Chapter Five

Impact of Liberalisation

This chapter provides analysis of the impacts of liberalisation, including the results of two economic modelling studies and case studies on particular sectors. The modelling studies were undertaken by the Centre for International Economics and Dr Kenichi Kawasaki and Dr Philippa Dee. The case studies were undertaken by both governments. Five sectors were studied to provide the chapter with a detailed analysis based on official information. The case studies cover agriculture, computers and semi-conductors and IT-related services (authored by Japan), and autos and investment (authored by Australia), and are included in full later in this chapter.

5.1 Modelling Studies

This section will introduce the results of two economic modelling studies by Centre for International Economics (CIE) using the APG-Cubed Model, and by Dr Kenichi Kawasaki and Dr Philippa Dee, using the GTAP/FTAP Model.

It should be noted that general equilibrium models are not perfect. By definition, economic *models* are a simplification of reality and rely on numerous assumptions about economic parameters, behaviour, relationships and the format of liberalisation. As such, modelling results should be used only to infer the probable effect of bilateral trade and investment liberalisation between Australia and Japan (positive or negative) and the magnitude of such impacts (small or large). The results do not necessarily reflect the views of governments on what might happen in an actual bilateral liberalisation scenario. Therefore, further consideration of the analysis is necessary.

About the modelling

The scenario modelled under both modelling studies was of full and immediate bilateral trade and investment liberalisation between Australia and Japan from 2005.

Both economic modelling studies used global general equilibrium models to provide quantitative estimates of the economic impacts that could arise if Australia and Japan undertook a program of comprehensive bilateral trade and investment liberalisation. The Centre for International Economics (CIE) used the APG–Cubed economic model, while the study by Kawasaki and Dee used the GTAP and FTAP economic models. GTAP has been used to estimate the impacts of merchandise trade liberalisation while FTAP has been used for service trade and investment liberalisation.

These economic models are vastly different, and hence give different estimates of the economic impacts arising from Australia–Japan bilateral trade and investment liberalisation. However, the economic impacts as estimated by the different models should be thought of as complements rather than substitutes for one another. APG–Cubed is used to analyse the dynamic aspects of the economic impacts over time, incorporating both the real and financial sectors. FTAP and GTAP are long run snapshot models and are used to investigate the impacts on the various sectors in detail. To minimise differences between the two studies, both studies have used (to the extent possible) the same underlying data (trade flows, trade barriers, economic structure etc).

Where possible, differences in the results between the two studies are explained. Furthermore, APG–Cubed and GTAP report different variables and have differing indicators of welfare, hence the results of the two studies are rarely directly comparable.

The modelling scenario includes full liberalisation of those measures affecting trade in both goods and services which it is possible to liberalise on a preferential basis. Both modelling studies took account of dynamic productivity gains in some way.

Section 5.1.1 analyses the macroeconomic effects for both Australia and Japan of the bilateral trade and investment liberalisation. Key results from both economic modelling studies are reported. Section 5.1.2 provides results for the various sectors of each economy.

5.1.1 Macroeconomic impacts

Bilateral trade and investment liberalisation would enable Japanese producers improved access to the Australian market, and at the same time, it would improve the competitive position of Australia's producers in the Japanese market. Trade and investment liberalisation would also increase the attractiveness of the countries to foreign investment.

Macroeconomic indicators

The magnitude of the macroeconomic (and welfare) impacts is primarily determined by several trade related features of the two economies. These include the contribution of exports and imports to GDP; the significance of bilateral trade between the two countries; and the size of barriers to trade and investment prior to trade liberalisation. Dynamic effects arising from greater capital accumulation and productivity gains also are important.

Table 5.1.1 Macroeconomic impacts— comparable results, 2020

Economic indicator	Australia		Japan	
	APG–Cubed % deviation	GTAP/FTAP % deviation	APG–Cubed % deviation	GTAP/FTAP % deviation
Gross domestic product	0.66	1.79	0.03	0.13
Investment	1.22	3.15	0.05	-0.01
Total exports	2.35	2.11	0.33	0.64
Total imports	1.96	4.95	0.27	0.46
Bilateral exports (to Japan)	21.30	53.79	Na	Na
Bilateral exports (to Australia)	Na	Na	17.98	23.87
Employment	0.11	Na	-0.00	Na
Wages	0.64	1.72	0.02	0.28

Sources: APG–Cubed, GTAP and FTAP modelling simulations.

Table 5.1.1 provides results for key macroeconomic indicators.[32] Results from both economic models (results from GTAP and FTAP have been combined) are broadly in line, with results differing in magnitude only. The change in Australian GDP is estimated to be 0.66 per cent in the study by CIE and

[32] Results pertain to the year 2020. While APG–Cubed is a fully dynamic model and can report results for each year, GTAP is comparative static and hence does not have a time dimension. The GTAP results report the change from baseline once the economy has returned to full equilibrium, typically 10–15 years after the liberalisation. We have assumed that equilibrium will be reached in 2020, and hence have taken results from APG–Cubed for year 2020 for comparability.

1.79 per cent in the study by Kawasaki and Dee.[33] The change in Japanese GDP is estimated to be 0.03 per cent in the study by CIE and 0.13 per cent in the study by Kawasaki and Dee.

The macroeconomic results differ in magnitude due to assumptions underlying the economic modelling. For example, in the study by Kawasaki and Dee the standard GTAP model was modified so as to incorporate the dynamic effects of capital accumulation and dynamic productivity gains arising from greater import competition. These two dynamic effects account for around 60 per cent of Australia's welfare gains (see below). The APG–Cubed model also incorporates these two dynamic effects (APG–Cubed also includes dynamic productivity gains arising from greater exporting and FDI inflows). However, the dynamic effects account for a smaller share of the gains in APG–Cubed than is the case for GTAP. Hence the difference in magnitude for the results is primarily attributable to different 'values' being assigned to the parameters governing the responsiveness of capital accumulation to changing incomes and productivity gains arising from greater import competition (where the parameter values in APG–Cubed are smaller than those used in GTAP).

The main area of difference in the results concerns investment in Japan. The study by CIE estimates that investment in Japan would increase by 0.05 per cent, whereas the study by Kawasaki and Dee forecasts a small (0.01 per cent) fall in investment in Japan. It is important to note that the decline in investment does not mean negative investment in Japan; rather, it means investment would be marginally lower than otherwise. The small decline in investment in Japan can be attributed to a decline in production of the capital intensive Agriculture and food sector (see section 5.1.2), and hence a reduced demand for capital goods and investment.

Welfare implications

The change real GDP is the commonly used measure of the change in economic welfare. However, changes in real GDP reflect only changes in the overall level of economic activity and not changes in (net) national income or welfare per se. Given the likely change in income flows, there are better indicators of the change in welfare.

In APG–Cubed, the change in real consumption is used as the primary indicator of the welfare gains because it captures only the income flows accruing to domestic residents (that is, foreigners' earnings are excluded). Real consumption measures the aggregate quantity of goods and services households can consume given their current and future income flows. The higher real consumption is, the more households consume and hence the greater their welfare.

The primary welfare measure reported by GTAP is equivalent variation, and this represents the additional income that would need to be given to the community to make consumers as well off as they would have been under bilateral trade and investment liberalisation. Hence equivalent variation measures something like the change in net national income (or gross national product). The estimated gains in economic welfare under the liberalisation are reported in table 5.1.2.

[33] Modelling results from GTAP (merchandise liberalisation) and FTAP (service and investment liberalisation) have been aggregated to approximate the economic effects from full bilateral liberalisation (comprising liberalisation of merchandise and service trade, and investment). Strictly speaking, the modelling results are not additive — due to economic interactions, the sum of the liberalisation parts will likely be greater than the total liberalisation. However, the 'overstating' of the effects is likely to be very small.

Table 5.1.2 Welfare impacts, 2020

Welfare measure	Australia		Japan	
	APG–Cubed	GTAP/FTAP	APG–Cubed	GTAP/FTAP
Consumption (% deviation)	0.62	2.20	0.16	0.21
Equivalent variation ($US million)	Na	13 642	Na	6 785
Gross national product ($US million)	3 269	Na	3 043	Na

Source: APG–Cubed, GTAP and FTAP modelling simulations.

As was the case for the macroeconomic indicators, the modelling results from GTAP and FTAP are around 2–4 times the size of the gains estimated by APG–Cubed. Differences in the way in which the models incorporate dynamic capital accumulation and productivity effects would account for the majority of the difference in welfare results.

The salient point that should be taken from table 5.1.2 (and 5.1.1) is that the bilateral trade and investment liberalisation between Australia and Japan is estimated to be beneficial for both countries.

A common way of presenting a stream of benefits over time is the discounted net present value (NPV) of those benefits. The NPV allows a current value to be placed on benefits that may not be experienced until some time in the future. Chart 5.1.1 reports the NPV of benefits for Australia and Japan (left hand panels).[34] The gains compared to current GDP are also shown (right hand panels). Expressing the gains as a share of GDP is perhaps a better indication of the magnitude of gains (as opposed to the absolute monetary value) as account is taken of the size of the economy.

Over the 20 years from 2005 to 2025, Australia gains in NPV terms $A38.7 billion in real GDP and $A19.4 billion in real consumption. Japan experiences a relatively similar increase in real GDP of $A27.4 billion, but experiences over three times the welfare gain of Australia — Japan's real consumption increases by $A68.3 billion. Hence in absolute terms, Japan experiences a larger welfare gain from the bilateral trade and investment liberalisation than does Australia.

However, the absolute size of the gains can be misleading due to the size of the underlying economies. Australia's NPV gains in real GDP and real consumption are equivalent to 7.7 and 3.9 per cent (respectively) of GDP in 2005, whereas Japan's gains are equivalent to 0.5 and 1.5 per cent (respectively) of GDP in 2005. Hence relative to the size of the economy, Australia stands to gain more from the bilateral trade liberalisation.

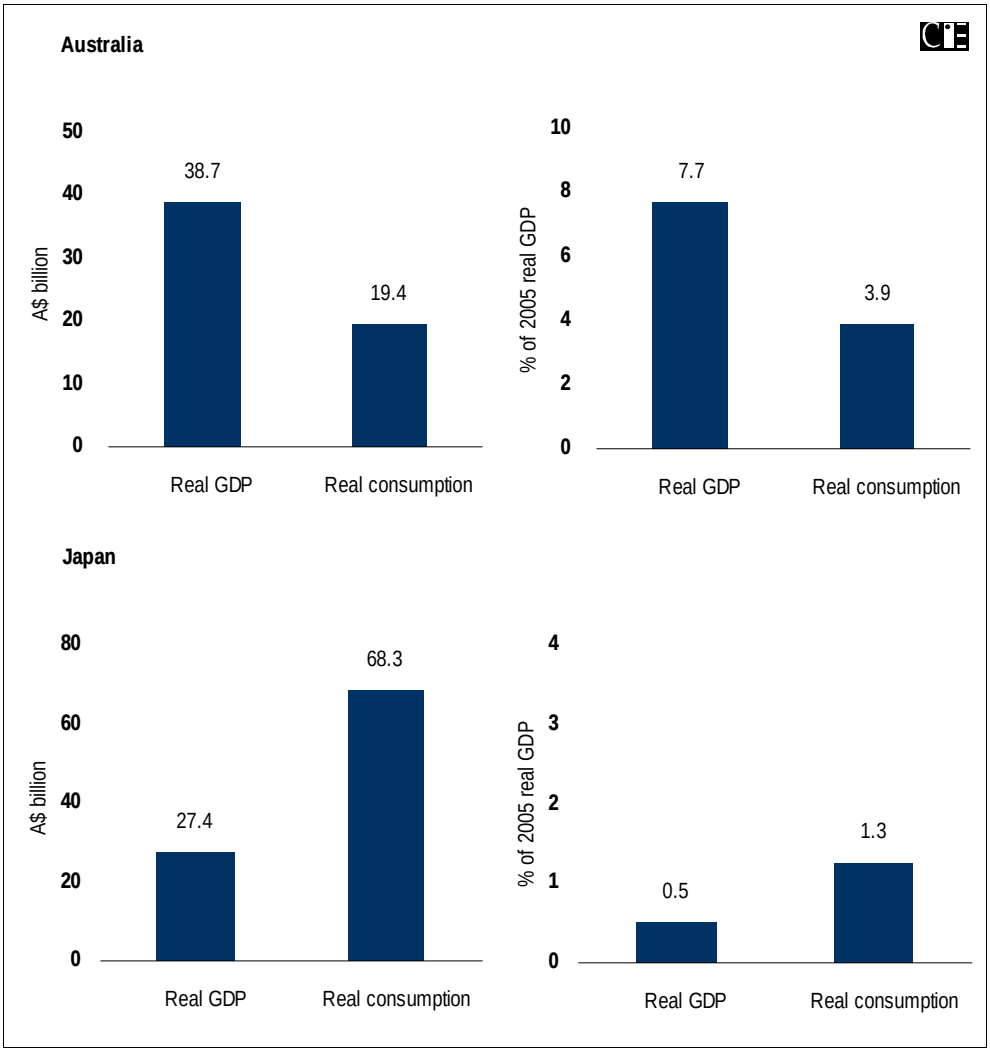
Contributing factors to the gains from liberalisation

Chart 5.1.2 decomposes the APG–Cubed estimated impacts of the bilateral trade and investment liberalisation into three factors, namely:

- removal of bilateral tariff and non-tariff barriers to merchandise trade;
- removal of barriers to bilateral services trade; and
- investment liberalisation by Australia.

[34] Note that these results are from the APG–Cubed economic model. GTAP and FTAP are comparative static models and hence do not report a time profile of gains. As such, it is not possible to calculate the NPV of the future stream of benefits.

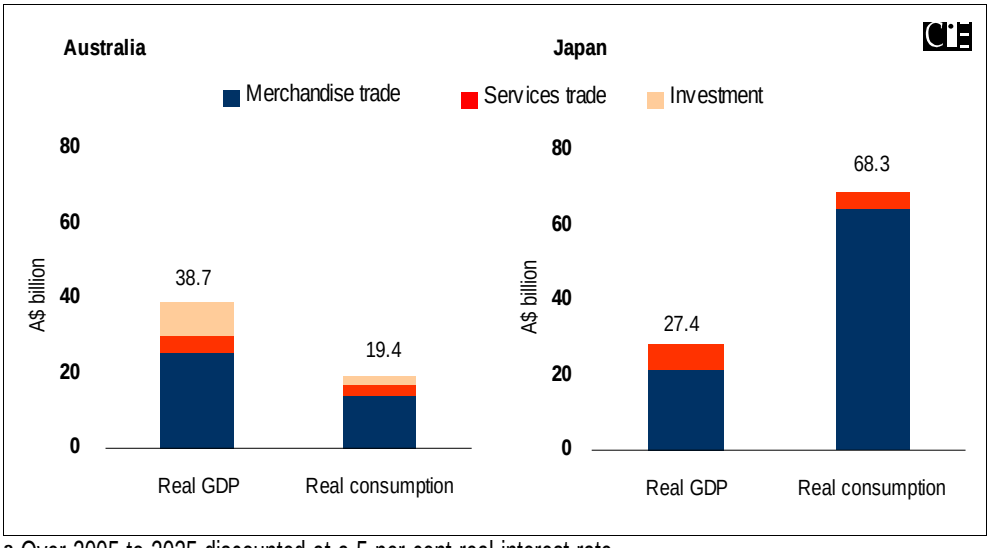
Chart 5.1.1 Production and welfare gains NPV 2005[a]



[a] Over 2005 to 2025 discounted at a 5 per cent real interest rate.

Data source: APG–Cubed modelling simulation.

Chart 5.1.2 Sources of gain NPV 2005[a]



[a] Over 2005 to 2025 discounted at a 5 per cent real interest rate.

Data source: APG–Cubed modelling simulation.

As shown in the chart, merchandise trade liberalisation contributes the most to gains in Australia, accounting for 66 per cent of the real GDP gains and 71 per cent of the real consumption gains in NPV terms. Australia's FDI liberalisation has the second biggest impact on real GDP (23 per cent of NPV). However, as some of the gains from increased FDI would be remitted to foreigners, the contribution of investment liberalisation to the welfare gain, being 13 per cent of NPV, is the smallest of the three factors (bilateral services trade liberalisation accounts for 16 per cent of welfare gains).

As was the case for Australia, bilateral merchandise trade liberalisation is the largest source of gains for Japan, accounting for 79 per cent of real GDP gains and 95 per cent of real consumption gains. Interestingly, Australia's investment liberalisation is estimated to have a very small adverse impact on Japan. Essentially, Australia's investment and trade liberalisation makes Australia more attractive to foreign investment relative to Japan, and hence there is some relocation of foreign investment from Japan to Australia. As such, Australia's investment liberalisation is associated with a very small contraction in Japan's GDP (note that the decline in GDP is not observable at the third decimal point).

A decomposition of the welfare gains (equivalent variation) as estimated by GTAP/FTAP is reported in table 5.1.3. A large share of Japan's welfare gains arise through improved resource allocation (allocative efficiency gains) after tariffs are removed. Dynamic productivity gains (arising as a result of greater import competition from now lower priced Australian imports) are also an important contributing factor to Japan's welfare gain. Japan experiences a large welfare loss through deterioration of its terms of trade. This could reflect a combination of rising import prices (the increased Japanese demand for the Australian imports sees the price of those imports rising) and a fall in export prices due to efficiency gains in the domestic economy.

Table 5.1.3 GTAP/FTAP welfare decomposition 2020, $US million

Contributing factor	Australia	Japan
Resource allocation	885	4 949
Terms of Trade	4 427	2 599
Capital accumulation	6 439	-289
Productivity improvements	2 239	5 085
International rent & interest payments	-58	41
Total	13 642	6 785

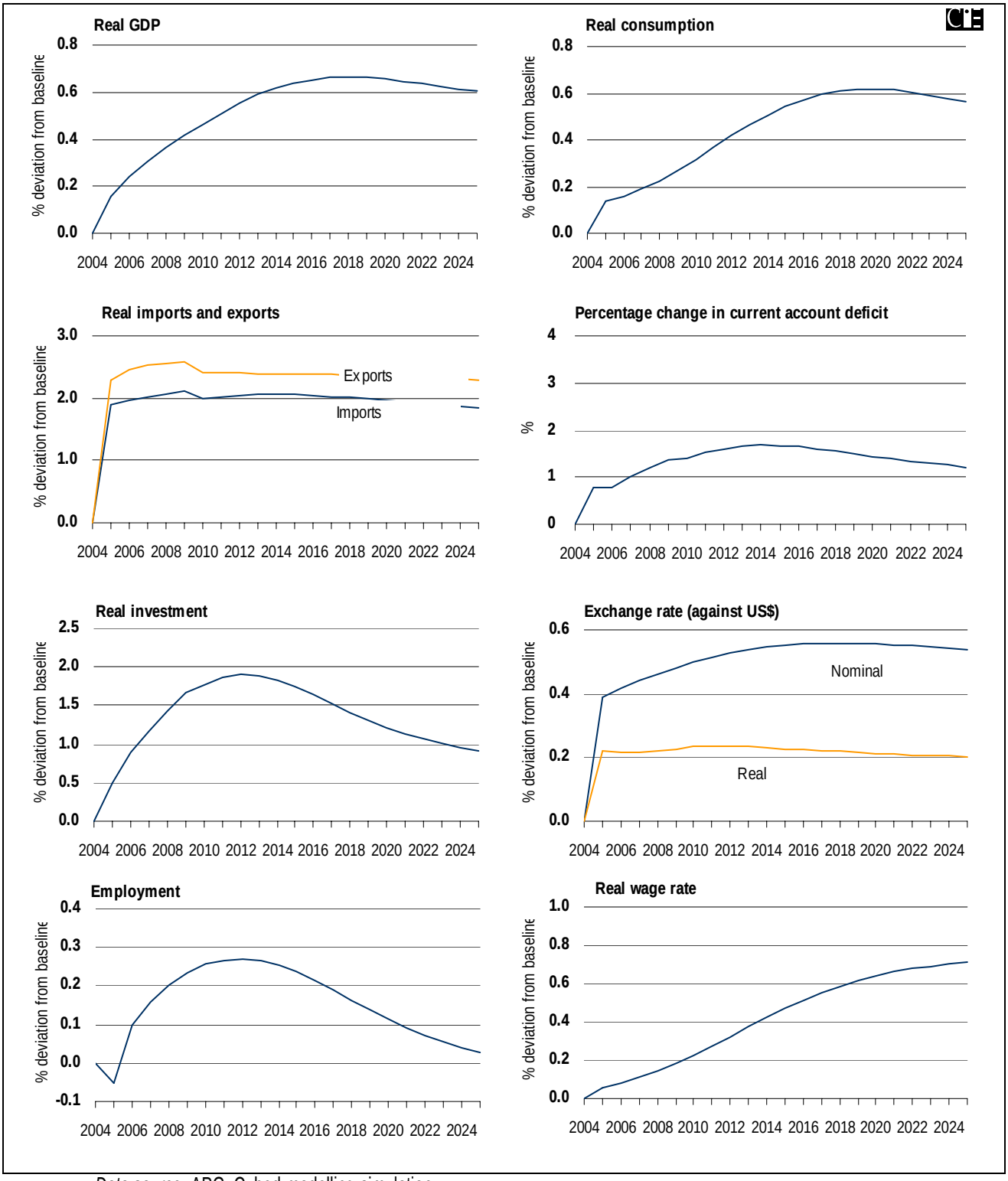
Source: GTAP and FTAP modelling simulations.

Expansion of Australia's capital stock is the most important factor in terms of Australia's welfare gain. Trade barriers in Australia are already low, hence Australia's resource allocation and productivity improvements gains are relatively small. The increased Japanese FDI in Australia has to be paid for (by interest payments), and this is associated with a small loss of welfare in Australia (but a gain to Japan).

Macroeconomic effects of the liberalisation for Australia

The macroeconomic effects of the trade and investment liberalisation as estimated by APG–Cubed are reported in chart set 5.1.3. For Australia, and as expected, the liberalisation brings about a positive and large impact. Both output and welfare increase above the baseline after the liberalisation commences. The rise in real GDP peaks about 13 years out at 0.7 per cent above baseline. The rise in real consumption — the preferred welfare measure — peaks at 0.6 per cent above baseline 15 years out.

Chart 5.1.3 Macroeconomic effects for Australia



Data source: APG–Cubed modelling simulation.

The increased openness to FDI lowers the cost of investing in Australia. This, combined with improved access to the Japanese market and the greater domestic efficiency that trade liberalisation brings, sees capital in the Australian economy earning a higher return. This in turn causes a rise in real investment, with investment peaking at 1.9 per cent above baseline in 2012.

Despite rising GDP, domestic saving does not increase by a sufficient amount to cover the rise in investment. Hence the extra capital for investment is met by additional capital inflow, which drives the capital account into surplus. As a balanced Balance of Payments is assumed in the long run, the increasing capital account necessitates, by definition, a deterioration of the current account (that is, imports exceed exports). The current account deficit increases by 1.7 per cent above baseline in 2014 — equivalent to 0.1 per cent of real GDP in that year. After 2014, the demand for capital inflow eases once the new investment is in place.

The lift in exports from Australia amounts to 2.6 per cent above baseline in 2009, with the increase slightly declining to 2.4 per cent in the following year and staying steady afterward. The kink in the export growth is due to the MFN trade liberalisation undertaken by Australia, which has the effect of diminishing the net effect of the trade liberalisation undertaken as part of the bilateral liberalisation with Japan. With the rise in economic activity and lower barriers to Japanese imports, there is an increase in imports of a slightly lower magnitude than for exports. Australia's total imports rise to a peak of 2.1 per cent above baseline in 2009.

The relatively higher change in exports than in imports may seem counter to the required deterioration in the current account. Although the percentage increase in exports is slightly higher than that in imports, in absolute terms the change (increase) in imports is greater than the change in exports due to imports being at a higher base level (that is, in the baseline a current account deficit exists). Hence due to differing base levels, a similar percentage change translates into a larger absolute increase in imports than exports.

To facilitate the capital inflow and trade changes, there must be an appreciation of the Australian currency, which is shown in chart 5.1.3 (bottom right-hand panel). The Australian dollar is stronger against the US dollar in nominal terms by 0.6 per cent, and in real terms by 0.2 percentage points, in 2015.

With the large increase in real GDP, the trade and investment liberalisation has a large positive impact on employment in Australia. Although APG–Cubed assumes fixed labour supply and full employment determined by the population growth rate in the long run, in the short run employment deviates from the full employment equilibrium level because real wages adjust slowly to labour market conditions and the model takes account of adjustments costs. After the liberalisation commences, adjustment costs dominate the extra demand for labour brought about by the increase in production. This means there is a small initial dip in employment of 0.05 per cent below baseline. However, with sticky nominal wages the extra demand quickly dominates and employment picks up to 0.3 per cent above baseline by 2012.

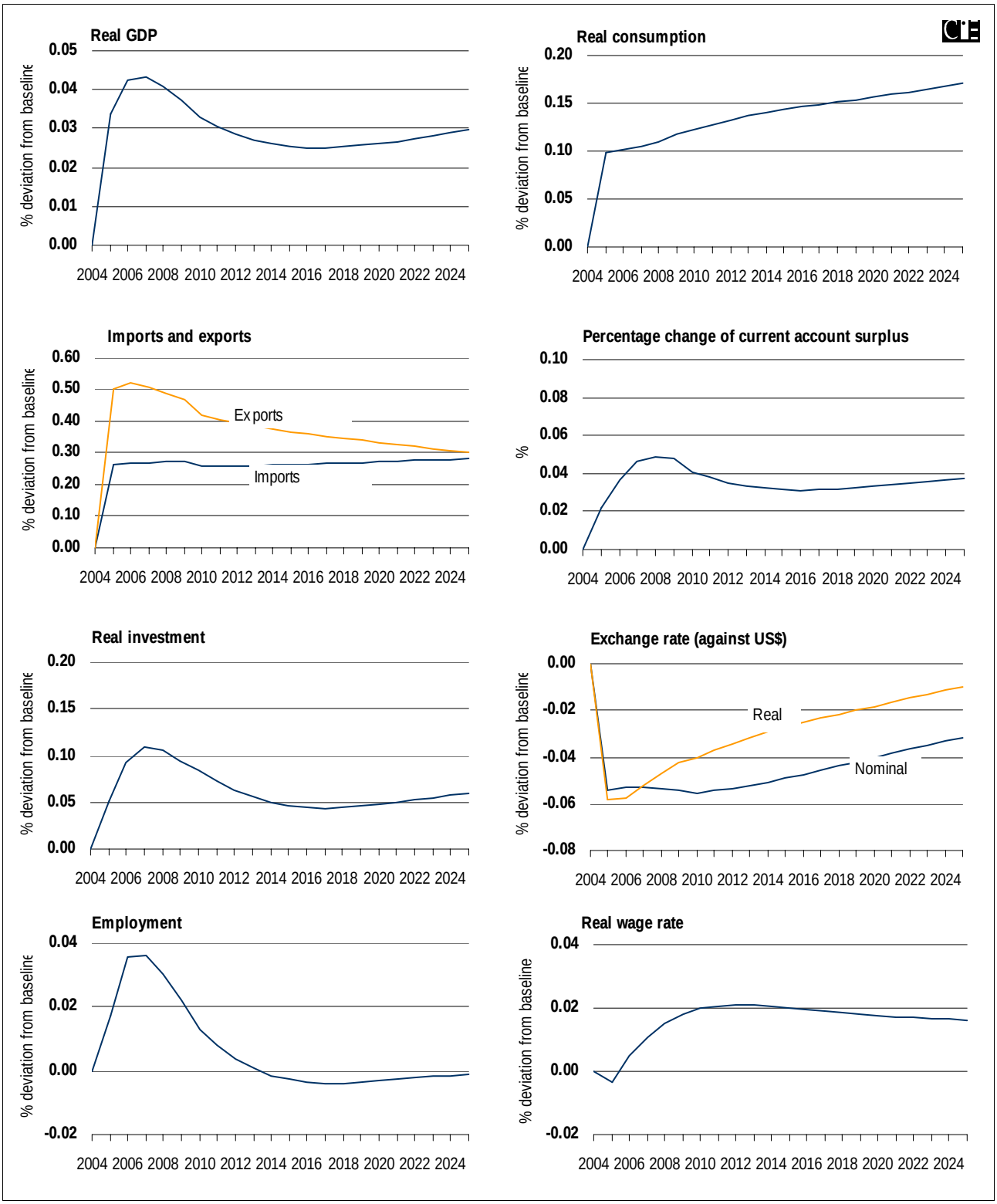
Over time, real wages adjust (increase) to ensure that employment falls back to its baseline level — the natural rate of unemployment. The long term gain to employment is reflected in higher real wages. The real wage rate, which is the difference between the nominal wage rate and inflation, increases over time and reaches around 0.7 per cent higher than the baseline level in 2025.

Macroeconomic effects of the liberalisation for Japan

The macroeconomic effects of the trade and investment liberalisation as estimated by APG–Cubed is reported in chart set 5.1.4. As shown, the bilateral trade and investment liberalisation would also have a positive impact on Japan. However, Japan is the world's second largest economy, and given the relatively small trade with Australia — Australia is the destination for 2 per cent of Japan's exports and the source

of 4 per cent of imports (DFAT 2004) — it is natural that bilateral trade and investment liberalisation with Australia would bring smaller gains for Japan.

Chart 5.1.4 Macroeconomic effects for Japan



Data source: APG–Cubed modelling simulation.

Japan's real GDP would jump by 0.03 per cent immediately after the liberalisation commences in 2005, would peak at 0.04 per cent above the baseline level in 2007, and would be 0.03 per cent higher in 20

years. Real consumption in Japan would jump by 0.1 per cent in 2005, and would be 0.2 per cent higher than the baseline level after 20 years.

Japan's exports would increase after the liberalisation commences, and would peak at 0.5 per cent above baseline in 2006. Japan's imports would increase as well, but with a smaller magnitude than exports. Japan's imports would jump by 0.26 per cent in 2005, and gradually increases to be 0.28 per cent higher than the baseline level in 20 years. The higher increase in exports than in imports means a further strengthening of the current account surplus — 0.05 per cent higher in 2008 and 0.04 per cent higher in 2025. This in turn implies greater capital outflow. As a result, the Japanese Yen depreciates in both nominal and real terms. Against the US dollar, the Yen depreciates in real terms 0.06 per cent immediately after liberalisation commences in 2005, and by 0.01 per cent relative to the baseline rate in 20 years.

The productivity and allocative efficiency gains brought about by the trade liberalisation sees real investment in Japan rising due to capital earning a higher return and the increase in economic activity. The rise in Japan's real investment peaks at 0.1 per cent in 2007, and would be 0.06 per cent higher than the baseline level in 20 years.

Similar to the impact on Australia, with a higher level of economic activity the trade and investment liberalisation has a positive, albeit smaller, impact on employment in Japan. As shown in chart 5.1.4, and due to slow adjustment in wages, employment would rise initially, peaking at 0.04 per cent higher than the baseline level in 2007. In the long run, the real wage rate adjusts to ensure that employment falls back to its baseline level. The long term gain in employment is reflected in higher real wage rates which is 0.02 per cent higher than the baseline level in 2025.

Employment in Japan is estimated to drop below the baseline level from 2013. The deviation is small, being less than one hundredth of a percentage point. Again this is because of the slow adjustment of wage rates. Three points should be emphasised in interpreting this result. First, it does not mean the employment level is lower than the current level, it is just slightly below the level that might otherwise be in ten years, with employment rising over time. Second, even though employment is slightly lower than the baseline, the real wage rate is still 0.02 per cent higher than the baseline. Third, this drop is a temporary deviation from the long run equilibrium. It can be seen from the chart that the employment level would pick up and gradually approach the baseline level in a longer period.

Effects of the liberalisation on third countries

It was noted in table 5.1.1 that bilateral Australia–Japan exports would increase due to the trade liberalisation undertaken by the other country. However, the bilateral trade and investment liberalisation would also have implications for the trading relationship with third countries.

Exports from Australia to Japan would increase due to Japan's trade liberalisation (and vice versa). However, the total exports of Australia as a whole to the world would increase by a smaller amount (see table 5.1.4). This is due to trade diversion effects, in which Australian exporters divert exports from other markets to Japan. Australian export diversion effects would be larger in the case of exports to China, OECD Europe and ASEAN countries, followed by those to the rest of the world. On the other hand, Australian imports as a whole are shown to expand more than those from Japan under the current simulation. The adverse effects could be more than offset by stronger impacts on demand in Australian production.

Table 5.1.4 Trade relations with other countries[a] 2020, $US million

Trading partner	Australia		Japan	
	Exports to	Imports from	Exports to	Imports from
Japan	12 128	2 561	-	-
Australia	-	-	2 497	13 061
New Zealand	-232	157	11	-360
China	-708	471	156	-673
Korea	-522	23	78	-167
ASEAN	-1 104	446	139	-627
United States	-965	905	196	-3 159
Canada	-137	71	13	-314
Mexico	-61	37	7	-117
OECD Europe	-1 410	1 043	255	-1 095
Rest of World	-1 774	793	310	-1 641
Total world	5 213	6 508	3 660	4 909

[a] Exports are measured at fob values whereas imports are measured at cif values.

Source: GTAP and FTAP modelling simulations.

Due to the preferential treatment extended to imports from Australia, Australian imports displace imports from third countries in Japan. Hence trade diversion is expected to have adverse impacts on other economies. In fact, Japanese imports from the world market as a whole increase, but to a lesser extent compared with those from Australia. Adverse effects would be observed in imports from the United States.

5.1.2 Sectoral impacts of liberalisation

Trade and investment liberalisation between Australia and Japan would have different impacts for various sectors of the two economies. The impact of trade liberalisation would be more observable at the sectoral level compared with changes in production and income (welfare) at the macroeconomic level.

In particular, trade liberalisation may result in a realignment of regional production. In principle, that would be in accordance with the comparative advantage of the two countries. According to conventional simulations by general equilibrium models of global trade, developing and transition economies are expected to expand production of labour intensive manufactured products as a result of broadly based trade liberalisation measures. On the other hand, developed economies are expected to expand production in the capital and technology intensive manufacturing sectors, while the geographically larger countries typically expand agricultural and food production.

As noted in section 5.1.1, the sectoral impact of trade liberalisation would be determined more by trade structures and protection levels prior to trade liberalisation, rather than simply by the comparative advantage of the sectors in the two economies.

Sectoral impacts in Australia

The changes in the total trade, production levels and factor endowments in Australia's sectors are shown in table 5.1.5. These results are from the GTAP and FTAP economic models.

Japan's liberalisation of tariff barriers on imports (from Australia) of agricultural and food products sees a large increase in Australian exports of these products. The modelling also predicts a decline in exports for

several other sectors, particularly in manufacturing. This could be either because of the increase in Australia's terms of trade that would result from lower tariffs on imports and better access to the Japanese market for exports, or due to resources moving to the sectors relatively advantaged by the bilateral liberalisation. The contraction in output (and exports) frees up factors of production, which can then relocate to the expanding sectors.

Table 5.1.5 Sectoral impacts in Australia, 2020

Sector	Total trade		Production level	Factor endowments	
	Exports	Imports		Labour	Capital
	% deviation	% deviation	% deviation	% deviation	% deviation
Grains	58.5	36.3	43.3	48.7	50.1
Livestock & meat	33.3	17.6	12.7	15.2	17.1
Dairy products	227.0	26.9	47.7	50.4	52.9
Processed foods	18.8	6.5	4.1	2.0	5.6
Other agriculture	-10.4	17.4	-0.2	0.7	1.4
Forestry & wood products	1.9	7.9	1.2	0.0	2.7
Fishery	2.3	2.5	1.3	0.5	1.1
Coal	-1.2	1.2	-0.8	-1.8	-1.1
Gas	10.7	25.6	2.5	1.9	2.7
Other minerals	-7.6	1.6	-4.5	-5.4	-4.8
Textiles & apparel	-6.0	4.3	-2.1	-4.5	-0.6
Paper products, publishing	-9.9	6.3	0.2	-1.8	2.0
Chemicals	-5.6	4.3	0.5	-1.9	1.8
Metals	-9.4	3.7	-6.5	-8.6	-4.9
Metal products	-12.5	7.8	-0.3	-2.0	1.8
Motor vehicles & parts	-2.0	6.5	-0.4	-3.6	0.3
Other transport equipment	-10.1	5.6	-2.8	-4.4	-0.9
Electronic equipment	-3.1	2.5	-0.8	-4.2	-0.4
Other machinery & equipment	-5.5	3.6	-1.6	-4.4	-0.5
Other manufacturing	-4.7	3.9	-1.5	-4.5	-0.4
Utilities	-10.3	7.6	0.5	-2.2	1.4
Construction	-8.4	9.8	3.1	1.0	5.2
Trade & transport	-7.1	6.6	1.4	-1.0	3.9
Communication	-8.3	5.8	0.8	-1.4	2.2
Finance & insurance	-9.6	7.3	0.9	-1.2	2.7
Other private services	-8.6	6.6	1.4	-0.9	2.8
Public services	-12.0	7.0	0.8	0.4	4.0

Source: GTAP and FTAP modelling simulations.

In Australia's service sectors, output increases and yet exports fall, as production is re-allocated from export markets to the expanding domestic market. That is, the expanding Australian economy has increased demand, some of which is satisfied by greater imports (which increase across the board), greater local production and diverting product from export markets to the domestic market. While some sectors experience a decline in exports, it needs to be remembered that total Australian exports increase by over 2 per cent.

Greater competition from Japanese manufactured imports sees the Australian sectors losing market share, and hence a contraction in output of most manufacturing sectors. Australia's agricultural and food sectors however experience large increases in output, driven in large part by growth in exports. As some agricultural and food sectors expand, they need greater production inputs, including land (which is a fixed factor of production). Hence some agricultural sectors may see a decline in output as land is diverted to, for example, grains and livestock production.

Distribution of production factors — labour and capital — would typically follow changes in sectoral production. However, there could be some deviation from this rule of thumb for several reasons. The productivity of industries would increase in line with the trade liberalisation, with less production factors being required once productivity improvements are made. Relatively larger decreases in labour in several cases such as Australian manufacturing sector are attributed to this productivity effect. The contraction in employment in the manufacturing sectors allows those sectors advantaged by the bilateral trade liberalisation to increase output.

Another key factor in determining sectoral employment is the impact of the investment liberalisation. The trade liberalisation improves the efficiency of the Australian economy, making investment in Australia more attractive. This, combined with the investment liberalisation which sees increased Japanese FDI in Australia, sees capital being relatively cheaper than labour (real wages are forecast to rise by 1.72 per cent). Increasing labour costs and a relative decline in the cost of capital sees labour being replaced by capital. This effect is particularly evident in the service sectors. For example, employment in Australia's Trade and transport sector is estimated to be 1 per cent lower (than otherwise), while capital is 3.9 per cent higher.

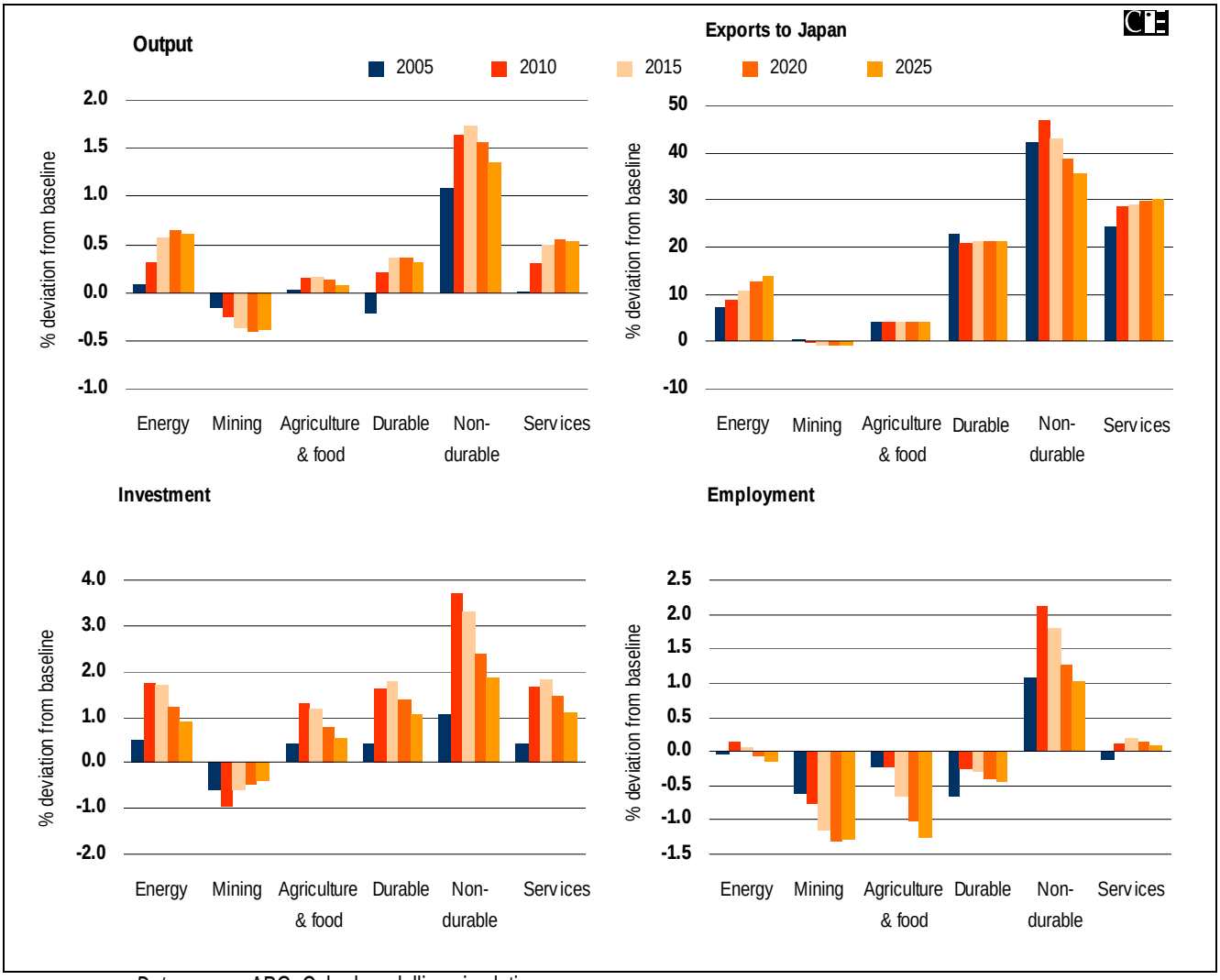
Select sectoral results from the APG–Cubed economic model are reported in chart 5.1.5. As can be seen, the impact of bilateral trade and investment liberalisation is typically positive for all Australian sectors.

Australia's Non-durable manufacturing sector experiences the largest gain (in percentage terms). This is driven by greater access to the Japanese market plus dynamic productivity gains in the Australian sector associated with greater import competition (Japanese imports are 50 per cent higher by 2020). Productivity gains improve a country's competitive position on a multilateral basis, whereas bilateral trade liberalisation improves the competitive position of exports in only the partner country. Hence sectoral output is typically more responsive to productivity gains than to greater bilateral trade flows.

Australia's Agriculture and food sector undergoes only a modest increase in output, despite Japan removing its tariffs. Japan's liberalisation of the sector would see a large initial increase in import competition from Australian exporters. This drives dynamic productivity gains in Japan's Agriculture and food sector, which would in turn act to curtail imports from Australia (and all other countries for that matter) — Australia's agriculture and food exports to Japan increase by only around 5 per cent. The increase in Japanese demand for Australian agriculture and food exports also sees the price of Australian exports rising (over 30 per cent higher by 2020), which acts to further limit exports. Due to a relatively low volume of Australia's agriculture and food production being exported to Japan, the effect of the increase in exports on sectoral output is small.

Only one Australian sector — the Mining sector — is expected to see a decline in output. This result may appear to be counter-intuitive, as after all, Australia's mining tariff is very low at 0.5 per cent and hence trade liberalisation is not expected to see a large increase in competitive pressure from Japanese imports.

Chart 5.1.5 Select sectoral results for Australia



Data source: APG–Cubed modelling simulation.

However, it is this factor, combined with Japan's equally low (indeed, lower) barrier to mining imports that conspire to give this result. The low Australian tariff on mining imports means that bilateral trade liberalisation would see a relatively small increase in competitive pressure from imports, and hence little dynamic productivity gain in the Australian sector (indeed, total sectoral exports contract as does investment in the sector, meaning a likely negative overall impact on productivity). Japan's tariffs on mining imports are very low, hence the Australian sector is not particularly advantaged by the trade liberalisation. Other sectors are advantaged more by the bilateral trade liberalisation and experience larger dynamic productivity gains. Hence the Australian mining sector is relatively disadvantaged under the bilateral liberalisation. Given resource constraints in the economy, as the relatively more advantaged sectors expand output resources are attracted away from the Mining sector to the expanding sectors.

Broadly speaking, the sectoral change in Australia's exports to Japan reflects the magnitude of trade liberalisation undertaken by Japan. That is, the change in exports is broadly proportional to the barrier reduction. For example, Japan eliminates a tariff of 6.5 per cent on non-durable manufacturing imports from Australia, with Australian exports increasing by around 40 per cent. Japan removes a tariff barrier of 0.9 per cent on energy imports, and Australian energy exports increase by around 5 per cent.

However, this 'rule of thumb' breaks down when considering Australia's exports of agriculture and food products to Japan. Under the liberalisation Japan is assumed to eliminate a trade barrier of around 88 per cent. Hence we would, a priori, expect Australian agriculture and food exports to Japan to increase by a substantial amount (rather than the 5 per cent observed increase). However, and as explained above, removing such a large trade barrier has a large dynamic productivity effect on the domestic sector, and this acts to stymie Australian exports. The productivity effect of the greater import competition can be seen by Japan's increase in agriculture and food exports to Australia (note that the 350 per cent increase in exports is from a very small base). Improved market access is unlikely to account for a large share of the increase in exports to Australia — Australia is only removing a trade barrier of 1.5 per cent. Hence the bulk of the increase in exports is likely to be attributable to dynamic productivity gains experienced in Japan's Agriculture and food sector (and brought about by increased import competition from Australian exporters and greater exports by Japan).

The other factor limiting Australian agriculture and food exports is price rises in Australia. Expanding exports (and output) necessitates greater use of factors of production. The Agriculture and food sector is capital intensive, but as capital cannot move instantaneously, it takes time before exports (and output) can increase to meet the rise in demand. The excess demand sees prices rising (the price of Australia agriculture and food exports to Japan has risen by 30 per cent by 2020), and this acts to further limit the increase in exports.

The change in sectoral investment in Australia broadly replicates the change in sectoral output. The fact that some sectors, such as Durable manufacturing, are more capital intensive than others, such as the Services sector, means that a larger investment response is observed for a smaller change in sectoral output. For example, the Durable manufacturing and Services sectors experience very similar changes in investment, yet the Services sector experiences a larger change in output. Ultimately, the investment liberalisation undertaken by Australia would act to lower the cost of (foreign) capital in Australia. This, combined with rising real wages (see below), would see some capital for labour substitution across the various sectors, which in turn would act to further increase investment. As investment comes 'on line' as capital, less investment is needed and hence the investment response/increase declines over time.

For Australia, the employment impacts differ across sectors. It is estimated that employment would contract in the Energy, Mining, Agriculture and food, and Durable manufacturing sectors; while increasing in the Non-durable manufacturing and Services sectors. As output of the Mining sector is estimated to contract under the bilateral liberalisation, it is not unexpected that employment in that sector would also fall.

The contraction in employment in other sectors can be attributed to a range of factors. Dynamic productivity gains mean that less inputs to production, including labour, are needed to produce a given level of output. Hence productivity gains typically translate to reduced employment. Investment liberalisation and rising real wages would encourage capital for labour substitution, which would also act to lower employment. Finally, the expanding sectors, especially the Services sector (which accounts for about 80 per cent of Australia's GDP), would attract labour away from other sectors.

The most important point to observe is that the impact of the bilateral liberalisation on employment and/or real wages in Australia is positive. For example, by around 2025 employment would have returned to the natural rate of unemployment (hence aggregating the absolute change in employment in each sector would see the net economywide impact on employment being zero). However, real wages in each sector would have risen by around 0.6–1.0 per cent (not reported in chart 5.1.5).

Sectoral impacts in Japan

The changes in the total trade, production levels and factor endowments in Japan's sectors are shown in table 5.1.6. These results are from the GTAP and FTAP economic models.

Japanese total exports would increase in several manufacturing sectors, in particular, in motor vehicles and parts led by the increase of those exports to Australia following removal of Australia's relatively high motor vehicle tariffs. In addition, Japan's exports of agricultural and food products are also estimated to increase (note that some of the large percentage increases are from small bases).

Table 5.1.6 Sectoral impacts in Japan, 2020

Sector	Total trade		Production	Factor endowments	
	Exports	Imports	level	Labour	Capital
	% deviation	% deviation	% deviation	% deviation	% deviation
Grains	192.3	39.8	-21.1	-30.7	-30.7
Livestock & meat	19.9	3.3	1.6	1.4	1.4
Dairy products	106.7	36.3	-10.1	-14.9	-14.9
Processed foods	8.2	-0.7	1.1	1.3	1.3
Other agriculture	6.8	0.9	-0.8	-0.9	-0.9
Forestry & wood products	1.3	0.0	0.1	0.1	0.1
Fishery	-0.2	0.8	0.8	0.9	0.9
Coal	0.2	0.1	0.1	0.0	0.1
Gas	0.7	0.1	0.3	0.1	0.2
Other minerals	0.1	0.1	0.0	0.1	0.1
Textiles & apparel	0.9	0.0	0.2	0.2	0.2
Paper products, publishing	0.8	-0.1	0.0	0.0	0.0
Chemicals	0.5	-0.1	0.0	0.1	0.1
Metals	0.9	0.1	0.3	0.3	0.3
Metal products	1.0	-0.1	0.1	0.1	0.1
Motor vehicles & parts	1.0	0.0	0.4	0.4	0.4
Other transport equipment	0.3	0.0	0.2	0.2	0.2
Electronic equipment	0.3	0.0	0.1	0.1	0.1
Other machinery & equipment	0.6	0.0	0.2	0.2	0.2
Other manufacturing	2.4	-0.5	0.3	0.4	0.4
Utilities	0.3	-0.1	0.1	0.1	0.1
Construction	0.1	-0.1	0.0	0.0	0.0
Trade & transport	0.8	0.0	0.1	0.1	0.1
Communication	0.3	-0.1	0.1	0.1	0.1
Finance & insurance	0.2	-0.1	0.0	0.0	0.0
Other private services	0.5	0.0	0.1	0.1	0.1
Public services	0.3	-0.1	0.0	0.0	0.0

Source: GTAP and FTAP modelling simulations.

The large increase in agricultural and food exports would primarily be driven by pro-competitive productivity improvements in these sectors. As Japan's highest trade barriers are levied on these products, liberalisation of bilateral trade would see a substantial increase in import competition from now cheaper Australian imports. The increased import competition would in turn see pro-competitive

productivity improvements in the corresponding Japanese sectors, and this would make Japan's exports of these products more competitive on a global basis. As such, bilateral liberalisation with Australia would cause exports of agricultural and food products to increase substantially.

Imports would typically increase in those sectors where significant trade barriers are removed. Moreover, stronger demand due to a growing economy would require an increase in both domestic production and imports from abroad. Hence imports could be expected to increase irrespective of the level of sectoral liberalisation. Dynamic productivity gains in the Japanese sectors would, however, act to curtail the increase in imports (as the Japanese sectors are now more competitive) or even see a slight fall in imports.

Total imports of services in Japan are, however, expected to fall. While service liberalisation produces an increase in service imports (as would be expected), the increase is exceeded by a decline in service imports due to merchandise trade liberalisation. This result can also be attributed to the pro-competitive productivity effects experienced by the liberalising merchandise sectors. As productivity in Japan's merchandise sectors improves, those sectors need less production inputs to produce a given quantity of output. Some of these production inputs would be services, some of which would be imported. Hence a decline in the need for service inputs would see a decline in the need for imported services.

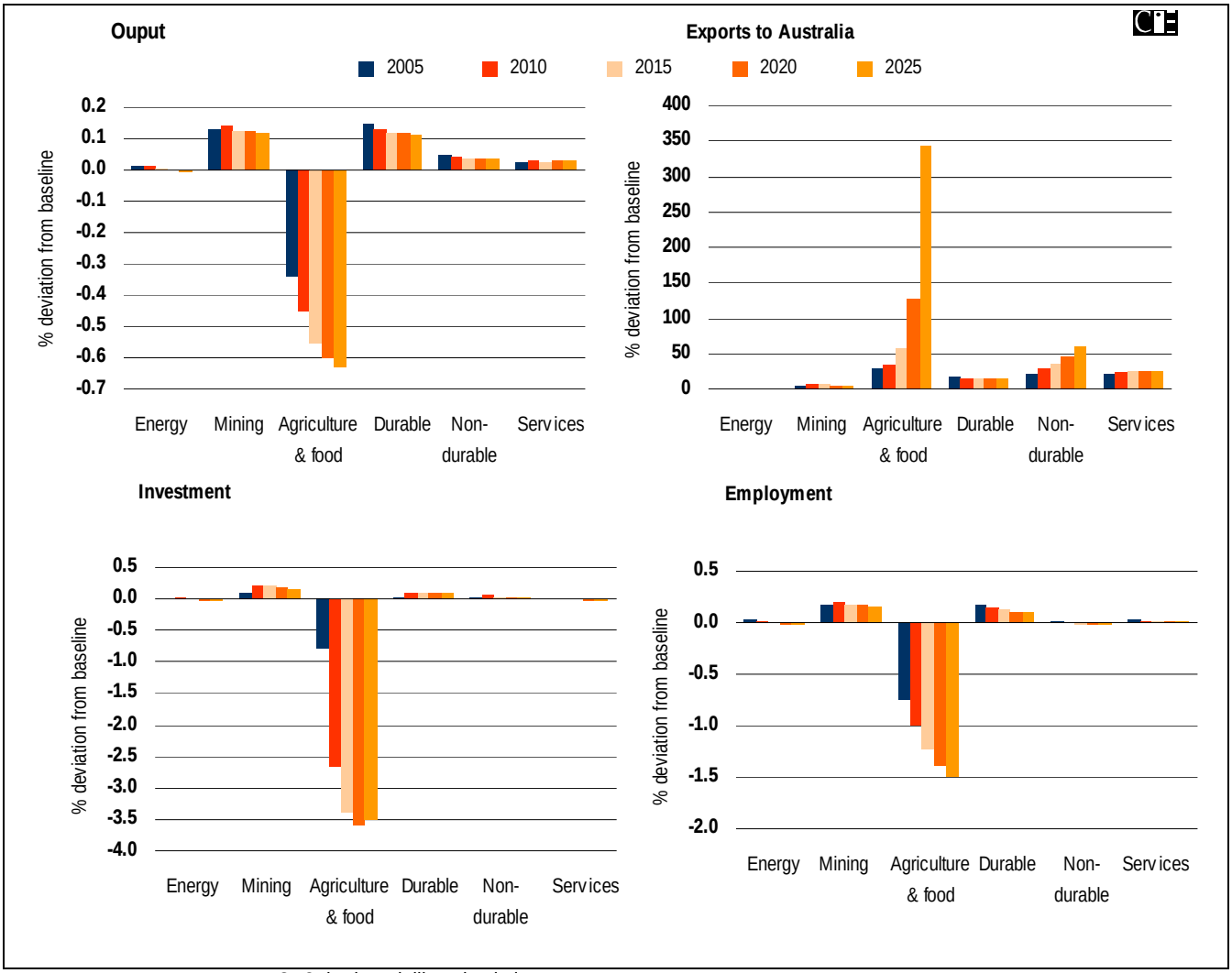
Production levels would be determined by the changes in demand for domestically produced products (which is in turn influenced by the change in demand for imports) and export demand. With a growing economy, domestic demand typically increases. However, some sectors would experience a fall in domestic demand due to import prices being lower than domestic production prices as a result of the trade liberalisation. Rising exports (due to a more efficient Japanese economy and Australia's trade liberalisation) would also increase sectoral production levels. Overall, production in Japan's manufacturing, service would all increase but that of the Grains and Dairy sectors would decrease significantly due to losing market share to now substantially cheaper imports from Australia.

Distribution of production factors — labour and capital — would typically follow changes in sectoral production. However, there could be some deviation from this rule of thumb for several reasons. The productivity of industries would increase in line with the trade liberalisation, with less production factors being required once productivity improvements are made. Relatively larger decreases in labour and capital in several cases such as in the Japanese agricultural sector are attributed to this productivity effect. (Note that the now freed factors of production would be employed elsewhere within the economy).

The sectoral changes in Australia and Japan seen above are in line with the general expectations guided by the comparative advantages of the two countries.

APG–Cubed sectoral results for Japan are reported in chart 5.1.6. With the exception of Japan's Agriculture and food sector, the effects of the bilateral trade and investment liberalisation are typically very small. Japan's agriculture and food sector is expected to experience a slight contraction in output under the liberalisation. This is the result of a re-allocation of resources. Trade liberalisation sees capital earning a lower return than currently, so capital would move out of the Agriculture and food sector in search of higher returns elsewhere in the economy (as is shown below, investment in the sector falls). The re-allocation of domestic resources sees sectoral output contracting. As capital cannot move instantaneously, the contraction in output increases overtime as the capital stock depreciates away and is not replenished. The decline in domestic production is met by increased agriculture and food imports from Australia and the rest of the world.

Chart 5.1.6 Select sectoral results for Japan



Data source: APG–Cubed modelling simulation.

Australia's highest barriers to merchandise trade are levied on non-durable manufacturing (2.8 per cent) and durable manufacturing (3.6 per cent) imports, while service barriers raise the price of Japanese service imports by 2.4 per cent. Hence the increase in exports to Australia would be greatest in these sectors (agriculture and food aside), with dynamic productivity gains driving greater exports. Dynamic productivity gains are the principal reason for the substantial increase in agriculture and food exports to Australia. However, it should be appreciated that this substantive increase is from a very low base.

Investment in Japan's Agriculture and food sector is forecast to decline under the trade and investment liberalisation. This can be principally attributed to the lower return earned by capital in Japan's Agriculture and food sector following trade liberalisation. With expanding output and greater returns elsewhere in the economy, investment in Japan's Agriculture and food sector declines and is shifted to other sectors. The dynamic productivity gain experienced by Japan's Agriculture and food sector (arising from greater import competition) also means less capital, and hence less investment, is needed to produce a given level of output. The 3.5 per cent reduction in investment (a flow variable) corresponds to an around 0.2 per cent reduction in capital (a stock variable).

Changes in employment levels move in line with changes in sectoral output. The most noticeable change (decline) in employment occurs in Japan's Agriculture and food sector — employment is forecast to fall by around 1.2 per cent.

The demand for labour is a function of labour cost (real wages) and output (for given labour productivity). The sector experiences a dynamic productivity gain of around 0.2 per cent, and hence real wages rise by a similar figure. As real wages rise in the Agriculture and food sector, there is substitution away from labour to other factors of production (capital etc) and intermediate inputs. Hence declining output combined with rising real wages and productivity gains see employment in the sector falling. Around 0.2 per cent of the fall in employment is attributable to the dynamic productivity gain, with the decline in sectoral output accounting for around 0.7 per cent of the fall in employment. Hence a real wage rise of 0.25 per cent (not reported in chart 5.1.6) accounts for the remaining 0.3 per cent decline in sectoral employment. From this we can infer that the demand for labour in the Agriculture and food sector is quite elastic.

5.2 Case Studies

This section consists of case studies undertaken by the Australian and Japanese governments. The case studies cover five sectors; agriculture, computers and semi-conductors and IT-related services (authored by Japan) and autos and investment (authored by Australia). These case studies include qualitative assessments of liberalisation, while in the previous section quantitative modelling results are introduced. As opposed to modelling studies based on prospective simulations, case studies are mostly retrospective in nature.

5.2.1 Agriculture

This case study aims to describe Japan's trade liberalization measures in agriculture and to analyze their impacts on food, agriculture and rural areas in Japan and Australia. The analysis covers the agricultural trade liberalization measures taken in the latter half of the 1980s and the Uruguay Round Agreement on Agriculture (URAA) in 1994. First, the agricultural sector in each country is briefly explained, followed by an examination of Japan's efforts to liberalize agricultural trade and an analysis of their effects on agricultural trade, production and consumption, and rural areas. Finally, the findings derived from these analyses are summarised.

1. Background of agricultural sector in each country

1.1 Japan

Japan is the largest net importer of agricultural products in the world. Agricultural imports were $US24.3 billion in 2002, accounting for 9.8 per cent of overall imports into Japan. On the other hand, agricultural exports were $US1.7 billion in 2002, accounting for less than 1 per cent of Japan's overall exports. Gross agricultural production[35] in 2002 was $US57.2 billion, accounting for 1.2 per cent of real GDP. Total agricultural output in 2002 was $US76.8 billion, comprising rice (25.1 per cent), vegetables (23.9 per cent), other grain farming (23.1 per cent), and livestock farming (27.9 per cent).

The total number of commercial farm households in 2003 was 2.21 million, and rice growing households are 1.64 million. The agricultural workforce in 2003 was 2.26 million, accounting for 4 per cent of the total workforce. As of the year 2003, a total of 4.74 million hectares of land were being cultivated for agricultural purposes, of which paddy fields account for 2.59 million hectares. Cultivated land under management per household was 1.8 hectares.

1.2 Australia

Australia is the fifth largest gross exporter of agricultural products in the world. Agricultural exports were $US18.5 billion in 2003-04, accounting for 17.2 per cent of total exports. Agricultural imports were $US4.47 million in 2003-04, which accounted for 4.8 per cent of total imports. Gross agricultural production in 2003-04 was $US25.9 billion, accounting for 4.5 per cent of GDP, and comprised crop farming (52.8 per cent) and livestock farming (47.2 per cent).

The total number of farms (households) in 2002-03 was 133,000. The agricultural workforce in 2002-03 was 372,400, accounting for 3.4 per cent of the total workforce. The total agricultural land area was

[35] In value-added terms.

439.5 million hectares. The average acreage operated by each agricultural household has been falling and in the year 2002-03 stood at 3,305 hectares, equivalent to 1,800 times that of Japan.

Due to low rainfall, variable soil quality and a highly variable climate, Australian farms have very low average productivity per hectare compared to farms in other countries. However, Australian Government policies to deregulate rural industries, remove production distortions and unwind cumbersome statutory marketing arrangements, along with thorough reforms of labour and financial markets and tax and competition policy, have all played a key role in improving the competitiveness of Australian agriculture. The Australian farm sector has undergone significant structural adjustment in recent decades as a result of these reforms. Australian farmers are now more attuned to the demands of international consumers with their production systems being highly responsive to market signals. Today there are fewer farmers managing larger farm enterprises that can better use economies of scale to improve their competitiveness. Advances in rural technologies, developments in plant and animal breeding and better farm management practices arising from investment in R&D have also reduced production costs and improved the competitiveness of Australian farmers.

2 Japan's measures to liberalize agricultural trade

2.1 Negotiations on 12 Agricultural Products

In October 1986, a General Agreement on Tariffs and Trade (GATT) panel was established to resolve disputes concerning Japan's import restrictions on 12 agricultural products. In December of that year, the panel submitted its report to the Contracting Parties of GATT, and the report was adopted. In response to this report, from June 1988 to April 1990, Japan implemented tariffication measures on eight items a) processed beef, b) processed cheese, c) food preparations mainly consisting of sugar, d) fruit puree and pastes, and four other agricultural products, as well as measures to improve access for a further four items (dairy products, starches etc). The measures were implemented on an MFN basis and were thus applied to imports of those products from Australia along with Japan's other trading partners.

2.2 Negotiation on beef and oranges

Japan's beef and orange import quotas were expanded following bilateral negotiations between Japan and the United States during the GATT Tokyo Round negotiation (1973-1974), and the import quotas were finally abolished with tariffication in April 1991. The agreements provided for beef imports to be expanded by annual increments of 60,000 tonnes from April 1988 and tariffied at 70 per cent in 1991. This was then gradually reduced to 50 per cent in April 1993.

The import quotas of fresh oranges and orange juice were also expanded yearly from 1988. Tariffication was implemented on fresh oranges in 1991, and on orange juice in 1992.

2.3 GATT Uruguay Round Negotiations

The Uruguay Round negotiations under the GATT were launched in 1987 and concluded in 1994 after a long extension of the time line. In accordance with the agreements, Japan abolished and reduced tariffs on several products with a view to achieving an average tariff reduction of 36 per cent over a six year period and implementing a minimum 15 per cent reduction on individual items. Examples of tariff reductions implemented on major items were as follows, in principle with the reduction being implemented in 6 equal annual installments:

a) The tariff rate on beef was reduced from 50.0 per cent (the WTO bound rate) to 38.5 per cent voluntarily. As a part of the tariff reduction package, an emergency tariff measure was provided to allow for the tariff to be returned to 50 per cent in the event that the import volume exceeded a set level.

b) The tariff rate on orange juice was reduced from 30 per cent to 25.5 per cent.

c) The tariff rate on natural cheese was reduced from 35 per cent to 29.8 per cent (26.3 per cent or 22.4 per cent, depending on the type of cheese).

d) The tariff rate on ice cream was reduced from 28 per cent to 21 per cent.

e) The tariff rate on macaroni and spaghetti was reduced from ¥40 per kg to ¥30 per kg.

f) The tariff rate on candy was reduced from 35 per cent to 25 per cent.

g) For biscuits (presweetened), the rate was reduced from 24 per cent to 15 per cent.

h) The rate on soybeans and rapeseed oil (crude) was reduced from ¥17 per kg to ¥10.9 per kg.

Furthermore, all items under import restrictions except rice (wheat, barley, dairy products, dried leguminous vegetables, groundnuts, starches, tubers of konnyaku, raw silk, cocoons and pork) were tariffied. Import restrictions were eliminated and appropriate tariff equivalents were established (achieving a reduction of at least 15 per cent across a six year period), while state trading was maintained for wheat, barley, dairy products and raw silk. With regard to rice, state trading was maintained and as an item subject to special treatment, the level of minimum access was set to be increased from 4 per cent of domestic consumption in the first year (1995) to 8 per cent in the final year (2000). However, as a result of the tariffication of rice in April 1999, the final commitment level of minimum access was reduced to 7.2 per cent of domestic consumption.

3. Effects of Japan's trade liberalization measures in agriculture

In this section, changes in agricultural trade, production, consumption, and rural areas between 1987 (prior to the implementation of liberalization measures) and the present are analyzed. While the changes are due mainly to the impact of Japan's agricultural trade liberalization measures, a range of other changes occurred during the same period, such as shifting consumer preferences for food, technological change and broader structural changes in the economy. In the absence of detailed quantitative analysis, it is difficult to determine what the precise drivers of these changes are.

3.1 Trade in agriculture

Japan's imports of agricultural products, particularly grains and vegetable oils, grew significantly from the 1960s to the 1980s. From the 1980s on, there was a rapid increase in imports of meat and vegetables and processed foods made from them. In 1987, the main agricultural import items were corn ($US1.53 billion (¥222 billion)), soy beans ($US1.09 billion (¥159 billion)), wheat ($US784 million (¥114 billion)), sugar ($US418 million (¥60.7 billion)) and coffee beans ($US724 million (¥106 billion)). The main import items in 2003 were pork ($US3.85 billion (¥446 billion)), corn ($US2.40 billion (¥278 billion)), beef ($US2.14 billion (¥248 billion)), soy beans ($US1.52 billion (¥176 billion)) and wheat ($US1.09 billion (¥126 billion)). There was an increase in the ratio of meat imports to total imports. Japan's dependence on agricultural imports from Australia decreased, but the dependence on United States and China increased, especially on China in the case of vegetables. The main countries from which Japan imported agricultural products in 1987 and their ratio of overall agricultural imports were the

United States at 34.7 per cent, Australia at 9.4 per cent, China at 8.2 per cent, Taiwan at 6.8 per cent and Canada at 4.8 per cent, while the countries from which Japan imported products in 2003 and their ratio of overall imports were the United States with 36.3 per cent, China with 11.7 per cent, Australia at 7.9 per cent, Canada at 6.1 per cent and Thailand at 5.6 per cent.

On the other hand, the value of Australian agricultural exports grew from $US1.57 billion ($A1.40 billion) in 1960-61 to $US9.50 billion ($A8.18 billion) in 1980-81. In 1987-88, Australia's agricultural exports totalled $US7.53 billion ($A10.4 billion). Major exports in 1987-88 included wool valued at $US4.14 billion ($A5.71 billion), beef and veal $US1.42 billion ($A1.96 billion), wheat approximately $US1.00 billion ($A1.40 billion), sugar $US497 million ($A685 million), cotton $US256 million ($A353 million), lamb and mutton $US208 million ($A287 million), cheese $US135 million ($A186 million) and wine $US70 million ($A96 million). In 2003-04 Australia's major agricultural exports included wheat valued at approximately $US2.90 billion ($A4.00 billion), beef and veal $US2.70 billion ($A3.79 billion), wool $US1.97 billion ($A2.78 billion), wine $US1.82 billion ($A2.55 billion), cotton $US698 million ($A982 million), lamb and mutton $US623 million ($A876 million), cheese $US525 million ($A738 million) and sugar $US265 million ($A372 million).

An examination of the trade between Japan and Australia reveals that the value of Japanese imports of agricultural products from Australia was $US1.2 billion in 1987, peaking in 1994 at $US3.5 billion and declining slowly after that to approximately $US3 billion in 2003. Major import items in 1987 were beef ($US390 million, 32 per cent of Japan's total beef imports), wheat ($US130 million, 17 per cent of Japan's total wheat imports) and natural cheese ($US30 million, 18 per cent of Japan's total natural cheese imports), while major import items in 2003 were beef (including meat offal) ($US950 million, 44 per cent), wheat ($US240 million, 22 per cent), natural cheese ($US190 million, 36 per cent). These three items accounted for 47 per cent of Japan's total agricultural imports from Australia. In each of these categories, Japan has a high level of dependence on Australia. However, the United States is a strong competitor in markets for each of these products. Japanese beef imports from the United States have been suspended since the end of December 2003 due to the discovery of a cow infected with BSE in the United States. As such, total imports of beef into Japan in 2004 declined 25 per cent from the previous year to 431,974 tons while there was a 39 per cent increase in beef imports from Australia, accounting for 394,224 tonnes valued at ¥181.8 billion.

3.2 Agricultural production

Japan's total agricultural production in 1987 was $US73.2 billion (¥10.58 trillion). It decreased gradually to $US71.2 million (¥8.93 trillion) in 2002 (a 15.6 per cent decrease on a yen basis). On a category basis, the production of vegetables and flowers in 2002 increased in comparison to 1987 production levels, while production of other agricultural products decreased over the period.

The decrease in Japan's total production is considered to be a result of changes in producer prices. If total agricultural production volume for the year 2000 is set as an index of 100.0, overall agricultural production fell from the level of 115.8 in 1985, despite the increase witnessed from 1993 to 1994, until 2002 when the index reached 97.2. In 2003, total agricultural product increased and the index increased to 104.2. The indexes for rice, wheat, beans, vegetables, potatoes and flowers were more than 100.0.

Trends in agricultural income have followed a similar pattern to that of agricultural production. Agricultural income was $US26.5 billion (¥3.84 trillion) in 1987, while in 2002, it was $US28.09 billion (¥3.52 trillion).

The number of commercial farm households, persons engaged in agriculture and cultivated land area continued to decrease. In 1987, there were 3.48 million households, 3.49 million persons and 5.34 million hectares devoted to agriculture production, while in 2002 there were 2.25 million households, 2.61 million persons and 4.76 million hectares. The number of Japanese dairy and beef cattle in 1987 was 4.69 million and fell slightly to 4.56 million in 2002. The number of households engaged in dairy and beef cattle production was 0.347 million in 1987 falling to 0.135 million in 2002.

3.3 Consumption of agricultural products

Total Japanese food supplies for domestic consumption (net food, excluding soy sauce) was 61.3 million tonnes in 1987. By 2002 it had increased slightly to 63.9 million tonnes. The main items in 1987 were vegetables (13.7 million tonnes), cereals (12.9 million tonnes), cow milk and milk products (9.3 million tonned), fish and shellfish (4.5 million tonnes) and meat (3.3 million tonnes), while the main items in 2002 were vegetables (12.3 million tonnes), cereals (12.2 million tonnes), cow milk and milk products (11.8 million tonnes), fish and shellfish (4.8 million tonnes) and meat (3.6 million tonnes).

Japan's household food expenditure on prepared foods and eating out has increased since 1987. In particular, food expenditure on prepared foods in 2002 was 1.6 times the 1987 level. While household expenditure on almost all basic foods (rice, dairy and eggs, meats and fruits etc) decreased, the decrease in rice was especially significant with the 2002 level being only half the 1987 level.

Based on a consumer price index using 2000 levels as 100, the price index of overall foodstuffs in 1987 was 87.5, which was higher than in previous years. After that prices continued to climb until peaking at 102.5 in 1998, despite Japan's liberalization measures. Since 1998 there has been a steady decrease, with the price index for 2002 being 98.6. Price indexes for cereals, fish and shellfish, milk and eggs and fruit have decreased from 2000, so the indexes were less than 100.0 in 2002. In the case of cheese, the price index in 1987 was 84.9, while it was 90.9 in 2002. Price indexes of meat and vegetables exceeded 100.0 in 2002, while the price index of beef (imported) decreased from 107.5 in 1987 to 90.6 in 2002.

3.4 Rural Areas

Agricultural trade liberalization has led to a decrease in the number of people engaged in agricultural activities, the aging of rural communities, a decrease in population in rural areas and an increase in the area of deserted arable land. In 1987, there were 4.45 million people employed in agriculture (accounting for 7.4 per cent of the total workforce), while in 2004 only 2.64 million people were employed in the sector (accounting for 4.2 per cent of the total workforce). In 2003, the percentage of the population of agricultural households aged 65 years or older was 28.6 per cent, a level that is ten percentage points above the national average, with the percentage of young people aged 24 or less falling to 24.5 per cent. The area of deserted arable land increased to 210,019 hectares in 2000. As a result, there are concerns over the decreasing capacity of agricultural communities, which support the existence of agricultural villages.

Australian rural communities are facing similar problems to those in Japan, with a decline in the number of people involved in farming and the area of land under cultivation, the ageing of rural communities and as a result a decline in the level of services provided in rural communities. The number of people employed on farms decreased from 375,000 (or 5.2 per cent of the total workforce) in 1987-88 to 320,000 (or 3.4 per cent of the total workforce) in 2003-04. The total area of farms decreased from 472 million hectares in 1987-88 to 440 million hectares in 2003-04, a decline of 7 per cent. The median age of Australian farmers rose from 45 years in 1976 to 50 years in 2001. Between 1971 and 2001, farmer

numbers declined in all age groups younger than 50 years and since 1976, the number of farmers aged in their 20s has declined by over 60 per cent.

4. Findings

As a result of Japan's trade liberalization in agriculture, Japan's agricultural imports have increased by 31 per cent in value since 1987. Australia's agricultural exports to Japan were $US1.2 billion in 1987, peaking at $US3.5 billion in 1994, and gradually decreasing to $US3.0 billion in 2003. Australia has been one of the main suppliers of imported agricultural products to Japan. Major agricultural imports are beef, wheat and natural cheese; these 3 products account for 47 per cent of Japan's total agricultural imports from Australia. Dependency ratios of these imports from Australia were 49.3 per cent for beef, 44.7 per cent for natural cheese and 22.3 per cent for wheat. Taking into account the high dependency ratios of these products, it is important for Japan to adopt a policy of diversifying sources of food imports, to strengthen its food security. In addition, beef, wheat and barley are also imported from the US, while dairy products such as natural cheese are also imported from the EU, New Zealand and the US. This shows that agricultural products imported from Australia are competing with those from other major agricultural exporting countries such as the US.

Australia, as a large food exporting country, and Japan, as a large food importing country, have different views in the WTO agricultural negotiations. Japan's trade liberalization measures have contributed to the increase in production and export of beef and dairy products in Australia. While Australia has benefited from Japan's trade liberalization in agriculture, Australia's farm production as a percentage of GDP fell from 7.3 per cent in 1987-88 to 4.5 per cent in 2003-04 and, as mentioned previously, the area of land under cultivation and the size of the farm workforce have also declined in Australia.

Japan's liberalization measures together with other factors have resulted in declines in various agricultural indicators in Japan. The ratio of agriculture to Japan's GDP, value/amount of agricultural production and the population engaged in agricultural activities have all declined. This has led to a decline in Japanese agricultural capacity, and the food self-sufficiency ratio has decreased to 40 per cent. The ageing of society has been progressing more rapidly in the agricultural sector, which will result in a further decline in the number of core farmers and the capacity of agriculture communities.

In order to address the above problems, Japan has been in the process of implementing structural reforms in the agricultural sector. Agricultural policies are directed at the establishment of an agricultural structure where effective and stable managements take a major role in agricultural production. Japan has placed priorities on fostering/securing core farmers and assisting them to improve agricultural management through expansion of scale.

5.2.2 Computers and Semiconductors

1. Background of computer/semiconductor industry in each country

In 2002, the number of personal computers (PCs) owned per 100 people was 38.22 in Japan and 56.54 in Australia[36]. PCs have become indispensable goods in both countries. The widespread use of computers since the 1980s and the Internet since the late 1990s has expanded the production and trade of computers, accessories and semiconductors globally. Japan and Australia have contributed to the development of the world economy as producers of and traders in those products. According to UN trade statistics, world trade in computer and related equipment is worth almost $US200 billion. Computers and related equipment account for 6.1 per cent of Japan's exports[37] and 7.2 per cent of Japan's imports.

The rapid development of information technology has also caused a decrease in the price of computers, accessories and semiconductors. Furthermore, the production of comparatively low-value added products has shifted to developing countries, while developed countries have increased their imports of those products. For instance, computer imports from China accounted for 47.4 per cent of Japan's total computer imports, compared to only 0.2 per cent in 1990. In contrast, the United States' share of Japan's computer imports declined dramatically from 73 per cent in 1990 to 11 per cent in 2004[38].

2. Liberalization

At the time of its accession to the General Agreement on Tariffs and Trade (GATT), Japan maintained restrictions on foreign investment in and imports of computers and semiconductors. However, to promote competition within the computer and semiconductor market, the Japanese government gradually lifted restrictions in accordance with its negotiations with the United States about their liberalization. By the mid-1980s, Japan's tariff rates on those products were reduced to zero. At the same time, the IT revolution and the worldwide popularity of PCs led to the rapid increase in trade in computer, accessories and semiconductors.

Liberalization of computers/related accessories and semiconductors in Japan and the world

December 1974	Liberalization of foreign investment in and imports of integrated circuits
December 1975	Liberalization of foreign investment in the computer industry Reduction of tariffs on computers and accessories
November 1984	Proposal by the Working Party on Japan-United States Advanced Technology on the reciprocal removal of tariffs on semiconductors
March 1985	Reciprocal removal of tariffs on semiconductors between Japan and United States
January 1986	Removal of tariffs on computers, accessories and parts
September 1986	Japan-US Arrangement on Semiconductors Launch of the GATT Uruguay Round
April 1994	Conclusion of GATT Uruguay Round (Marrakesh Declaration)
December 1996	Information Technology Agreement (ITA) in the World Trade Organization
January 2000	Full implementation of ITA

[36] ITU; *ITU Telecommunication Indicators*

[37] Australia's figure is not available, but less than 0.2%.

[38] Ministry of Finance, Japan

Conclusion of the GATT Uruguay Round negotiation resulted in Japan's bound tariff being reduced to zero, which means the imposition of tariffs on those products is in principle no longer possible. Tariffs on computers, accessories, and semiconductors are also zero in Australia, through the *Customs Tariff Act 1995*.

The Information Technology Agreement (ITA) was concluded at the first WTO Ministerial in Singapore in 1996, and provided for the abolition of tariffs on IT products including computers, accessories and semiconductors between March 1997 and January 2000. Japan and Australia were both signatories to the ITA, along with a number of other developed and developing countries.

3. Effects of liberalization

The liberalization of computers, accessories and semiconductor devices in Japan and Australia has resulted in direct and indirect economic effects in both countries.

3.1 Direct effects

Liberalization of trade and investment has direct effects on production, import and export, domestic/foreign investment, and prices of computers, accessories and semiconductors.

Domestic production: The value of Japan's production of computers and accessories declined from ¥5.7 trillion in 1990 to ¥2.7 trillion in 2003[39]. This was caused by the decline of the real price of computers and accessories and the expansion of imports from developing countries.

Trade: In terms of computers and related equipment, Australia is a net importer while Japan is a net exporter. But in recent years, Japan's trade surplus in computer and related products has become smaller (Both Japan and Australia have substantially increased imports of computers and semiconductors since the 1980s, but the recent growth of computer and semiconductor imports in both countries stems from the worldwide expansion of demand for computers, not trade/investment liberalization).

Domestic/foreign investment: Cross-border mergers and acquisitions (M&A) in the information and communications technology (ICT) industry (including services)[40] in Japan and Australia were valued at $US73.7 billion and $US43.9 billion respectively over the period 1995 to 2003[41]. Investment in the ICT sector contributed 0.31 per cent and 0.36 per cent respectively to Japanese and Australian GDP growth between 1990 and 1995, increasing to 0.52 per cent and 0.61 per cent respectively in the period 1995 to 2001[42].

Price: The development of new products and services was made possible through new computing power, communications technologies, miniaturization and the rapid fall in the price of chips. In 2002 in Japan, the retail sale prices of computers (including related equipment) was only 46 per cent of 1995 prices, while integrated circuuits were just 41 per cent of 1995 levels[43]. The rapid growth of computer and semiconductor imports and the subsequent improvement in productivity caused a decline in the real price in these sectors.

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[39] JECC; *Computer Note 2004*

[40] Due to statistical constraints, "ICT" is substituted for computers and semiconductors here. ICT includes services such as telecommunication and data processing.

[41] OECD; *OECD Information Technology Outlook 200*4

[42] OECD: *Economic Impact of ICT, measurement, evidence and implications*

[43] Bank of Japan

3.2 Indirect effects

Liberalization of trade and investment in computer, accessories and semiconductors also has indirect effects on other sectors.

Impact of expanded investment in information technology on productivity: In Australia, the proportion of businesses using computers increased to 83 per cent in June 2003, from 49 per cent in June 1994 (Australian Bureau of Statistics). According to an OECD study, the contribution of ICT manufacturing to Japan's GDP was 0.36 per cent in 1995-2002, compared with Korea (1.02 per cent), Finland (0.62 per cent), the United States (0.45 per cent) and Ireland (0.43 per cent)[44].

Expansion of information services: In Japan, the use of computers has led to rapid expansion of the information services industry (including software development, data processing, information services and other information-related services). In 2002, employment in this sector was 535 000 persons, and annual gross sales were ¥13.9 trillion (equivalent to $US114.3 billion), which outstripped the sales of computers and related equipment (¥3 trillion, or around $US23.7 billion)[45]. Australia develops software that is incorporated in hardware that may not be manufactured in Australia.

4. Further Cooperation

Both Japan and Australia have benefited from the rapid increase in the use of computers in their economies. But although they no longer have any visible barriers to trade and investment, bilateral trade and investment in computers and semiconductors remains limited. There might, however, be some room for future cooperation between Japan and Australia in the field of computer/accessories and semiconductors. Several large Japanese companies have great power in the production and export of computers and semiconductors in the world market. On the other hand, Australian manufacturers are competitive in software development or custom-made computer systems.

As statistics indicate, in recent years Australian exports of business software (HS 852431) to Japan have equated to almost 20 per cent of its computer (HS 8471) exports to Japan, considerably exceeding its export of semiconductors (HS 8541) (see Table 5.2.1). More opportunities for business matching between Japanese manufacturers and Australian IT-related companies would facilitate a closer economic relationship between the two countries. Differences in operating characteristics would provide advantages to both countries.

(Advantages of Japanese manufactures)

- Cheaper and more stable supply of products by mass-production
- World-wide production/sales network
- High quality control

(Advantages of Australian IT-related companies)

- Accumulation of IT ventures
- Unique software/system development

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[44] OECD; op. cit. Data on Australia is not available. But according to the study conducted by Productivity Commission in Australia, labor productivity in ICT hardware sector between 1995 to 2000 is 0.8 per cent. Productivity Commission: ICT Use and Productivity: A Synthesis from Studies of Australian Firms.

[45] JECC; op. cit.

- Flexibility in scale and time length of operation

There exist several windows for active interaction between Japanese and Australian companies. JETRO and Austrade have important roles in business matching of IT-related companies in both countries, while in October 2002, the Japan-Australia Business Cooperation Committee dispatched an IT mission to Australia. But continuing links between two countries remain weak, suggesting a need for further regular meetings/two-way missions for further interaction.

Table 5.2.1 Import/Export of Japan and Australia: Computers, Business software and Semiconductors ($US thousand)

Import of Japan

Year	Item (HS)	From Australia	From World	A/W
2000	Computers (8471)	21,428	17,459,540	0.1%
2001		7,838	15,008,423	0.1%
2002		3,642	14,332,633	0.0%
2003		5,468	15,928,691	0.0%
2000	Business software (852431)	3,607	441,296	0.8%
2001		2,625	437,590	0.6%
2002		1,002	355,193	0.3%
2003		239	340,588	0.1%
2000	Semiconductors (8541)	1,785	1,618,146	0.1%
2001		827	1,371,004	0.1%
2002		302	1,485,595	0.0%
2003		51	1,846,222	0.0%
2000	TOTAL	14,800,447	379,662,893	3.9%
2001		14,431,499	348,613,214	4.1%
2002		14,018,041	337,608,868	4.2%
2003		15,078,828	383,451,988	3.9%

Export of Japan

Year	HS	To Australia	To World	A/W
2000	Computers (8471)	291,949	14,849,950	2.0%
2001		228,121	12,619,943	1.8%
2002		182,317	11,140,418	1.6%
2003		101,162	8,344,086	1.2%
2000	Business software (852431)	598	91,056	0.7%
2001		754	84,707	0.9%
2002		1,612	95,877	1.7%
2003		2,189	134,823	1.6%
2000	Semiconductors (8541)	6,289	8,592,214	0.1%
2001		5,963	5,781,402	0.1%
2002		7,229	6,335,629	0.1%
2003		9,230	7,664,510	0.1%
2000	TOTAL	8,571,291	479,247,598	1.8%
2001		7,670,719	402,609,340	1.9%
2002		8,306,917	416,715,276	2.0%
2003		9,923,958	471,995,908	2.1%

Import of Australia

Year	HS	From Japan	From World	J/W
2000	Computers (8471)	375,058	3,255,628	11.5%
2001		307,210	2,473,561	12.4%
2002		156,811	2,713,043	5.8%
2003		123,212	3,152,170	3.9%
2000	Business software (852431)	1,103	113,084	1.0%
2001		1,005	110,567	0.9%
2002		1,556	99,737	1.6%
2003		1,286	127,420	1.0%
2000	Semiconductors (8541)	10,181	87,392	11.6%
2001		7,665	67,997	11.3%
2002		9,596	75,503	12.7%
2003		12,366	82,155	15.1%
2000	TOTAL	9,412,794	71,263,045	13.2%
2001		7,891,649	60,674,722	13.0%
2002		8,385,470	69,260,370	12.1%
2003		10,424,623	84,492,124	12.3%

Export of Australia

Year	HS	To Japan	To World	J/W
2000	Computers (8471)	6,336	162,814	3.9%
2001		3,675	194,178	1.9%
2002		5,776	290,701	2.0%
2003		6,141	380,722	1.6%
2000	Business software (852431)	1,095	28,394	3.9%
2001		194	35,606	0.5%
2002		265	46,246	0.6%
2003		144	80,983	0.2%
2000	Semiconductors (8541)	1,571	5,998	26.2%
2001		488	3,921	12.4%
2002		742	14,012	5.3%
2003		1,232	16,067	7.7%
2000	TOTAL	12,600,178	63,766,224	19.8%
2001		12,243,841	63,330,032	19.3%
2002		10,072,779	66,365,526	15.2%
2003		11,078,066	70,246,031	15.8%

Source: UN COMTRADE

Notes: A/W: Ratio of trade with Australia to trade with the World. J/W: Ratio of trade with Japan to trade with the World. Import data and export data from the corresponding partner, and vice versa, do not necessarily match for a number of reasons including classification differences, differences in dates, exchange rates and so on.

5.2.3 IT-Related Services

1. Background of IT-related services in each country

IT-related services have a huge impact on the overall economy, and the effective use of such services makes production activities and daily lives more efficient and convenient.

Among IT-related services, four areas will be retrospectively analysed from the perspective of the policies taken in them and their effect on trade, production, consumption, employment and productivity. These areas are broad-band/VoIP/Internet/mobile, electronic commerce, e-Government and consumer protection/IT security.

The distribution of the basic IT-related services such as Internet, PC and mobile in both countries are as follows:

For Japan, in 2003, the number of Internet hosts was 12.96 million, and the penetration ratio was 1016 per 10,000 inhabitants. Internet users totalled 61.6 million, and the usage rate was 4,827 per 10,000 inhabitants. The number of PCs was 48.7 million, or 38.22 per 100 inhabitants[46]. The number of cellular mobile subscribers was 86.66 million or 67 per 100 habitants[47].

For Australia, in 2003, the number of Internet hosts was 2.85 million and the penetration ratio was 1,428 per 10,000 inhabitants. Internet users totalled 11.30 million or 56.67 per cent of the population[48]. The number of PCs was 11.10 million or 56.45 per 100 inhabitants. And the number of cellular mobile subscribers was 14.35 million, or 71.95 per 100 habitants[49].

2. Policies taken to promote competition and to encourage the development of IT related services

1) Policies before IT revolution (mid-1980s to mid 1990s)

This section covers IT-related services policies from mid-1980s to mid-1990s. These policies are considered as the building block for the IT revolution.

In Japan, in 1985, the *Telecommunication Business Law*, together with the *Law concerning Nippon Telegraph and Telephone Corporation* (the *NTT Law*), were enforced. These two laws resulted in the privatization of "Dendenkosha" (previously NTT) and the liberalization of the telecommunications market. As a result of this reform, new players emerged in the long-distance, regional, satellite and international communications markets. Further reforms were subsequently advanced. These included the development of the conditions of interconnection between NTT and long-distance New Common Carriers (NCCs) in 1991, and the introduction of regulations governing interconnection, which included regulations on interconnection tariff and interconnection accounting. In 1997, the *NTT Law* was amended to regroup NTT. The interconnection rule which included the preparation of Articles of Agreement concerning Interconnection and the introduction of Interconnection Accounts was implemented.

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[46] ITU (Internet indicators: Hosts, Users and Number of PCs, http://www.itu.int/ITU-D/ict/statistics/)

[47] ITU (Mobile cellular, subscribers per 100 people, http://www.itu.int/ITU-D/ict/statistics/)

[48] ITU (Internet indicators: Hosts, Users and Number of PCs, http://www.itu.int/ITU-D/ict/statistics/)

[49] ITU (Mobile cellular, subscribers per 100 people, http://www.itu.int/ITU-D/ict/statistics/)

As for electronic commerce, a legislative framework was introduced. In 1987, an "electromagnetic record" was legally defined by the amendment of the Penal Code and legal instruments to penalize computer-related crimes were developed. In Japan, the Internet was commercialized in 1992. From the end of 1992, the establishment of Internet Service Providers (ISPs) began in full swing and the use of the Internet in business also expanded. In order to respond to the dissemination of the Internet, the conduct of posting on "servers" or websites, as well as other internet activities, were covered as legal concepts by partial amendment of the *Copyright Law* in 1997. This development, together with the aforementioned revision of the Penal Code began the process of enhancing the legal infrastructure for IT.

In Australia, the *Telecommunications Act* was revised in 1991, encouraging the entry of new carriers into the market. The first new entrant was Optus, which competed with Telecom (previously Telstra) in the end-user market. Telecom and the Overseas Telecommunications Corporation (OTC), operating in the international telephony market, were integrated and transformed into Telstra, whose stocks were 100 per cent owned by the Australian Government. In 1997 Telstra was listed on the Australian stock exchange.

On 1 July 1997, Australia introduced open competition in the telecommunications sector. The major regulatory features of the new framework included no restrictions on the number of providers or installers of network infrastructure; ensured access rights for carriers and service providers; competitive safeguards; and the separation of regulatory and operational functions. Entry into the Australian telecommunications market is liberalized. There are currently four foreign-owned operators: Optus, Vodafone, Hutchison and AAPT.

Regarding electronic commerce, the Information Technology Online program was introduced in 1996 as a fund supporting industry's Business to Business electronic commerce projects. Following the introduction of this program, the *Privacy Act 1998* was introduced, which applies key privacy principles to the public and private sectors. Section 2(b) provides more detail on policy measures taken to promote electronic commerce in Australia.

2) The Efforts to cope with the IT revolution (the late 1990s and thereafter)

This section deals with the policies taken to cope with the impact of the IT revolution in the aforementioned four areas.

As part of its effort to develop comprehensive IT policies, the, Japanese government established an IT Strategic Headquarters within the Cabinet in January 2001 and developed an e-Japan Strategy that aimed to make Japan the world's most advanced IT nation by 2005. In July 2003, e-Japan Strategy II was developed, which focused on utilization of infrastructure developing under e-Japan Strategy.

Australia also developed a Strategic Framework for the Information Economy in late 1998. This was followed in 2004 by a new Strategic Framework 2004-2006.

The 2004-2006 Strategic Framework identifies four information economy priorities which acknowledge Australia's unique circumstances and focus on issues extending across government, community, social, business, sectoral, geographic and national boundaries. Each priority is supported by related strategies which set out a range of policy actions and programs currently being undertaken by Australian Government agencies. The four priorities were: (1) Ensuring that all Australians have the capabilities networks and tools to participate in the information economy; (2) Ensuring the security and interoperability of Australia's information infrastructure and support confidence in digital services; (3) Develop Australia's innovation system as a platform for productivity growth and industry transformation; and (4) Raise

Australian public sector productivity, collaboration and accessibility through the effective use of information, knowledge and ICT.

a) Policy efforts to encourage wider use of broad-band/VoIP, Internet and mobile

In Japan, regulations on unbundling for copper-based local loop were introduced in September 2000 and for fiber optics in April 2001. In June 2001, amendments to the *Telecommunication Business Law* introduced asymmetric regulation of the major providers (between major providers and NCCs), thereby providing a legislative framework to discourage anticompetitive practices on the part of major providers. These policies enhanced competition in various areas including broadband, and thus enabled rapid dissemination of 3G mobile and has resulted in Japan currently having the cheapest and highest speed broadband services in the world (ITU 2004).

Australia's telecommunication market was liberalized in July 1999. *The Telecommunications (Consumer Protection and Services Standards) Act 1999*, which set up a governmental fund for digital data services, was enforced from that time. In August 1999, the local loop service was liberalized via the introduction of local loop unbundling regulations. In March 2004, the National Broadband Strategy was developed, providing a policy framework for broadband development.

b) Policy efforts for the development of the electronic commerce

Various laws and regulations have been introduced to promote the development of electronic commerce.

In Japan, the *Law concerning Electronic Signatures and Certification Services (e-Signature Law)* was approved in May 2000. Under this law, an "electromagnetic record" is presumed to be authentic if certain electronic signatures are provided. In November 2000, the *IT Comprehensive Law* was enacted. This law comprehensively amended the laws that required the delivery of documents and the like to allow the employment of electronic media; electronic means were allowed to be substituted for the obligation of document exchange among private entities, which could have hindered electronic commerce. In the meantime, contract laws were developed for electronic commerce. These included the promulgation of the *Law concerning Exceptions of the Civil Code related to Electronic Consumer Contract and Electronic Notice of Acceptance* (implemented in December 2001), which enabled the consumer to nullify a mistaken contract by expressing this intention in an electronic B to C (business to consumer) transaction; and the development of the *Specific Commercial Transaction Law*, which regulated advertisement in e-commerce (implemented in July 2003).

In Australia, the *Electronic Transactions Act 1999* was approved in December 1999 and enforced in March 2000. The Act stipulates that electronic transactions and traditional paper-based transactions have the same legal consequence. In June 2003, the Department of Communications, IT and the Arts (DCITA) released the "Getting Started" guideline for e-businesses, which explained e-business to the business community. As for electronic signature/authentication, the draft of the *Australian Government Electronic Authentication Framework* was published in May 2004, with the aim of ensuring that the government applied a consistent approach when making decisions about appropriate authentication methods and to ensure that the government implemented authentication mechanisms that corresponded with the level of risk in the transaction.

c) e-Government and simplification of administrative procedures in terms of business and other activities

Japan is promoting e-Government based on the the e-Government Building Program (decided in July 2003 and revised in June 2004). In April 2001, "e-Gov", the website providing overall guidance for procedures, began operation. By the end of FY2002, the Government Public Key Infrastructure (GPKI), an important authentication infrastructure for e-Government, was introduced. As for trade-related procedures, "one-stop services" for import/export and port-related procedures have expanded since July 2003. Under this system, users can complete all necessary import/export procedures and port-related procedures in a single interaction with the NACCS (customs clearance), the port-EDI system, and the support system for approval of crew landing[50].

In Australia, DCITA developed a Government Online Strategy in April 2000 with the aim of providing all appropriate public services online by the end of 2001. The Online Information Service Obligations formed a part of this strategy, which aimed to ensure that information on Commonwealth agencies and their services was available online. This was subject to privacy and legal considerations, national security and the business interests of third parties.

The Australian Government released a new e-government strategy in November 2002, which is outlined in the document *Better Services, Better Government*. The strategy identifies six objectives:

1. ensure convenient access to government services and information;
2. deliver services that are responsive to the needs of individual Australian households, businesses and civic organisations;
3. integrate related services;
4. build experience, user trust and confidence in the use of new technologies;
5. enhance closer citizen engagement in policy formulation and processes; and
6. achieve greater efficiency and a return on investment.

d) Measures taken for consumer protection

Measures to ensure a secure IT environment (for example by preventing tampering and illegal access to electronic data and networks, and protecting personal information) is necessary so that consumers can use IT related services confidently.

In 1998, Japan introduced ground-breaking legal measures to protect Internet users in the form of amendments to the *Law Regulating Adult Entertainment Business*, where businesses providing on-line pornographic image transmissions were obliged to go through a notification procedure of the competent authority (the Prefectural Public Safety Commission). In February 2000, the *Unauthorized Computer Access Law* was enforced in order to deal with illegal access to networks. As for spam (large amounts of unsolicited advertisement mail), in July 2002, the *Law on Regulation of Transmission of Specified Electronic Mail* (the *Anti-Spam Law*) was enforced, together with the amendment of the 1976 *Specified Commercial Transaction Law*. In March 2005, an amendment bill of the *Anti-Spam Law* was submitted to the Diet with a view to enhance enforcement. In May 2003, *the Law Concerning the Liability of Internet*

[50] Benchmarks, in Strategy 2004 p. 4

Service Provide[51] was enforced to clarify/limit the responsibilities of service providers when others' rights are infringed because of information on the networks. Regarding general privacy laws, the *Law Concerning the Protection of Personal Information* was enacted in May 2003, and comes into full effect in April 2005.

Australia's key national consumer regulatory policy is the Government's *Policy Framework for Consumer Protection in Electronic Commerce*. This sets out the Government's approach to issues such as information, payment, redress, jurisdiction and privacy. The *Privacy Act 1988* was amended in December 2001 to cover 10 additional principles that are applied to the private sector. The principles in the *Privacy Act 1988* are based on the Organisation for Economic Cooperation and Development's (OECD) Guidelines on the Protection of Privacy and Transborder Flows of Personal Data, which were developed in 1980. In April 2002, the *Cybercrime Act* was introduced, which added new provisions to the Criminal Code Act 1995 for computer-related crimes.

In December 2003, the *Spam Act 2003* was introduced, which prohibits the transmission of commercial mails without the recipient's consent. The Act entered into force on 10 April 2004. The Act has attracted widespread support from both the anti-spam and the business communities as it provides a balanced approach to permitting responsible direct marketing and other business activities while providing a strong response to spamming activities. Key features of the Act include civil sanctions for unlawful conduct, the development of industry codes that complement and are consistent with legislation, and a major education program to ensure businesses are fully aware of and are complying with the legislation.

3. Effects of policies taken

This section will analyse the effects of the policy efforts described in the previous sections both quantitatively and qualitatively.

a) Diffusion of the broad-band/VoIP, Internet and mobile

In Japan, the Government's efforts have promoted the advent of competition in areas such as broadband. This is demonstrated by the number of new entrants and by the market share of the incumbent carrier, NTT East and West, in the broadband services (DSL, Cable Internet, VoIP, mobile, FTTH)[52]. For example, at the end of April 2004, the market share of NTT East and NTT West of DSL is around 37 per cent[53]. The sound level of competition has led to an improvement in the quality of services as well as decrease in prices, thereby enhancing the dissemination of broadband and mobile services. According to the OECD, eight out of ten carriers who provide broadband with 10Mbps - 100Mbps at the lowest monthly price were Japanese companies[54], according to October 2003 figures. At the end of September 2004, the number of DSL subscribers was 12.804 million, the number of Cable Internet subscribers was 2.793 million, and the number of subscribers to FTTH was 2.034 million[55]. As for mobile phones[56], prices for business users in 2004 declined to 47.9 per cent of their level in 1995. At the end of 2003, 7.3 per cent of households and

[51] The *Law on Restrictions on the Liability for Damages of Specified Telecommunications Service Providers and the Right to Demand Disclosure of Identity Information of the Sender*

[52] Ministry of Internal Affairs and Communications

[53] Ministry of Internal Affairs and Communications

[54] White Paper on Information and Communications in Japan (hereinafter, White Paper) 2004 p. 6

[55] Benchmarks, in Strategy 2004 p. 10

[56] White Paper 2004 p. 154

11.1 per cent of companies had introduced VoIP[57]. With regard to the number of mobile Internet subscribers, since the advent of the mobile Internet service in February 1999, the number of subscribers reached 69.73 million at the end of March 2003[58]. The number of 3G mobile subscribers reached 28.3 million at the end of February 2005. The dissemination of high capacity broadband and mobile promoted the further utilization of networks, together with the various applications. According to one survey, effective usage of broadband contributed to improved business speed for 83.6 per cent of the surveyed companies, reduced business costs for 45.1 per cent, and reduced employee workloads for 34.7 per cent[59].

While Australia has had comparatively low levels of home broadband usage in comparison to some other countries, in recent years there has been a dramatic and sustained shift away from narrowband services towards broadband usage. While household subscribers comprise the majority of broadband connections (over 74 per cent), these technologies represent only 11 per cent of total household subscribers. A much higher proportion of business and government subscribers (168,000 or 24 per cent of all business and government subscribers) have taken advantage of faster access speeds.[60]

b) Development of electronic commerce

In Japan, the development of a legal framework has enhanced the credibility of electronic commerce and led to an expansion of the market. In terms of market trends in e-commerce (Business to Business, Business to Consumer), the market scale for Business to Business in 2003 was ¥77.4 trillion, while Business to Consumer was ¥4.42 trillion. Development of broadband and mobile internet brought about steep growth in internet content. In 2003, internet content for personal computers had increased to 283 per cent of its 2001 level and for mobile phone to 209 per cent[61]. Reflecting these trends, the image/voice/text production industry and the ICT services industry are expanding[62], notwithstanding the three consecutive years' decrease in the number of employees in the ICT industry[63]. The promotion of e-commerce has encouraged use of online payment systems which have thereby rationalised the payment process. A system of electronic ordering has been developed and utilized.

The Australian Government has put in place regulatory settings to govern electronic commerce with a focus on removing unnecessary barriers to e-commerce, while regulating specific aspects, such as content, on their merits as required by the public interest. This has led to a growth in e-commerce in Australia.

Australian Internet communication systems are among the best in the world and adoption rates by both businesses and householders consistently rank among the lead nations of the world. The 2004 E-readiness Rankings, produced by the respected UK based, Economist Intelligence Unit (the EIU), ranked Australia highly (12th out of 64 countries) in terms of providing an environment conducive to the emergence of e-business.

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[57] White Paper 2004 p. 12

[58] White Paper 2004 p. 9

[59] White Paper 2004 p. 61

[60] Australian Department of Communications, Information Technology and the Arts

[61] White Paper 2004 p. 182

[62] White Paper 2004 pp. 122-123

[63] White Paper 2004 pp. 126-127

While the value of e-commerce over the Internet is growing substantially, the potential for engaging businesses online for commercial purposes is considerably greater than transactional e-commerce statistics reveal. This is demonstrated by the fact that at June 2003:

- 99 per cent of large Australian businesses have access to the Internet and 80 per cent have a website;
- 91 per cent of medium sized businesses have Internet access and 51 per cent have a website;
- 81 per cent of small businesses have Internet access and 33 per cent have a website; and
- 65 per cent of very small businesses have Internet access and 15 per cent have a website.[64]

c) e-Government and simplification of administrative procedures in terms of business and other activities

As a result of the Japanese Government's efforts to promote e-Government such as e-GOV, 96 per cent of applications, notifications, and other similar documents handled by the national administrative organs (approximately 13,000) were handled online[65] as at the end of FY2003. The Number of e-bids by Government for public projects during October 2001-March 2004 amounted to about 33,000[66]. The online national tax application system (consumption tax, corporate tax, income tax) commenced in June 2004; the procedures related to social insurance went online in October 2003; online application for some commercial/corporate registrations began in June 2004; online application for real estate registration in March 2005; and online PC-based patent application in 1998. The volume of data (the number of homepages of the Central Government) was 3,500,678 pages at the end of March 2004, which is about three times more than that at the end of March 2002. The number of hits to the e-Gov (http://www.e-gov.go.jp) top page also increased from 2,510,202 in FY 2001 to 2,856,661in FY 2003.

To measure progress against these key commitments Australia developed the Government Online Reporting Framework. Under the framework, four reporting rounds have been held revealing significant whole-of-government progress. There are now in excess of 1600 government services and information sources available online and all agencies report that they have met the important target of having all appropriate services online by December 2001. Departments and agencies have also progressed well in meeting minimum standards and guidelines, with the vast majority of agencies reporting that they meet key requirements.

d) Effects of measures taken for consumer protection

In Japan, the environment for electronic transactions has improved since the introduction of the legal framework in relation to consumer protection. After the introduction of the *Anti Spam Law* in 2002, the number of reported complaints of spam decreased from 293,501 to 58,441 during April-June 2001[67]. As for mobile Internet users, 64.3 per cent were affected by spam in 2003.[68] The number reported for illegal access to networks has decreased from 329 in 2002 to 212 in 2003. There is an increasing number of virus mails but countermeasures are being introduced by companies, in addition to countermeasures

[64] Australian Department of Communications, Information Technology and the Arts

[65] Ministry of Internal Affairs and Communication, Benchmarks, in Strategy 2004 p7, 2002 p13

[66] Benchmarks, in Strategy 2004 p. 7

[67] White Paper 2003 p. 117

[68] White Paper 2004 p. 102

introduced by individuals. The number of virus mails reported was 37,622 in 2001, which increased to 74,001 in 2002. The recovery expenses of listed companies amounted in 2004 to about ¥1.2 billion for virus mails and illegal access to networks, 66.6 per cent of which was for recovery of virus damage[69]. Of the surveyed companies in Japan, 95.1 per cent took countermeasures against those damages by adopting antivirus programs and access controls with ID/passwords in 2004[70]. As for countermeasures taken by individuals, 71.7 per cent of Internet users took some countermeasures (antivirus programs, etc) against virus mails, and 37.8 per cent against illegal access to networks in 2004[71].

As mentioned in Section 2(d), Australia introduced legislation known as the Spam Act in 2003. Since the Act came into force in April 2004, the Australian Communications Authority (ACA) has received about 88,000 reports of spam, including more than 1,300 formal complaints. The ACA has contacted more than 200 businesses advising them to improve their email and SMS marketing practices to comply with the Act. Several investigations are currently in progress, some involving collaboration with overseas authorities.[72]

Facilities have been set up by the ACA to allow the public to report received spam. The ACA is also working with the Australian High Tech Crime Centre on technical measures and investigatory procedures to identify spam and tracking it to its source. The automated system used by the ACA to gather and analyse complaints and reports of spam is being used to rapidly identify and respond to phishing attacks.

International spam watchdog Spamhaus (www.spamhaus.org) has reported that since the Act's penalty provisions came into effect on 10 April 2004 there has been a marked decrease in spamming activity in Australia. In fact they have said that most known Australian spammers have disappeared or ceased operation.

[69] White Paper 2004 p. 103

[70] White Paper 2004 p. 107

[71] White Paper 2004 p. 106

[72] Australian Department of Communications, Information Technology and the Arts

5.2.4 Automotive Industry

The Australian Automotive Industry

The Australian automotive industry has four automotive vehicle manufacturers (Toyota, Mitsubishi, Ford and Holden) that produce large passenger motor vehicles and variants, and sport utility vehicles. Australia produced almost 410,000 vehicles in 2003, and exported over 120,000 vehicles, or 29 per cent of production. In addition, there are over 200 automobile component firms, as well as a number of small firms providing tooling to vehicle and component producers, specialist automobile service providers and manufacturers which produce components and accessories exclusively for the aftermarket sector. The four largest companies account for around 40 per cent of turnover.

The Australian vehicle market has been growing steadily in recent years. New vehicle sales in 2003 were nearly 910,000 units, with around 70 per cent of vehicles sold in Australia produced overseas. Australia has a mature market for vehicles, with 662 motor vehicles per 1,000 residents in 2003. This implies that any future market expansion would be modest.

The automotive industry is one of Australia's largest manufacturing industries. The automotive sector's industry value added was about $US2.5 billion in 2000-01, accounting for over 6 per cent of total manufacturing activity and nearly 0.7 per cent of total economic activity. Employment in the industry was over 62,600 persons in 2000-2001, accounting for 6.6 per cent of total manufacturing employment and 1.2 per cent of total employment.

The Australian automotive market has become more competitive as protective barriers have fallen. Reforms reduced tariffs through the 1980s and 1990s, till they reached the current level of 10 per cent in 2005. Applied tariffs on passenger motor vehicles and related components will be further phased down to 5 per cent on 1 January 2010. Tariffs on commercial vehicles and four wheel drive vehicles are currently 5 per cent, and will remain at that level.

Productivity and quality in Australia's auto industry have improved significantly over the last decade. For example, the number of vehicles assembled a year per employee increased by over 50 per cent between 1990 and 2001, while turnover per employee in the component sector rose by 90 per cent in real terms over the same period. In addition, product defect rates across the industry fell significantly. The industry's quality performance is now widely regarded as equal to, or better than, that achieved in overseas plants.

The industry's increased international competitiveness as tariffs have fallen has boosted exports by an annual average of 11.5 per cent over the last 10 years to reach nearly $US3.5 billion in 2003-04, which has helped offset falling domestic market share. Australia's major export markets for automotive products are the Middle East, the United States and New Zealand. While exports have plateaued in the last 3 years, the automotive sector remains Australia's leading exporter of manufactured goods and automotive exports exceed more traditional exports such as wheat, wool and wine.

Imports of automotive vehicles and components to Australia grew by an annual average of 8.8 per cent over the last 10 years to reach nearly $US15 billion. Australia's major sources of automotive imports are Japan, Germany, the United States, Thailand and the Republic of Korea.

The major form of assistance to the Australian industry is the Automotive Competitiveness and Investment Scheme (ACIS). ACIS is a transitional assistance program designed to complement tariff reductions by encouraging competitive investment by firms in the automotive industry in order to achieve

sustainable growth. ACIS assistance is provided to companies based on production, investment and research and development activity in the form of transferable import duty credits up to a maximum of 5 per cent of sales. ACIS commenced on 1 January 2001 and will cease on 31 December 2015.

Australia is a signatory to a number of preferential trade agreements, including agreements with New Zealand, Canada, Singapore and countries of the South Pacific. Australia has also recently signed FTAs with the United States and Thailand. Tariffs on autos from Thailand were eliminated at entry into force of the Australia-Thailand FTA, while those on autos from the United States and auto part imports from both countries will be phased out by 2010.

Additionally, a number of Australian automotive firms have established production facilities in other countries to service those markets locally. Examples of Australian automotive producers with significant investments overseas include: PBR (aluminium brake callipers in the United States, Thailand and Malaysia); Castalloy (cylinder head joint venture in Malaysia); and Air International (heating and air conditioning systems in the United States, Europe and Asia).

The Japanese Automotive Industry

The Japanese automotive industry has a large number of automotive vehicle manufacturers (Daihatsu, Fuji Heavy, Hino, Honda, Isuzu, Kawasaki, Mazda, Mitsubishi, Nissan, Suzuki, Toyota, Yamaha) that produce mainly small passenger motor vehicles, sports utility vehicles and trucks. Japan produced more than 10 million vehicles in 2002, making it the world's second largest automotive producer. In 2002, Japan exported 4.7 million vehicles,[73] or 45.8 per cent of production. In addition, there are a large number of global automobile component firms in Japan including Denso, Aisin, Yazaki, Toyoda, Sumitomo and Calsonic.[74] Many of the automobile component firms have strong ties to the automotive vehicle manufacturers and have operations in different countries around the world.

Vehicle sales in Japan have been declining in recent years. New vehicle sales in 2002 were 5.8 million units, with around 96 per cent of these vehicles being produced domestically. Japan also has a mature market for vehicles, and in 2000 there were 572 motor vehicles per 1,000 residents.

Japan's total domestic automotive vehicle and component output was about $US340 billion in 1999, which represented over 13 per cent of Japan's total manufacturing output. In 2002, Japan exported around $US92 billion in automotive products,[75] with the largest markets being the United States, Germany and Australia. In 2002, imports of automotive products were just under $US10 billion. The largest sources of imports were Germany, the United States and Mexico.

Employment in the automotive industry was over 849,000 persons in 1999. In terms of vehicle outputs, the Japanese automotive industry is over 20 times larger than the Australian automotive industry.

Currently, Japan has no tariffs or quotas on automotive products and has no specific government automotive development policies.

[73] Japan Automotive Manufacturers Association (JAMA) - http://www.jama.org/statistics/

[74] Japanese Automotive Profile - Market Access Working Group APEC www.apecsec.org.sg/content/apec/business_resources/industry_dialogues/ automotive_dialogue.html

[75] Strategis: Canada's Business and Consumer site (strategis.ic.gc.ca)

Motor vehicle production has been declining in recent years as a number of Japanese automotive firms have established production facilities in other countries. In 2000, Japanese manufacturers and subsidiaries manufactured nearly 6.3 million vehicles outside Japan.

Trade and Investment Flows

Australian Imports and Inward Foreign Direct Investment (FDI) from Japan

Australian automotive imports (parts and vehicles) from Japan have grown by an annual average of 5.9 per cent over the last 10 years. However, this has been slower than total import growth, which has seen Japan's share of Australian automotive imports fall from 60 per cent in 1993-94 to 46 per cent in 2003-04. Japan is still, however, Australia's primary import source of automotive products and Australia is Japan's second largest export market for automotive vehicles.

Over the same period, imports of automotive vehicles from Japan have grown by an annual average of 7.4 per cent to reach $US5.9 billion in 2003-04. This has led Japan's share of Australia's total vehicle imports to fall from 75 per cent in 1993-94 to 54 per cent in 2003-04. This lost market share has been taken up by Thailand (including from Japanese transplants), Germany, the United States and the Republic of Korea.

Automotive parts imports from Japan have fallen over the last ten years to be less than $US1 billion in 2003-04. This has seen Japan's share of Australia's total components imports fall from 38 per cent in 1993-94 to around 23 per cent in 2003-04. There has been strong growth in parts imports from Thailand, Canada and China (albeit from a low base). The United States has now overtaken Japan as Australia's principal source of automotive parts imports.

New foreign direct investment (FDI) from Japan in transport manufacturing in the Oceania region (predominantly Australia) was around $US20 million in 2003. This represented less than 0.7 per cent of Japan's global FDI in this industry sector for the year. Over 90 per cent of Japan's FDI in this sector went to Asia, Europe and the United States.[76]

Australia's Exports and Outward FDI to Japan

Australia's exports of automotive products have grown by an annual average of nearly 12 per cent over the last ten years. However, exports to Japan have fallen by an annual average of over 9 per cent to $US64 million in 2003-04, or only 1.8 per cent of all automotive exports that year.

Vehicle exports to Japan have fallen by an annual average of 14 per cent over the last ten years to only $US7 million in 2003-04, representing only 0.3 per cent of all vehicle exports. Similarly, exports of automotive components have fallen by an annual average of 8 per cent over the same period to around $US56 million in 2003-04, or around 4.6 per cent of all automotive parts exports. The fall may be partially attributed to the establishment by Japanese automotive firms of substantial production facilities throughout Asia, and increased sourcing of parts from those operations.

There was no investment by Oceania (and hence Australia) in Japan's machinery manufacturing sector in 2003 (and only $US4.8 million in 2002). The majority of investment in these sectors in Japan is from Europe and North America.

[76] Japan's Ministry of Finance, International Investment Position 2003 released in 2004

Potential Impact on Trade and Investment Flows

Australian Exports to Japan

As noted above, Japan does not apply customs duties to automotive products. Moreover, Australian car makers do not produce the types of vehicles in strong demand in Japan – vehicles with an engine capacity of 2 litres or less. Bilateral liberalisation with Japan is therefore unlikely to result in an increase in Australian exports of automotive vehicles and components to Japan. Also supporting this conclusion is that two of Australia's four car makers and their affiliated parts producers already manufacture in Japan. The remaining two car makers' parents have shareholdings in Japanese car manufacturers. The most likely scenario would be that the downward trend in Australian automotive exports to Japan would continue, especially as Japanese manufacturers and their suppliers increased investment in third markets such as China and Thailand, and serviced the Japanese market from these.

There would be a similarly minimal impact on outward investment flows in the sector from Australia. There is little scope for Australian firms to increase investment in the Japanese automotive industry given that it is a mature market and that, as noted above, the parent companies of Australia's car makers and a number of its component producers already have a significant presence in the Japanese industry.

If bilateral liberalisation resulted in improved access to Japan's automotive distribution networks, there may be scope for increased Australian sales in Japan, through the targeting of niche market consumers.

The flow-on effects from stronger economic growth caused by comprehensive bilateral liberalisation in all sectors would benefit the entire automotive industry in both countries.

Australian Imports from Japan

The reduction of Australian tariffs on Japanese imports would be likely to stimulate demand for vehicles imported from Japan. However, given the maturity and make up of the Australian market, this increase in demand would be likely to be in a few market segments and at the expense of imported vehicles sourced from elsewhere. Bilateral liberalisation with Japan would be likely to:

- Result in small increases of sales of Japanese-sourced light, small and medium passenger motor vehicles, at the expense of cars sourced from Korea. Japanese-sourced vehicles enjoy strong sales in these segments, but also face strong competition from cars sourced from Korea;
- Have very little impact on sales of large passenger cars, which is dominated by locally-produced vehicles (and which also enjoy preferential access to Australian Government purchasing arrangements[77]);
- Result in a small increase in sales in the prestige and luxury segments of the market, at the expense of European-sourced vehicles. Bilateral liberalisation would also offset some of the adverse effects on Japanese-sourced vehicles arising from tariff reductions on US-sourced vehicles from the Australia United States Free Trade Agreement (AUSFTA);

[77] For passenger motor vehicles with an engine capacity of greater than 2000cc, Australian Government policy gives preference to vehicles made in Australia by manufacturers which have a local operation in vehicle assembly or component production and satisfy the criteria for registration as a Motor Vehicle Producer or Automotive Component Producer under the *Automotive Competitiveness and Investment Scheme Administration Act 1999.*

- Result in a small increase of sales of sports utility vehicles, particularly the medium-sized segment. This would probably be at the expense of vehicles sourced from Korea and Europe. Bilateral liberalisation would also offset some of the adverse effects on Japanese-sourced vehicles arising from tariff reductions on US-sourced vehicles from the AUSFTA; and
- Have no impact on increased demand (and hence imports of Japanese-sourced vehicles) for light trucks. This segment is dominated by imports from Thailand which will benefit from the elimination of tariffs under the Australia-Thailand Free Trade Agreement. Japanese companies are increasingly establishing their global production of 'pickups' in Thailand.

The reduction in Australian tariffs on automotive parts may also stimulate some increased demand for Japanese-sourced parts, particularly by the Australian affiliates of Japanese car makers. The reduction in prices on automotive components may improve the price competitiveness of cars produced locally by Japanese affiliates (who import Japanese-sourced parts). This would also place these car makers on a more even footing with US affiliates who tend to source a higher value of imported components from the United States and who will, once enacted, enjoy duty free access of these components under the AUSFTA.

There is little likelihood of Japanese firms significantly increasing investment in the Australian automotive industry over and above current investment levels as a result of bilateral liberalisation. There is already significant investment by Japanese automotive companies in Australia, and Australia has a mature domestic market with little opportunity for significant growth.

As with the impacts on Australia (above), any flow-on effects from stronger economic growth caused by comprehensive bilateral liberalisation (in all sectors) would benefit the entire automotive industry in both countries.

5.2.5 Investment

Growth of global FDI flows and links between FDI and trade

The worldwide trend of investment liberalisation and the lowering of trade barriers have contributed to strong growth in worldwide foreign direct investment (FDI) flows over the past decade. Global FDI inflows more than doubled during the period from 1994 to 1998, then doubled again over the following two years to a peak of $US1,388 billion in the year 2000. Although worldwide flows have declined over the past three years they still remain well above their 1994 level.

The relationship between FDI and trade is complex; the rapid increase in international capital and good flows as a result of the increasing globalisation of production has brought the two factors closely together. International production carried out by the foreign affiliates of trans-national corporations now accounts for an estimated one-tenth of world GDP and one-third of world exports.

The strong growth in worldwide FDI flows has also coincided with a change in attitude towards FDI and a general relaxation of foreign investment regimes across the globe. Of the 1,622 regulatory changes introduced worldwide over the past 10 years, over 93 per cent were aimed at making the investment climate more favourable for inward investment. During this period, bilateral investment treaties have proliferated across the globe with 2,265 agreements in force as at the end of 2003. In addition, recent bilateral and regional trade agreements have placed greater emphasis on investment provisions as a way to promote FDI flows. In fact, a recent study undertaken by the staff of the Productivity Commission in Australia found that the non-trade provisions of preferential trading agreements, such as investment and competition policy, have a greater positive economic effect than the trade provisions.

The role of FDI

FDI is an integral element in achieving increased living standards and economic prosperity. Recent empirical evidence suggests that countries with more open trade and investment regimes have achieved higher rates of growth. Open markets allow for the efficient and productive allocation of resources which in turn impacts positively on production.

The inflow of FDI plays a crucial role in technology transfer and the implementation of international best practices across economies. These so called “spillover effects” act as important drivers of structural change within a host economy, improving competition and efficiency within the domestic market and impacting positively on the productivity of domestic firms.

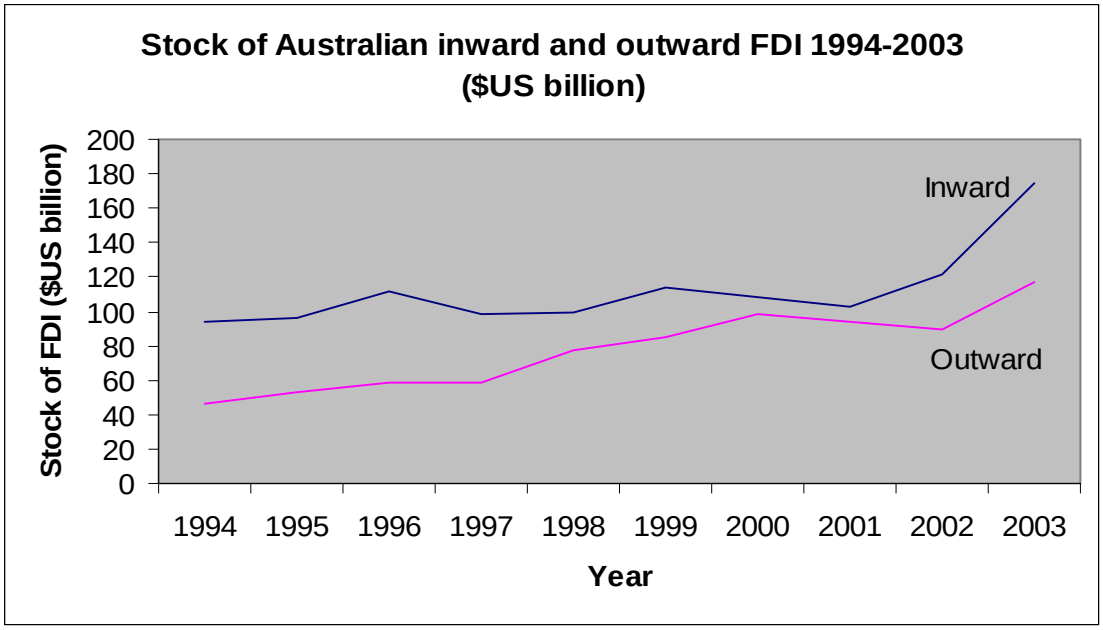
Australia’s experience with FDI

As a large, resource rich country with relatively high demand for capital, Australia has relied on foreign investment to meet the shortfall of domestic savings against domestic investment needs. Australia welcomes foreign investment and acknowledges that FDI has allowed the Australian people to enjoy higher rates of economic growth, employment and a higher standard of living than otherwise would have been possible.

FDI has been a strong contributor to employment growth, productivity and consumer welfare improvements in Australia. A recent Australian Bureau of Statistics report found that foreign owned

businesses employed 12 per cent of all private sector employees in Australia and contributed 25 per cent of all gross fixed capital formulation. Inward FDI has also helped to make Australian industry internationally competitive through exposing local management to international standards and best practices, and through the technological benefits associated with the establishment of new businesses.

Over recent years Australia has enjoyed substantial increases in FDI flows. Whilst inward FDI has traditionally played an important role in Australia's development, over the last decade Australian FDI abroad has become increasingly significant. The following table illustrates the path of Australia's inward and outward stock of FDI over the last decade.



Source: UNCTAD – World Investment Directory on-line http://stats.unctad.org/

Australia has always relied on significant amounts of inward FDI, but has not traditionally had high outward FDI. As a country with a relatively small population, outward FDI is becoming increasingly important for Australian firms who have reached their potential in the domestic market. Outward FDI has provided Australian firms with the opportunity to expand beyond the constraints of their domestic market and become more globally competitive. International expansion has provided Australian companies with greater access to distribution channels and networks in international markets.

In 1999, following the outcome of the Joint Prime Ministerial Task Force on Australia-New Zealand Bilateral Relations, Australia undertook unilateral liberalisations of its foreign investment regime. The changes reduced notification obligations on business through increasing the notification threshold for foreign investment in existing business to $A50 million on a multilateral basis.

The liberalisations were expected to impact positively on FDI inflows, through reducing the number of notifiable proposals and thus reducing the marginal cost of capital for foreign investors. According to Foreign Investment Review Board statistics, the number of non-real estate foreign investment proposals fell from 781 in 1998-99 to 304 proposals in 2003-2004. Although it is difficult to quantify the actual effect of the relaxation of Australia's notification requirements, they have coincided with a period of high FDI inflows. While worldwide FDI flows have decreased since their peak in 2000, Australia has continued to attract strong inflows.

Japan's experience with FDI

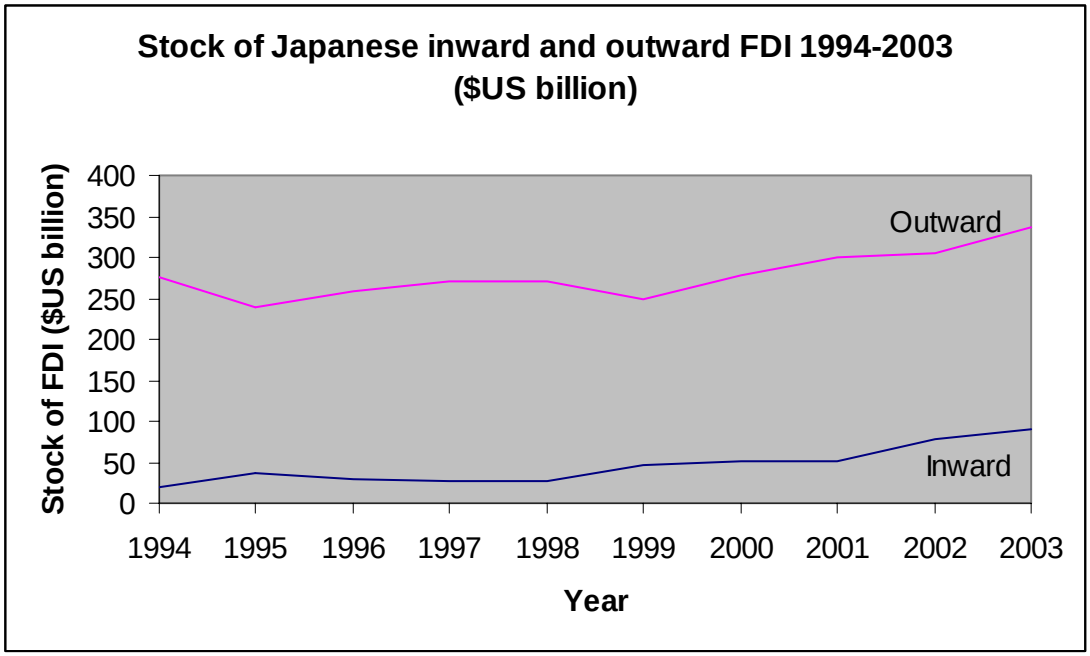
As a developed economy with a high rate of domestic savings Japan has traditionally been a net capital exporter. Relatively high values of outward FDI, combined with the lowest rate of inward FDI as a percentage of GDP in the OECD, have cultivated the image that Japan has a "closed door" to FDI.

In recognition of this perception, the Japanese Government has recently embarked upon initiatives to promote Japan as an investment destination. In January 2003, Japan's Prime Minister Koizumi announced that rather than seeing foreign investment as a threat, Japan would attempt to double the cumulative amount of inward FDI in five years.

Traditionally, Japan has taken a gradual approach to the liberalisation of its investment restrictions in order to foster domestic industries. Consistent with this approach, Japan has only considered sector-specific liberalisations when the relevant domestic industry is competitive with foreign firms.

In recent years, Japan has increased the importance it places upon inward FDI as a means of attracting foreign technology and international best practices. Japan has also acknowledged the role that FDI plays in strengthening the international competitiveness of domestic industries.

Between 1999 and 2003, the stock of inward FDI in Japan grew by 95 per cent, placing it amongst the top performers in the OECD. Although impressive growth has been achieved, levels of inward FDI remain low when compared to international standards. According to a recent Japanese Investment Council Expert Committee report, in the year 2000 the inward stock of FDI compared to nominal GDP was only 1.1 per cent in Japan, while it was 27.9 per cent in the US and 31.9 per cent in the UK. The following graph illustrates the path of Japan's stock of FDI.



Source: UNCTAD – World Investment Directory on-line http://stats.unctad.org/

FDI into Japan has been spread across a range of manufacturing and non-manufacturing industries. As at the end of 2002, there were 1,861 foreign affiliates operating in Japan, employing 295,000 workers.

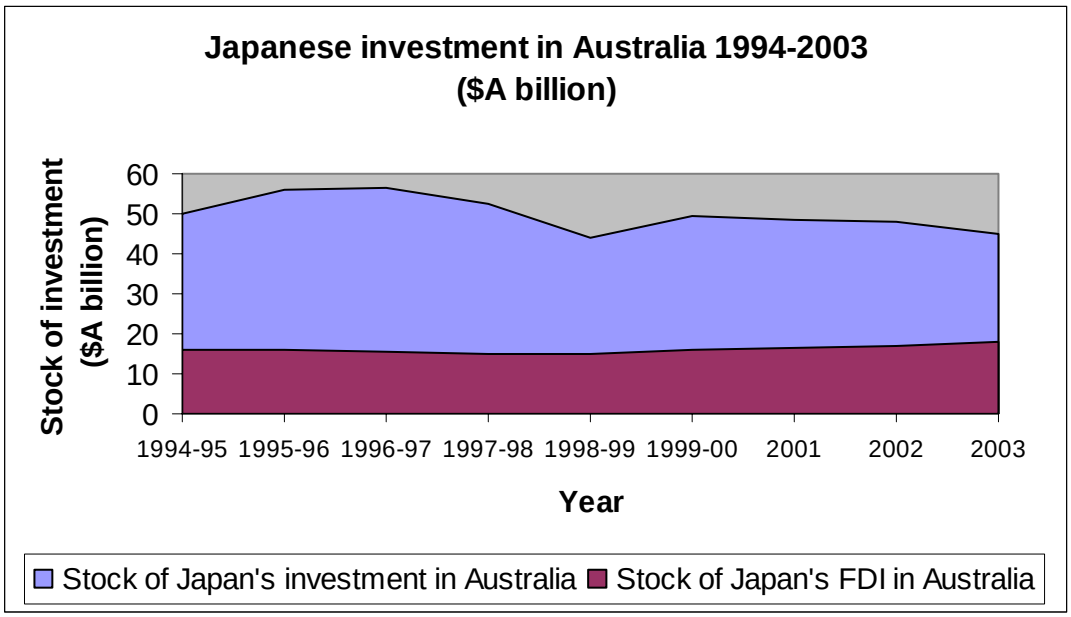
As the world's second largest economy there is a huge opportunity for Japan to attract inward FDI. However, it is yet to be able to exploit this opportunity. This is demonstrated by Japan being ranked 12th

in UNCTAD's FDI potential index and 127th in its FDI performance index for the 2001-2003 period. If Japan can realise this potential, there is scope for rapid increases in inward FDI flows.

Analysis of the bilateral investment relationship

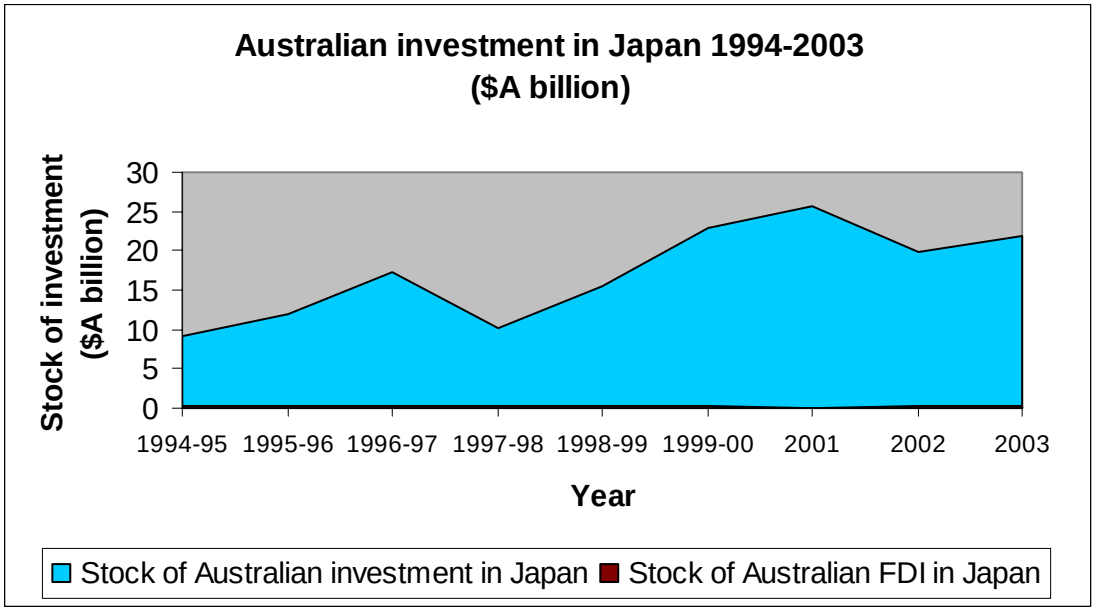
While traditionally Australia and Japan have enjoyed a healthy bilateral trading relationship and Japan is the third largest source of total foreign investment and FDI in Australia, Australian FDI into Japan is small.

Japan is the third largest source of investment in Australia with $A44.8 billion invested as at the end of 2003. Japan has also been an important source of FDI for Australia, with the stock of Japanese FDI into Australia increasing from $A15.1 billion in 1994 to a peak of $A18.2 billion in 2003. This figure represents approximately 7 per cent of the total stock of FDI in Australia. The following graph illustrates Japanese investment in Australia over the past ten years.



Source: ABS – International Investment Position, Supplementary Country Statistics (Cat 5352.0)

Australian investment in Japan totalled $A21.9 billion as at the end of 2003 which ranked it as the fourth largest destination for Australian investment. Despite Australia's relatively strong investment presence in Japan very little investment has taken the form of FDI. During the period from 1994 to 2003 the stock of Australian FDI in Japan has never risen above $A400 million. The level, as at the end of 2003, was $A340 million, which equated to only 0.3 per cent of Australia's outward FDI stock.



Source: ABS – International Investment Position, Supplementary Country Statistics (Cat 5352.0)

While Australia's overall investment in Japan has been increasing over the last ten years the stock of Australian FDI has been stagnant at very low levels. The figures suggest that although Australian investors view Japan as an attractive investment destination, they have not undertaken a great deal of FDI.

Liberalisation of Australia's foreign investment regime under the Australia-United States Free Trade Agreement

The Australia-United States Free Trade Agreement (AUSFTA) entered into force on 1 January 2005. The agreement provides a strong framework for continuing to promote high levels of two-way investment between Australia and the US. As part of the agreement, Australia has introduced significant liberalisations of its foreign investment regime for US investors.

The most significant liberalisation of Australia's regime under the agreement is the increase in the screening threshold for US investors from $50 million to $800 million, indexed annually to the GDP implicit price deflator, of acquisitions of interests in Australian businesses in non-sensitive sectors and of non-residential developed commercial property (other than accommodation facilities). Acquisitions by US investors of Australian businesses in defined sensitive sectors[78] are subject to a screening threshold of $50 million, indexed annually to the GDP implicit price deflator.

The Government has also removed all existing policy-based screening requirements for the establishment of new Australian businesses other than where the investment involves the United States Government.

In order to streamline the approval process, Australia also committed to removing the requirement for US investors to notify the Foreign Investment Review Board of acquisitions of interests in financial sector companies, as defined under the *Financial Sector (Shareholdings) Act 1998*.

[78] The sensitive sectors are: media; telecommunications; transport; goods, equipment or technology for defence forces or to be used for a military purpose; encryption and security technologies and communications systems; uranium or plutonium extraction and nuclear facilities.

Recent liberalisations in Japan's foreign investment regime

Japan has focused its policy work on investment promotion. In recent years, the Japanese Government has made a concerted effort to simplify the administrative procedures associated with investing in Japan. To facilitate this, the Japan Investment Council (JIC) was established as a ministerial-level council, chaired by the Prime Minister, in July 1994.

The Council's objective is to promote Japan as an investment destination and also to increase the amount of FDI into Japan. In order to improve the administrative procedures for investment, JIC's Expert Committee Report recommended the establishment of the Invest Japan Office which translates various types of information on investment procedures. A single contact point has been established in the Japanese External Trade Organisation (JETRO) for access to such information. In addition, each ministry or institution related to investment has set up a single contact point, which can direct investors to the division in charge of a particular procedure.

In 2003, Prime Minister Junichiro Koizumi stated that Japan would seek to double the stock of inward FDI within five years. The five priorities of the reform strategy were to:

1. disseminate information on FDI within Japan and abroad;
2. improve the domestic business environment;
3. review current administrative procedures;
4. to improve the living standards and environment for trans-national corporation expatriates; and
5. develop local and national structures and systems.

In addition to its promotional activities, the Japanese government has concluded bilateral investment agreements with 11 countries/regions and Economic Partnership Agreements (EPAs) with Singapore and Mexico; the EPAs provide for some investment liberalisations and include provisions aimed at ensuring greater transparency and legal certainty in the investment environment.

Estimated effects of liberalisation of Australia's foreign investment regime under the AUSFTA

In April 2004, the Centre for International Economics published an economic analysis of the estimated effects of the AUSFTA. The report found that the economic benefits from the investment liberalisation under the AUSFTA were expected to flow through three main channels: reduced transaction costs; improved legal framework and investor certainty; and improved access to capital and market liquidity.

The increase in the notification threshold to $A800 million eliminates the costs associated with notifying the Foreign Investment Review Board for a large proportion of direct investment proposals by US investors. Although there are no fees involved in the application process, investors achieve a one-off saving equal to the time and resources involved in submitting a proposal.

The agreement also provides an improved legal framework for bilateral investment between the two countries. The report suggests these improvements are expected to make Australia a more attractive place to invest and also result in a reduction of the risk premium placed on investments in Australia. The long run equity risk premium for Australia is 120 basis points higher than the equivalent measure for the US. The modellers conservatively estimated that the liberalisation of Australia's investment rules would

result in a reduction in its equity risk premium of 5 basis points. In ten years time this reduction in risk could lead to Australia's level of real GDP being 0.4 per cent higher than otherwise would be the case.

The relaxation of foreign investment rules is expected to lead to an increase in the net capital inflow into Australia by increasing the depth and liquidity of the domestic equity market. The changes are likely to make smaller Australian firms more attractive to US investors thus improving their liquidity and overall equity.

Economic effects of Japanese investment liberalisation

Japan has experienced strong growth in its inward FDI stock over the past five years. While some of this growth can be attributed to Japanese Government investment promotion activities, the recent impressive performance is, at least in part, due to the fact that Japan is 'catching up' to other developed countries with respect to inward FDI.

Further liberalisation of Japan's foreign investment regime, coupled with sustained promotion activities, will provide the most conducive environment for continued growth of inward FDI flows. Proposed liberalisation of the legislation governing mergers and acquisitions will be important for future foreign investment in Japan. An increase in cross-border mergers and acquisitions would contribute significantly to structural reform of the Japanese economy. A range of economic benefits, including increased consumer choice, decreased prices and a more efficient allocation of resources could be expected from increased foreign participation.

In addition to domestic regulatory reforms, economic partnership agreements provide an excellent opportunity for increased inward FDI flows to Japan. Comprehensive agreements, which incorporate investment liberalisation, promotion and protection provisions will improve the competitiveness of Japan as an investment destination.