economic crisis of the magnitude of that which hit Indonesia in 1998 occurs, governments tend to alter trade and sectoral policies in one of two directions: either they become more inward looking and raise protectionist barriers in an attempt to slow job losses, or they accelerate their policy reform agenda in the hope of trading their way out of increased poverty. This section examines the effects of both of these

[4] Or less of course should the US and EU not open up as fully as has been promised. Even so, the 43 per cent from textiles and another 24 per cent from other manufactures would still mean Indonesia's

policy scenarios, compared with the 2005 data base with interrupted growth and assuming the Uruguay Round has been fully implemented by the rest of the world.

### *What if Indonesia does not liberalize as agreed in the UR?*

If Indonesia does not meet its Uruguay Round commitments, important growth opportunities will be lost. In this scenario we assume that Indonesia does not reduce its own tariffs as promised under the UR, but still receives MFN status in markets abroad where UR liberalizations are assumed to continue. These projections suggest a further reduction of US$0.7 billion per year in real GDP for Indonesia when it does not liberalize along with other WTO members. Should the US and EU deny Indonesia expanded access to their markets for textiles and clothing in retaliation for it not opening up as promised, however, Indonesia's would be lower by $3.7 billion rather than just $0.7 billion. In terms of equivalent variation in income, economic welfare is projected to be US$3.5 billion less in this latter case.

The changes in output for each sector from full Uruguay Round implementation, shown in the third column of Table 3, can be compared with column 4 which show what happens if Indonesia does not implement its UR commitments and thereby does not get improved access to world textile and clothing markets. Indonesia then moves more resources into other sectors such as other manufacturing, natural resource intensive sectors, trade and transport, and grains.[5] Clearly Indonesia will lose significantly if it does not meet its Uruguay Round obligations, especially if that causes it to lose market growth opportunities associated with MFA quota removal. The impact on sectoral GDP shares is clear from Table 4: the textiles etc. share falls from 7 to 3 per cent, and the primary sector's share rises nearly three percentage points. Export shares change in a similar direction but the changes are much larger, with textiles' share at 18 instead of 43 per cent and the primary sector's share at 44 instead of 33 per cent (Table 5).

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share of exports from all non-food manufactures in 2005 was no less than that of Thailand in the early 1990s.

[5] This is likely to have severe implications for environmental damage and air pollution as these sectors are significantly more damaging than the textile sector (Strutt and Anderson 1998).

### *What if Indonesia liberalizes further?*

By way of contrast, in the final twosimulations we again start from a post-Uruguay Round scenario (2005ig). We first examine the implications of a further 25 per cent reduction in import tariffs by Indonesia over and above its UR commitments. With this further liberalization, Indonesia's real GDP increases by an additional 0.4 per cent or US$74 billion per year. Light manufactures and services would gain a bit more, with textile and clothing output 7 per cent higher while other manufacturing and the natural resource-intensive sectors tending to decrease output slightly with this further liberalization. Total exports and imports for Indonesia increase by almost 7 per cent, on top of the increase from Uruguay Round liberalization. Agriculture's share of those exports is slightly higher than in the ig scenario along with textiles', at the expense of the other sectors' shares (Table 5). The greater volume of food imports means that self sufficiency in agriculture and food is slightly lower, at 94 instead of 96 per cent (column 4 of Table 6).

Finally, what if Indonesia went even further down the reform path? For example, with agriculture likely to become relatively more important because of the crisis than it otherwise would be, the government might consider reducing farm productivity-reducing domestic production and marketing regulations so as to boost this potential engine of growth recovery. One important regulation that reputedly has inhibited growth in the estate crop sector is that the sector has been kept in the hands of para-statal agencies. Suppose privatization or other reforms there led to a boost in total factor productivity in the non-grain crop sector by 10 per cent by 2005. Our results suggest that, compared with the interrupted growth scenario ig, this would boost real GDP by 0.6 per cent and that sector's output and exports by 12 and almost 60 per cent, respectively. It would raise agriculture's share of GDP by 0.8 per cent, and its share of exports from 4.6 to 5.8 per cent (bottom of Tables 4 and 5).

## Conclusions

The large changes projected for the structure of the global economy between 1992 and 2005 will be moderated once the effects of the Asian slowdown are felt. There is a large adverse effect expected on cumulative real output in Indonesia over this period,

and more so the slower the country recovers from the current crisis. Hence the urgent need to find ways to return the economy to rapid growth as soon as possible.

Trade reform, particularly multilateral trade liberalization, enhances Indonesia's economic growth and development prospects. Even in our comparative static model, Uruguay Round liberalization was projected to increase Indonesia's real GDP by approximately 1.4 per cent. That projection has been lowered slightly by the growth interruption, and could be lowered further -- or raised -- depending on trade and other policies responses to the crisis. On the one hand, if Indonesia responds by not meeting its Uruguay Round tariff reduction commitments, that is projected to lower its GDP by another 0.5 per cent per year. On the other hand, if Indonesia not only meets but is able to exceed its Uruguay Round commitments with an additional 25 per cent reduction in its import tariff rates, GDP is projected to be higher by a further 0.4 per cent per year. And as the final scenario above shows, that could be raised to a 1 per cent boost if domestic de-regulation in agricultural markets were able to raise productivity in the non-grain crop sector by 10 per cent.

With the declining relative importance of the agricultural sector being temporarily reversed by the crisis, and with workers returning from urban areas to their family's village, it is more important now than ever to examine ways to boost rural development. Great scope for doing that has been shown to exist in Indonesia (Tabor 1998), as in other areas of Asia (World Bank 1997). The extent to which the government is prepared to take up that challenge will provide a key indicator of the quality of its economic governance.

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Table 1: Assumptions made in the first and second baseline scenarios: projected cumulative [and annual][a] percentage changes in GDP and factor endowments for the period 1992 to 2005

| ***Region*** | ***Real GDP*** | ***Physical capital*** | ***Unskilled labour*** | ***Skilled labour*** | ***Population*** |
|---|---|---|---|---|---|
| ***First baseline scenario*** | | | | | |
| Indonesia | 130<br>[6.6] | 153<br>[7.4] | 29<br>[2.0] | 241<br>[9.9] | 20<br>[1.4] |
| Other APEC developing economies | 121<br>[6.3] | 179<br>[8.2] | 18<br>[1.3] | 103<br>[5.6] | 14<br>[1.0] |
| Other developing and transition economies | 49<br>[3.1] | 41<br>[2.7] | 29<br>[2.0] | 961<br>[5.3] | 28<br>[1.9] |
| APEC high-income economies | 45<br>[2.9] | 67<br>[4.0] | 11<br>[0.8] | 93<br>[5.2] | 11<br>[0.8] |
| Other high-income economies | 38<br>[2.5] | 36<br>[2.4] | 1<br>[0.1] | 218<br>[9.3] | 3<br>[0.2] |
| ***Second baseline scenario*** | | | | | |
| Indonesia | 48<br>[6.6]<br>(-8) | 75<br>[7.4]<br>(-5) | 22<br>[2.0]<br>(0) | 120<br>[9.9]<br>(-5) | 20<br>[1.4]<br>(1.4) |
| Other APEC developing economies | 84<br>[6.3]<br>(0) | 120<br>[8.2]<br>(0) | 14<br>[1.3]<br>(0) | 72<br>[5.6]<br>(0) | 14<br>[1.0]<br>(1.0) |
| Other developing and transition economies | 49<br>[3.1] | 41<br>[2.7] | 29<br>[2.0] | 961<br>[5.3] | 28<br>[1.9] |
| APEC high-income economies | 45<br>[2.9] | 67<br>[4.0] | 11<br>[0.8] | 93<br>[5.2] | 11<br>[0.8] |
| Other high-income economies | 38<br>[2.5] | 36<br>[2.4] | 1<br>[0.1] | 218<br>[9.3] | 3<br>[0.2] |

[a] Numbers in square brackets refer to the total 1992-2005 annual growth rates in the first scenario; in the second scenario they refer to all but the 1998-2000 period, when the annual rates of growth in curved brackets apply.

Source: Author's calculations from Anderson et al. (1997) and Arndt (1997).

Table 2: Changing structure of global GDP, 1992, 2005 and 2005ig

(1992 US$ and per cent)

| | *1992* | | *2005* | | *2005ig* | |
|---|---|---|---|---|---|---|
| | ***GDP (US$b)*** | ***% of world GDP*** | ***GDP (US$b)*** | ***% of world GDP*** | ***GDP (US$b)*** | ***% of world GDP*** |
| Indonesia | 128 | 0.55 | 287 | 0.86 | 192 | 0.59 |
| Other APEC developing economies | 1291 | 5.5 | 2831 | 8.5 | 2372 | 7.3 |
| Other developing and transition economies | 3103 | 13.3 | 4484 | 13.5 | 4464 | 13.7 |
| APEC high-income economies | 10828 | 46.5 | 15299 | 46.1 | 15261 | 46.9 |
| Other high-income economies | 7950 | 34.1 | 10319 | 31.1 | 10288 | 31.6 |
| **TOTAL** | **23301** | **100** | **33220** | **100** | **32577** | **100** |

Source: Authors' model results.

Table 3: Percentage changes in sectoral output (and cumulative changes in the compositional share of total GDP output) in Indonesia, 1992-2005, 1992-2005ig and with Uruguay Round trade liberalization

| ***Sector*** | ***1992- 2005*** | | ***1992-2005ig*** | | ***Uruguay Round including Indonesia*** | ***Uruguay Round excluding Indonesia*** |
|---|---|---|---|---|---|---|
| Paddy Rice | 59 | (-31) | 26 | (-15) | -0.9 | -1.1 |
| Coarse grains | 18 | (-49) | 9 | (-26) | 4.6 | 5.5 |
| Non-grain crops | 39 | (-39) | 13 | (-24) | -3.5 | 1.1 |
| Livestock | 75 | (-24) | 29 | (-13) | -0.3 | -0.7 |
| Forestry | 69 | (-26) | 26 | (-14) | -2.6 | 3.7 |
| Fisheries | 57 | (-32) | 13 | (-23) | 1.2 | 3.2 |
| Coal | 74 | (-24) | 36 | (-8) | -8.2 | 4.3 |
| Oil | 73 | (-25) | 27 | (-14) | -3.5 | 1.5 |
| Gas | 65 | (-28) | 25 | (-16) | -3.6 | 1.5 |
| Other minerals | 78 | (-23) | 28 | (-13) | -5.5 | 1.9 |
| Food processing | 58 | (-31) | 26 | (-15) | -1.0 | -1.1 |
| Textile products | 249 | (52) | 90 | (29) | 49.2 | -30.4 |
| Wood products | 54 | (-33) | 20 | (-19) | -5.2 | 5.7 |
| Paper | 186 | (25) | 65 | (12) | -4.8 | 4.1 |
| Petroleum and coal | 149 | (8) | 50 | (2) | 0.4 | -0.5 |
| Chemicals, rubber & plastics | 165 | (15) | 58 | (7) | 0.8 | 4.7 |
| Nonmetallic minerals | 159 | (13) | 63 | (11) | -5.1 | 5.0 |
| Other manufactured products | 203 | (32) | 61 | (9) | -13.3 | 8.2 |
| Electricity, water and gas | 158 | (12) | 54 | (4) | 1.9 | -1.0 |
| Construction | 142 | (5) | 66 | (12) | 0.5 | -0.6 |
| Trade and transport | 180 | (22) | 62 | (10) | -1.6 | 1.3 |
| Other services, private | 173 | (19) | 58 | (7) | -1.3 | 0.3 |
| Other services, government | 239 | (48) | 93 | (31) | -0.4 | 0.0 |

Source: Authors' model results.

Table 4: Sectoral shares of Indonesia's GDP, actual 1992 and 2005 under various scenarios

| | Agriculture and food processing | Other primary | Textile, clothing and leather manufactures | Other manufactures | Services | TOTAL |
|---|---|---|---|---|---|---|
| **Actual 1992** | 21.9 | 15.7 | 3.7 | 13.8 | 44.9 | 100 |
| **Projected 2005 if no UR:** | | | | | | |
| -- high growth | 18.6 | 16.5 | 5.2 | 14.1 | 45.6 | 100 |
| -- interrupted growth (ig) | 20.4 | 17.1 | 4.5 | 13.5 | 44.5 | 100 |
| **Projected 2005 with UR:** | | | | | | |
| -- high growth | 17.7 | 15.87 | 7.5 | 13.4 | 45.7 | 100 |
| -- interrupted growth (ig) | 19.5 | 16.3 | 6.9 | 12.7 | 44.6 | 100 |
| **Additional policy changes** (imposed on interrupted growth (ig) scenario for 2005) | | | | | | |
| -- Indonesia reneges on its UR obligations | 20.5 | 17.9 | 3.1 | 14.1 | 44.4 | 100 |
| -- Indonesia further reforms trade | 19.2 | 16.2 | 7.4 | 12.4 | 44.8 | 100 |
| -- Indonesia reforms agricultural domestic policy | 20.0 | 16.1 | 6.7 | 12.6 | 44.6 | 100 |

Source: Authors’ model results.

Table 5: Sectoral shares (%) of Indonesia's merchandise exports, actual 1992 and 2005 under various scenarios

| | Agriculture and food processing | Other primary | Textile, clothing and leather manuf | Other manufactures | TOTAL |
|---|---|---|---|---|---|
| **Actual 1966** | 59.7 | 29.1 | 0.0 | 11.2 | 100 |
| **Actual 1979** | 17.0 | 73.0 | 0.7 | 9.3 | 100 |
| **Actual 1992** | 11.1 | 35.9 | 20.1 | 32.9 | 100 |
| **Projected 2005 if no UR:** | | | | | |
| -- high growth | 2.6 | 29.6 | 35.4 | 32.4 | 100 |
| -- interrupted growth (ig) | 5.1 | 35.1 | 28.1 | 31.7 | 100 |
| **Projected 2005 with UR:** | | | | | |
| -- high growth | 2.3 | 23.3 | 50.2 | 24.2 | 100 |
| -- interrupted growth (ig) | 4.4 | 28.3 | 43.3 | 24.0 | 100 |
| **Additional policy changes** (imposed on interrupted growth (ig) scenario for 2005) | | | | | |
| -- Indonesia reneges on its UR obligations | 5.7 | 37.8 | 17.6 | 38.9 | 100 |
| -- Indonesia further reforms trade | 4.6 | 26.5 | 45.4 | 23.6 | 100 |
| -- Indonesia reforms agricultural domestic policy | 5.8 | 28.1 | 42.3 | 23.7 | 100 |

Source: GTAP 4 data base (CGTA 1998) and, for projections, authors' GTAP model results.

Table 6: Agriculture and food processing exports and imports, actual 1992 and 2005 under various scenarios

| | Exports (X, US$m) | Imports (M, US$m) | Trade specialization index (X-M)/(X+M) | Self-sufficiency (%) | 'Revealed' comparative advantage index[a] |
|---|---|---|---|---|---|
| **Actual 1966** | 468 | 58 | 0.78 | na | 2.37 |
| **Actual 1979** | 3265 | 1498 | 0.37 | na | 1.14 |
| **Actual 1992** | 3774 | 2409 | 0.22 | 101 | 1.18 |
| **Projected 2005 if no UR:** | | | | | |
| -- high growth | 1768 | 6979 | -0.60 | 93 | 0.30 |
| -- interrupted growth (ig) | 2503 | 4434 | -0.28 | 95 | 0.60 |
| **Projected 2005 with UR:** | | | | | |
| -- high growth | 1907 | 8283 | -0.63 | 91 | 0.25 |
| -- interrupted growth (ig) | 2595 | 5369 | -0.35 | 96 | 0.48 |
| **Additional policy changes** (imposed on interrupted growth (ig) scenario for 2005) | | | | | |
| -- Indonesia reneges on its UR obligations | 2671 | 4488 | -0.25 | 96 | 0.60 |
| -- Indonesia further reforms trade | 2885 | 5920 | -0.34 | 94 | 0.49 |
| -- Indonesia reforms agricultural domestic policy | 3426 | 4979 | -0.18 | 96 | 0.63 |

[a] Share of this product group in Indonesia's exports relative to its share in the value of world merchandise exports.
Source: GTAP 4 data base (CGTA 1998) and, for projections, authors' GTAP model results.