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Estimating the impact of an Australia–China trade and investment agreement

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2008 economic modelling update

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Prepared for

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Executive summary

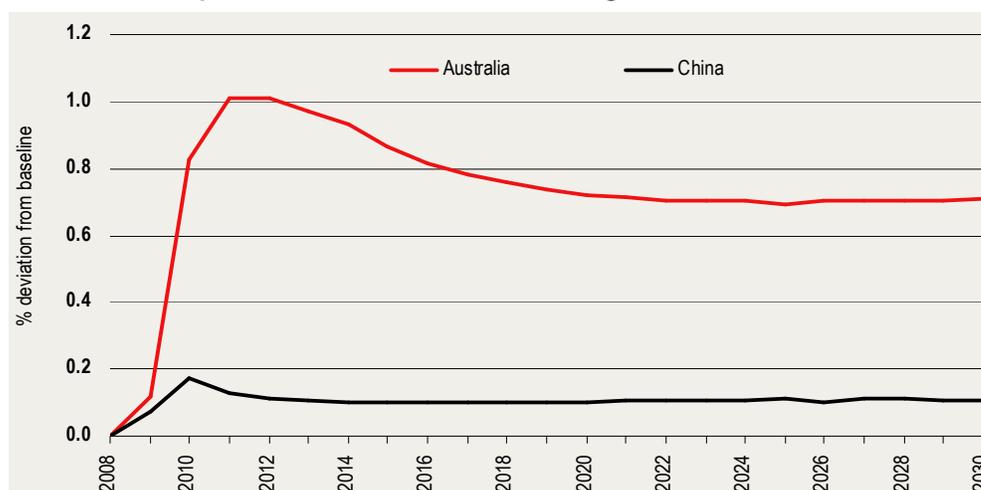
The Australian and Chinese Governments announced in April 2005 that they would commence formally negotiating a bilateral agreement that will, if negotiations are successfully concluded, see removal of barriers to bilateral trade and investment. The move to formally negotiate a bilateral trade and investment agreement followed release of a Joint Feasibility Study that showed benefits would flow to both countries.

The economic modelling undertaken as part of the 2005 Joint Feasibility Study is now several years out-of-date. This report provides an updated and independent assessment of the economic impacts of an Australia–China trade and investment agreement.

Macroeconomic impacts of bilateral trade and investment liberalisation

- Given the uncertainty with respect to the pace and scope of (any) liberalisation, it has been assumed that the bilateral trade and investment liberalisation will be comprehensive in scope with all barriers being removed immediately on commencement of the agreement, assumed to occur on 1 January 2010.
- As can be seen from chart 1, an Australia–China Free Trade Agreement is estimated to have a beneficial impact on the GDP of both economies. By 2030, 20 years after the trade and investment agreement has come into force, Australia's GDP is estimated to be 0.7 per cent higher than otherwise, and 0.1 per cent higher in the case of China.
- The fact that Australia benefits more from the trade and investment agreement reflects the trading relationship and magnitude of trade barriers – China has higher trade barriers than Australia, and China is currently a more important trading partner to Australia than Australia is to China. Removal of relatively high trade barriers in a market that is the destination for 12.8 per cent of Australia's total exports provides Australia with greater gains than does removal of already low Australian barriers in a market that is the destination for 1.4 per cent of China's exports.
- Over the period 2010–30, Australia is estimated to gain A\$146 billion in real GDP in (2008) net present value terms, versus China's real GDP gain of A\$131 billion.

1 Estimated impact of the trade and investment agreement on real GDP



Data source: CIEG-Cubed modelling simulation.

The need for a modelling update

- The Australian and Chinese economies, and their bilateral trading relationship, have changed significantly since the 2005 Joint Feasibility Study, indeed:
 - the Australian economy is some 25 per cent larger, while the Chinese economy is 56 per cent larger;
 - two-way merchandise trade is around A\$24 billion higher (an 82 per cent increase), while two-way services trade is A\$1.6 billion higher (43 per cent increase); and
 - China now accounts for 12.9 per cent of Australia’s total (merchandise and service) two-way trade, up from 9.7 per cent a few years earlier.
- Bilateral investment is also much higher, with two-way foreign direct investment being some A\$1.8 billion (220 per cent) higher.

Interpreting modelling results – a word of caution

- While a computable general equilibrium (CGE) model is the best framework with which to quantify the potential gains from trade and investment liberalisation, it must be appreciated that CGE models are not perfect. By definition, economic models are a simplification of reality and rely on numerous assumptions about economic parameters, behaviour and relationships. As such, modelling results should only be used to infer the outcome of liberalisation (positive or negative) and the magnitude of such impacts (small or large). That is, only broad messages and trends should be taken from the modelling results.
- Furthermore, modelling a bilateral trade and investment agreement that sees the overnight removal of all tariff, NTB, service and investment barriers to bilateral trade and investment represents a significant change to policy. As such, and over

the short term, the economic impacts thereof may be quite large and fluctuate. However, when gauging the impact of the liberalisation, it is perhaps more prudent to focus on the impacts over the longer term (say 10–15 years post liberalisation). That way the policy changes will have worked their way through the economy and any changes to GDP (etc) will have settled down.

- Finally, modelling results are based on the removal of all (calculated) tariffs, NTBs, service and investment barriers to bilateral trade and investment, with all liberalisation assumed to occur overnight on 1 January 2010. If Australia and Indonesia are to negotiate a trade and investment agreement, then it is probable that the pace and scope of the negotiated liberalisation would differ from that assumed here. This needs to be borne in mind when looking at the potential economic gains from a bilateral trade and investment agreement.

Barriers to merchandise trade

- The average applied Australian tariff in 2008 is a low 3.2 per cent, with nearly 52 per cent of tariff lines being duty free. The highest tariff during 2008 is 17.5 per cent (levied on some apparel and textile products). Australia has bound nearly 97 per cent of its tariff lines in the WTO, with the average bound ad valorem tariff rate being 10 per cent.
- The average applied tariff in China during 2008 is a relatively higher 11.6 per cent, with nearly 9 per cent of tariff lines being duty free. The average tariff masks some substantial variation in tariff rates. For example, during 2008 China had a handful of tariff lines that had a tariff equal to or in excess of 100 per cent. China has bound 100 per cent of its tariffs in the WTO, with the average ad valorem bound tariff rate being 9.9 per cent.
- Estimated non-tariff barriers to trade have been based on a manufacturing sectors ‘demand’ for protection – taken to be those sectors with a revealed comparative disadvantage – and allowing for the sectors with the greatest revealed disadvantage to get receive the greatest protection via the NTBs. This sees Australian NTBs ranging between 1.1–3.6 per cent, and 1.1–3.9 per cent in the case of China.
- China applies its most favoured nation (MFN) tariff rate to Australian imports, while Australia applies its developing country tariff rate to Chinese imports. Hence Australia already affords China some tariff concessions relative to imports from an MFN country.

Barriers to services trade

- Barriers to services trade are nationalistic treatments that hinder or prevent market entry and price competition between ‘foreign’ and domestic service providers.

- Service barriers can comprise things such as restrictions on FDI, restrictions on the recognition of professional qualifications, residency/local presence obligations and limitations on the scope of activities that can be undertaken by foreigners.
- It is considered that there is little in the way of barriers to consumption abroad (such as barriers to Australians taking holidays in China, or to Chinese students studying in Australia). Barriers to services delivered via commercial presence are typically barriers to foreign direct investment, and as such were dealt with when estimating the impact of investment liberalisation (see below).
- This leaves barriers to services delivered via cross border supply and movement of persons (such as professionals travelling temporarily to the economy into which they are delivering their services). While service barriers will be of a ‘behind the border’ and regulatory nature, the effect thereof will be similar to a tariff applied to merchandise imports – the service barriers will act to increase the cost of those service imports and reduce competition in the local market.
- Drawing on published research, the tariff equivalents of barriers to services typically delivered via cross border trade and movement of persons – water transport, communications and professional services – were found to range between 0–5 per cent in the case of Australia and 8–22 per cent in the case of China.

Barriers to investment

- Estimates of barriers to foreign direct investment (FDI) in the service sectors are available for 29 OECD countries and 55 other (largely developing) countries. On a scale of 0 (no restrictions) to 1 (totally restricted), Australia’s investment environment is accredited with a ‘score’ of 0.32, while China is scored at 0.40.
- In terms of the OECD countries, the Australian service sector has the second most restrictive FDI environment, with only Mexico more restrictive. China is the estimated to have the 46th most restrictive FDI environment of the other countries.
- While FDI is important to Australia and China, bilateral FDI between Australia and China is currently modest. China is the destination for a small share (0.4 per cent) of Australia’s outward FDI stock, with the value of Australia’s FDI stock in China being valued at A\$1689 million in 2007. Australia is the destination for 0.6 per cent of China’s outward FDI stock, with the value of China’s FDI stock in Australia estimated to be around A\$916 million in 2007.
- Comprehensive liberalisation of bilateral FDI is estimated to see China’s stock of investment in Australia increasing by A\$2.0 billion, while Australian FDI in China is estimated to increase by A\$2.7 billion.
- Continued economic development in China and greater future integration of the two economies could see investment liberalisation having a much larger impact on bilateral FDI flows than that estimated here.

About this report

The Australian and Chinese Governments announced in April 2005 that they would commence formally negotiating a bilateral agreement that will, if negotiations are successfully concluded, see removal of barriers to bilateral trade and investment. The move to formally negotiate a bilateral trade and investment agreement followed release of a Joint Feasibility Study that showed benefits would flow to both countries.¹

As of June 2008, there had been 11 rounds of negotiations on the Australia–China Free Trade Agreement (ACFTA). While the Australian Government is optimistic that any liberalisation will be comprehensive in timing and ambitious in scope, the negotiations are still ongoing, and as such it is not (publicly, at least) known at this stage what liberalisation will be achieved or when.²

The economic modelling undertaken as part of the 2005 Joint Feasibility Study is now several years out-of-date. This report provides an updated and independent assessment of the economic impacts of an Australia–China free trade agreement. The global economic model CIEG-Cubed was used to quantify the possible economic impacts arising from ACFTA.

This report was commissioned by the Australia China Business Council (ACBC). The ACBC is the premier business organisation in Australia dedicated to promoting business and trade with the People’s Republic of China. Founded in 1973, ACBC actively promotes two-way trade and investment, and economic cooperation and understanding, between the business communities of Australia and China. ACBC is a membership-based organisation, with branches in New South Wales, Northern Territory, Queensland, South Australia, Western Australia and Victoria providing business-focused information and events for some 700 members across all industries.

The update of the economic impacts arising from an ACFTA was produced by specialist consultants from the Centre for International Economics. Team members comprised:

¹ See *Australia–China Free Trade Negotiations*, http://www.dfat.gov.au/geo/china/fta/general_guide_march_2006.pdf, accessed 10 April 2006; and http://www.dfat.gov.au/geo/china/fta/feasibility_full.pdf for the Joint Feasibility Study.

² See *Australia–China FTA to be Comprehensive and Ambitious*, media release 3 April 2006 by The Hon. Mark Vaile, MP, http://www.trademinister.gov.au/releases/2006/mvt023_06.html, accessed 18 April 2006.

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- Kevin Hanslow, Quantitative Analyst

The assistance of Dr Andy Stoeckel in peer reviewing the report is gratefully acknowledged.

1 *Barriers to trade*

A trade and investment agreement between Australia and China will likely entail, amongst other things, liberalisation of merchandise and service trade. Such liberalisation will allow Chinese producers greater access to the Australia market whilst at the same time it will improve the competitive position of Australia producers in one of the world's most populous and fastest growing countries. The magnitude of any bilateral trade liberalisation carried out under a trade and investment agreement needs to be kept in perspective – in the main, Australia already has a very open trading environment while China has been pursuing trade liberalisation as part of a wider program of economic reform.

The current barriers – comprising tariffs, non-tariff barriers and service barriers – to bilateral merchandise and service trade are discussed below.

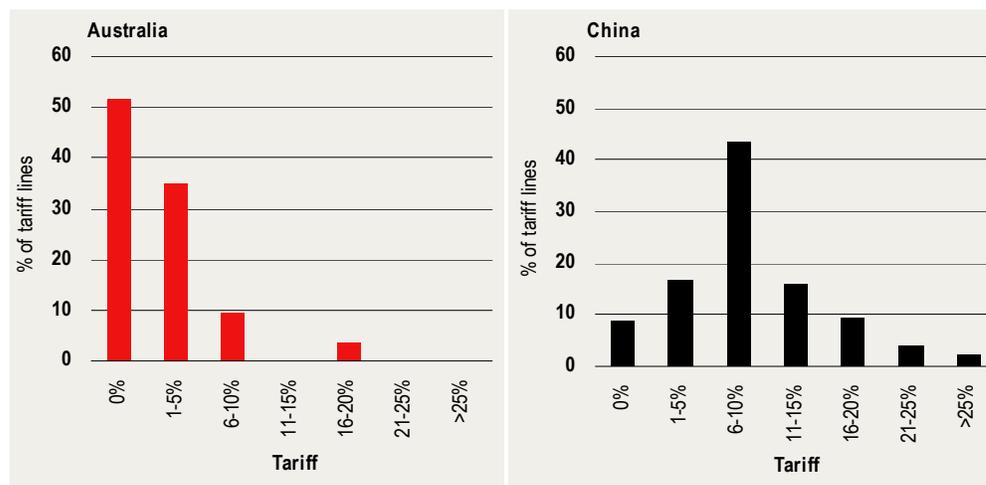
Tariff barriers to merchandise trade

The Australia tariff schedule identifies 6256 tariff lines (identified at the 8-digit Harmonised System (HS) level). In 2008, nearly 52 per cent of these lines were duty free, with the vast majority of the remaining 48 per cent being levied with an ad valorem tariff. There is a small number of tariff lines (17, or 0.3 per cent of all tariff lines) that are levied with either a tariff rate quota (TRQ) (5 lines) or combination tariff/specific duty (12 lines).

The Chinese tariff schedule identifies 7614 tariff lines (at the 8-digit HS level). Of these, 8.6 per cent are duty free, 90.1 per cent attract an ad valorem tariff, 0.6 per cent attract a specific duty, with the remaining 0.7 per cent of tariff lines being subjected to a tariff rate quota. Chart 1.1 shows the distribution of tariffs applied in Australia and China on imports from the other country.

Note that China applies its most favoured nation rate to Australian imports, while Australia applies its developing country tariff rates to Chinese imports. Hence as a developing country, Australia already affords China some tariff concessions relative to those levied on imports from a MFN country. Tariff concessions are in the order of 1–5 percentage points lower than the standard MFN rate and are granted on 13 per cent of tariff lines. It is typically manufacture products – chemicals, metal and metal products, other mineral products, wood and paper products, machinery etc – that receive the tariff concessions. The notable exceptions are imports of textiles,

1.1 Distribution of applied tariffs 2008



Data source: CIE calculations based on Australia and Chinese tariff schedules.

apparel and motor vehicles and parts, for which developing countries receive little in the way of tariff concessions.

Across all tariff lines in the Australian and Chinese tariff schedules, the average (unweighted) 2008 tariff rate levied on imports from the other country was 3.2 per cent in Australia and 11.6 per cent in China.

Australia has bound nearly 97 per cent of its tariff lines, with the average bound rate being 10 per cent.³ With a bound versus applied tariff gap of 6.6 percentage points, Australia could potentially raise its applied tariffs by a substantial margin. This could act as a source of uncertainty with respect to the applied tariff. China has bound 100 per cent of its tariffs in the WTO, with the average bound ad valorem tariff being 9.9 per cent.⁴ Hence when compared with the average applied ad valorem tariff of 9.5 per cent, China has the ability to only marginally raise its applied tariffs and still remain within its bound tariff rates. The ability to raise its tariffs by such a margin – 0.4 percentage points on average – represents only a small source of tariff uncertainty for exporters.

It is important to note that the average (applied) tariffs, especially in the case of China, mask substantial variation in rates. For example, the maximum ad valorem tariff rate in Australia during 2008 was 17.5 per cent (some apparel and textile products) while in China a handful of tariff lines had a tariff equal to or in excess of 100 per cent.

³ WTO Secretariat 2007, *2007 Trade Policy Review of Australia*, WTO, pp. 31 and 33.

⁴ WTO Secretariat 2008, *2008 Trade Policy Review of China*, WTO, page 39.

Tariffs levied on imports from Australia and China

Applied tariff barriers to bilateral merchandise trade are reported in table 1.2. Note that these are the tariffs that exist in 2008, and are not necessarily the tariffs that would be removed (or reduced) under any agreement. For example, Australia and China have both committed to future unilateral tariff reductions; hence some of the tariffs identified in table 1.2 are scheduled to fall regardless of whether Australia and China enter into a trade and investment agreement.⁵

The tariffs to be liberalised under any agreement will therefore depend not only on what is negotiated, but also on the tariffs prevailing at that time.

As already noted, the Australia tariff schedule contains a very small number of tariff lines that are subjected to a tariff rate quota (the Cheese and Curd Quota Scheme) or

1.2 Applied tariff barriers to bilateral merchandise trade ²⁰⁰⁸

Sector	Aus.	Chinese	Sector	Aus.	Chinese
	tariff	tariff		tariff	tariff
	Per cent	Per cent		Per cent	Per cent
Paddy rice	0.0	1.0	Dairy products	0.7	12.2
Wheat	0.0	1.0	Processed rice	0.0	1.0
Cereal grains nec	0.0	1.5	Sugar	0.0	18.4
Vegetables, fruit, nuts	0.6	13.8	Food products nec	1.5	15.8
Oil seeds	0.5	7.5	Beverage and tobacco	2.1	22.8
Sugar cane, sugar beet	0.0	20.0	Textiles	7.0	9.8
Plant-based fibers	0.0	8.1	Wearing apparel	13.4	16.2
Crops nec	0.1	9.1	Leather products	5.1	14.1
Bovine cattle and sheep	0.0	4.5	Wood products	2.8	4.4
Animal products nec	0.3	11.3	Paper goods, publishing	2.7	5.4
Raw milk	0.0	0.0	Petroleum, coal products	0.0	6.2
Wool, silk-worm cocoons	0.7	8.9	Chemical, rubber, plastic	2.1	17.4
Forestry	0.0	5.6	Mineral products nec	3.0	12.7
Fishing	0.0	11.2	Ferrous metals	1.8	5.2
Coal	0.0	4.0	Metals nec	1.0	4.7
Oil	0.0	3.0	Metal products	4.2	10.6
Gas	0.0	0.0	Motor vehicles and parts	4.9	13.7
Minerals nec	0.4	2.5	Transport equipment nec	2.3	9.5
Bovine meat products	0.0	15.5	Electronic equipment	1.1	8.6
Meat products nec	0.6	16.9	Machinery nec	2.6	9.1
Vegetable oils and fats	1.3	10.5	Manufactures nec	2.2	14.8

Source: CIE calculations based on Australia and Chinese tariff schedules, World Trade Atlas import quantities and values, and announced unilateral tariff reductions.

⁵ The Australian Government has made commitments to unilaterally lower tariffs on imports of textiles, clothing and footwear, and passenger motor vehicles and parts. The next rounds of TCF reductions are to occur in 2010 and 2015, by which time all TCF tariffs will be at 5 per cent. PMV tariff reductions are next occurring in 2010, when PMV tariffs will be reduced to 5 per cent. China's commitment to unilaterally lower some of its tariffs is a condition of its 2001 WTO accession.

a combination tariff/specific duty. The ad valorem equivalent (AVE) of these tariff lines have been calculated and included in the tariffs identified in chart 1.1 and table 1.2.⁶

For the five Australian tariff lines subjected to a TRQ, the applicable tariff is a specific duty, where the duty levied depends on whether imports are within the 11 500 annual quota (A\$0.096/kg) or out of quota (A\$1.220/kg).⁷ The AVE of the five TRQs was determined by deriving, in a partial equilibrium framework, the quantity of imports that would have been demanded in Australia in the absence of the out-of-quota tariffs. The quota and (theoretical) quantity consumed in the absence of the TRQ were then used as weights to derive a weighted average of the in-quota and out-of-quota tariffs. The average tariff rate for the five tariff lines subjected to a TRQ was calculated to be 3.8 per cent.

For four tariff lines, Australia applies the smaller of an ad valorem tariff (5 per cent) or a specific duty (A\$0.45/kg). The AVE of the specific duties was determined and then compared with the tariff to determine which rate applied. In all cases the minimum tariff (5 per cent) was found to apply. Finally, for eight tariff lines dealing with the importation of used motor vehicles, Australia levies an ad valorem tariff (currently 10 per cent) and a specific duty of A\$12 000 per vehicle. However, the specific duty component of the duty is exempted if the vehicle is a specialist or vintage car, and it is understood that the A\$12 000 specific duty is rarely applied.⁸ Given this, it is assumed that only the ad valorem component of the duty applies.

The Chinese tariff schedule also contains some TRQs and specific duties. TRQs exist for some 11 products, covering around 50 tariff lines. The same methodology as employed to estimate the ad valorem equivalence of Australia's TRQs was used for China. Despite some out of quota tariffs being very high – 65 per cent – the average tariff of the TRQ tariff lines was calculated to be just over 8 per cent. From table 1.3 it can be seen that for the majority of these products, the quota was nowhere near to being filled in 2007, hence the lower in-quota tariff prevailed. (However, it should be noted that the fact that some of the quotas were nowhere near to being filled could reflect other trade barriers, such as reserving a share of the in-quota importation rights for state trading enterprises.)

⁶ Estimating the AVE of specific duties can be problematic as the tariff equivalence will change over time as the price at which the product enters a country changes (due to, for example, exchange rate movements or cost saving efficiency gains). The AVE of specific duties has been calculated using the average unit import price over the last three years to derive the tariff equivalence of the specific duty.

⁷ Note that the quota only applies to cheese and curd imports from countries that Australia does not have a trade agreement with. Hence cheese and curd imports from New Zealand, PNG, South Pacific Forum Island Countries, Singapore, Thailand and the United States are not covered by the quota.

⁸ Of course, the fact that the A\$12 000 specific duty is rarely applied might imply that for non specialist/vintage used cars, the specific duty is prohibitive.

1.3 China's tariff rate quotas 2007

<i>Product</i>	<i>Quota</i>	<i>Imports</i>	<i>Share of quota filled</i>	<i>In quota tariff</i>	<i>Out of quota tariff</i>	<i>Estimated tariff</i>
	Kilo tonnes	Kilo tonnes	Per cent	Per cent	Per cent	Per cent
Wheat	9 636	101	1.0	1–10	65	1–10
Corn	7 200	35	0.5	1–10	20–65	1–10
Rice	2 660	0	0.0	1–9	10–65	1–9
Soybean oil	3 587	2 822	78.7	9	20	9
Palm oil	3 168	432	13.6	9	20	9
Rape-seed oil	1 243	0	0.0	9	20	9
Sugar	1 945	1 194	61.4	20	50	20
Fertiliser (various)	12 900	1 891	14.7	4	50	4
Wool	287	311	108.3	1	38	5.5
Wool tops	80	21	26.4	3	38	3
Cotton	894	2 460	275.2	1	40	26.6

Source: Chinese tariff schedule as submitted to the WTO, World Trade Atlas and CIE calculations.

Most of China's specific duties pertain to imports photographic film. For these tariff lines, the specific duties often equated to very large valorem equivalent tariffs (up around 1000 per cent for a few tariff lines). Indeed, the average tariff across the 49 tariff lines subjected to a specific duty was calculated to be 323 per cent.

Non-tariff barriers to merchandise trade

Non-tariff barriers (NTBs) can often have a more profound effect in restricting trade than do tariffs. Recent World Bank research suggests that, on average, NTBs add 87 per cent to the level of trade restrictiveness imposed by tariffs.⁹ The same research also finds that as countries become richer their protection regimes become less trade restricting. However, the overall lowering of trade restrictions primarily reflects a lowering of tariffs, as NTBs are found to be more prominent in the overall protection of higher income countries. This suggests that tariffs and NTBs are substitutes, as the incidence of NTBs tends to be higher when tariffs are low.

Australia

The WTO reports that tariffs are Australia's main trade policy instrument.¹⁰ Given the small size of tariffs in Australia, we could, a priori, expect NTBs to likewise be small. This expectation is given further credence by the OECD's finding that the level of agricultural support in Australia is second lowest across all OECD members (with

⁹ Kee, L.H., Nicita, A. and Olarreaga, M. 2008, *Estimating Trade Restrictiveness Indices*, Development Research Group, The World Bank, Washington, January 2008.

¹⁰ WTO Secretariat 2007, *2007 Trade Policy Review of Australia*, WTO, page 29.

only New Zealand availing lower producer support), with domestic and border prices being closely aligned in Australia.¹¹

However, while this may be true ‘on average’, numerous countries have identified specific issues of relevance to them. For example, the United States notes that the Australian Government maintains a ‘conservative and restrictive quarantine regime that effectively limits the openness of its markets’.¹² The stringent application of sanitary and phytosanitary (SPS) measures sees restrictions and prohibitions on imports of many agricultural and food products. Partly in response to such criticism from its trading partners, in December 2004 Australia established Biosecurity Australia, an agency to oversee science based quarantine and SPS policy. Even with the creation of Biosecurity Australia, the OECD notes that risk assessment procedures can be lengthy, therefore making access to Australian markets difficult for some agro-food imports.¹³

Whether or not Australia’s SPS regime acts as a trade barrier is hotly debated. Australia maintains that restrictions are needed for Australia to remain free of exotic diseases/pests, with restrictions being scientifically based. Trading partners suggest that by having standards stricter than those promulgated by relevant international bodies, Australia’s SPS regime unnecessarily restricts trade.

Even if this debate could be resolved, a trade and investment agreement with China is unlikely to see a dismantling of Australia’s SPS regime. Rather, it is more likely that a framework will be developed under which specific bilateral animal and plant health matters can be resolved as they arise.

Australia maintains local content requirements for free-to-air television, television commercials and radio. Drama channels on subscription television are required to allocate a certain percentage of the programming budget to new Australian drama programs. A trade and investment agreement with Indonesia is unlikely to see Indonesian audiovisual production being substituted for Australian production, thus these barriers are overlooked.¹⁴

Australia is the only major industrialised country that is not a signatory to the plurilateral WTO Agreement of Government Procurement (GPA). As such, Australia is not bound by the GPA’s rules on open and non discriminatory policies in

¹¹ OECD 2007, *Australia – Agricultural Policies in OECD Countries: Monitoring and Evaluation 2007*, OECD, pp. 82–83.

¹² United States Trade Representative 2007, *2007 National Trade Estimate on Foreign Trade barriers*, USTR, page 31.

¹³ OECD 2005, *Agricultural Policies in OECD Countries: Monitoring and Evaluation 2005 Highlights*, OECD, page 39.

¹⁴ Note that under the Australia–United States Free Trade Agreement, analogue audiovisual restrictions were allowed to remain, but were prohibited from being extended to other media or means of transmission.

government procurement. However value for money is the core principle underpinning Australia's procurement policy.¹⁵ This is achieved by encouraging competition and ensuring non-discrimination in procurement, which means foreign competitors have the same opportunity to compete for Government business as domestic businesses. However, the Australian Government does target sourcing at least 10 per cent of purchases from small to medium enterprises, and maintains local content requirements for government procurement of motor vehicles.¹⁶

There are some restrictions imposed on foreign businesses when competing for state/territory procurement opportunities. For example, NSW Government policy requires all NSW agencies and departments to place a 20 per cent margin on the price of all non Australian and New Zealand companies tendering for the supply of manufactured goods. This is effectively a 20 per cent 'tariff' on government procurement for these types of businesses. However, under the Australia-United States Free Trade Agreement all such barriers to US competitors must be removed by the start of 2008; and Australia has decided to apply the government procurement rules agreed under AUSFTA to suppliers from all countries.¹⁷ As the Australia-China trade and investment agreement is assumed to start after 2008, it is likely that there will be no barriers in place to Chinese firms wishing to access the Australian government procurement market.

China

Prior to its accession to the WTO in 2001, China typically restricted imports through high tariffs, discriminatory taxes, import quotas, restrictions on trading rights, and other non-tariff barriers. Since acceding to the WTO, China has significantly reduced tariffs on many commodities. In terms of NTBs, China is required under its WTO accession agreement to phase out its import quota system, apply international norms to its testing and standards administration, remove local content requirements and make its import licensing and registration schemes transparent.¹⁸

While China has made some progress in addressing its NTBs, such as revising local content regulations, removing import quotas and relaxing trading rights, the United States reports that many industries face increasing NTBs to trade. Such barriers include regulations that set high thresholds for entry into service sectors such as banking and insurance, selective and unwarranted inspection requirements for agricultural products, and the use of questionable sanitary and phytosanitary

¹⁵ Department of Finance and Administration 2005, *Commonwealth Procurement Guidelines 2005*, Financial Management Guidance No. 1.

¹⁶ WTO Secretariat 2007, *2007 Trade Policy Review of Australia*, WTO, pp. 50–52.

¹⁷ WTO Secretariat 2007, *2007 Trade Policy Review of Australia*, WTO, page 24.

¹⁸ See 2005 *National Trade Estimate on Foreign Trade barriers*, Office of United States Trade Representative, pages 74 and 81.

measures and manipulation of technical standards to limit imports.¹⁹ The United States also notices that of late, progress towards (further) market liberalisation has slowed, and that China has not fully embraced the WTO principles of market access, non-discriminatory treatment and transparency.²⁰

Other NTBs identified by industry include:

- different rates of VAT being applied to products depending on country of origin;
- preferential border duties levied on products from certain countries;
- ‘encouraging’ use of local content at expense of imports;
- lack of transparency and uncertainty in the application of customs regulations and payable duties;
- inappropriate customs’ valuation methods (use of ‘reference’ prices), often resulting in higher dutiable values being levied;
- compulsory (and costly) customs and quarantine inspections despite products being tested and certified for type/quality before export;
- lack of mutual recognition of other countries’ national standards;
- discriminatory treatment and uneven enforcement of technical standards and regulations;
- excessive and expensive product labelling requirements; and
- tally fees levied on non-Chinese flagged vessels, plus Chinese flagged vessels given priority for discharge (often leading to shipping delays and significant additional shipping costs).²¹

Some Australian exporters have also noted an apparent unwillingness on behalf of China to crack down on the illegal importing/smuggling into China of particularly high valued products, such as seafood. The alleged ability of some imports to enter China duty free places Australian exporters at a competitive disadvantage in China, and in so doing acts to discourage Australian exporters with capability to pursue the important Chinese marketplace.

¹⁹ See *2005 National Trade Estimate on Foreign Trade barriers*, Office of United States Trade Representative, page 81.

²⁰ See *2008 National Trade Estimate on Foreign Trade barriers: China*, Office of United States Trade Representative.

²¹ See *2008 National Trade Estimate on Foreign Trade barriers: China*, Office of United States Trade Representative and *Measuring the possible impact of the FTA between New Zealand and China*, Centre for International Economics, October 2004, pages 20–22 and 104–106 (report prepared for the New Zealand Ministry of Foreign Affairs and Trade).

Quantified NTBs to bilateral trade

Quantified NTBs to merchandise trade have been estimated using Trade Restrictiveness Indices produced by the World Bank.²² The Trade Restrictiveness Index (TRI) is defined as:

...the uniform equivalent tariff that would maintain the country's aggregate import volume at its current level, given the country's heterogenous tariff regime. It captures the trade distortions that each country's tariffs impose on its import bundle using estimated elasticities to calculate the impact of a tariff schedule on a country's imports. They do not take into account domestic subsidies or export taxes. (World Trade Indicators 2008)

There are several TRIs calculated, one for tariffs (for each of applied MFN and applied including preferences), and an overall TRI that covers tariffs and NTBs (once again, for each of applied MFN and applied including preferences). By subtracting the tariff TRI (T-TRI) from the Overall TRI (O-TRI), an estimate of the non-tariff barrier TRI (NTB-TRI) can be obtained. Table 1.4 provides the various TRIs for Australia and China, and for a selection of comparator countries (TRIs for all sectors and for the agricultural and non-agricultural sectors are provided).

Table 1.4 reports the uniform tariff/NTB across all tariff lines at the HS6 digit level required to keep aggregate imports at their current volume. From table 1.4 it can be seen that, for example, the uniform tariff to keep agricultural based imports at their current level is 1.3 per cent in Australia, with the uniform NTB being a substantially higher 34.6 per cent. However, in deriving the tariff and NTB TRIs for agricultural products (including raw materials and food categories), the World Bank notes:

The non-tariff measures cover only those NTMs which include various price control measures, variable charges, anti-dumping and countervailing actions, quantitative

1.4 Trade Restrictiveness Indices (MFN applied tariffs and NTBs)

Country	T-TRI			NTB-TRI			O-TRI		
	All	Ag	Non-ag	All	Ag	Non-ag	All	Ag	Non-ag
	Per cent								
Australia	3.1	1.3	3.2	6.4	34.6	4.7	9.5	35.9	7.9
New Zealand	3.5	5.2	3.4	9.8	27.6	7.7	13.4	32.8	11.1
United States	2.4	5.6	2.2	4.8	14.6	4.2	7.2	20.2	6.4
Japan	4.8	31.3	1.4	18.3	24.7	17.5	23.1	56.0	18.9
High inc. OECD	3.7	16.0	2.6	5.4	34.6	2.8	9.1	50.6	5.4
China	5.3	11.1	5.1	4.8	8.3	4.6	10.1	19.5	9.7
Indonesia	4.5	4.0	4.5	2.1	13.6	0.7	6.6	17.6	5.3
Thailand	6.6	20.8	5.7	2.0	30.3	0.4	8.6	51.1	6.1
Philippines	3.8	10.8	3.3	15.2	37.7	13.3	19.0	48.5	16.6
Lower middle inc.	8.3	14.1	7.7	7.5	21.4	7.0	15.8	35.5	14.7

Source: World Trade Indicators 2008.

restrictions, non-automatic licensing, or other prohibitions. NTMs include non-protectionist measures such as technical barriers to trade (TBT) and sanitary and phytosanitary standards (SPS) that though they may also raise the restrictiveness of trade policy may have legitimate consumer-protection and public health rationales. (World Trade Indicators 2008)

Hence Australia's high NTB–TRI may reflect stringent SPS requirements, as opposed to price control measures, non-automatic licensing etc. If we make the assumption that the NTB–TRIs reflect only SPS measures, and given the above discussion about SPS, then it is unlikely that an FTA will see changes to the SPS regime. Given this, agricultural NTBs are not considered further (for either country).

This leaves NTBs for the non-agricultural sectors, with Australia's NTBs having a uniform tariff equivalence of 4.7 per cent and 4.6 per cent in the case of China. As the NTBs for manufactured imports likely include TBT, for the purpose of ensuring that products meet basic safety and consumer-protection requirements and the like, there will likely be some minimum benchmark below which a country will not go. In the case of Australia and China, this minimum benchmark is taken to be the NTB–TRI for non-agricultural imports of the High income OECD countries (2.8 per cent). Australia and China therefore both have 1.8 percentage points 'room to move' in lowering NTBs as they apply to non-agricultural imports.

Australia therefore has a Tariff–TRI of 3.2 per cent and a NTB–TRI of 1.8 per cent, and 5.1 per cent and 1.8 per cent (respectively) in the case of China. Taking the ratio of these two sets of figures sees Australia having a Tariff–TRI to NTB–TRI ratio of 0.57 and 0.35 in the case of China. Hence for every 1 per cent uniform tariff levied on non-agricultural imports, there is a 0.57 per cent uniform NTB in Australia and 0.35 per cent uniform NTB in China.

These ratios are in turn applied to the estimated non-agricultural sectoral tariffs (see table 1.2 for tariffs) for those sectors deemed to have 'demand' for protection – taken to be those sectors with a revealed comparative disadvantage – to arrive at a total NTB figure to be allocated across those sectors demanding protection (sectors with a comparative disadvantage). NTBs are allocated/scaled according to a sector's comparative disadvantage relative to other sectors, which sees the sectors at the greatest comparative disadvantage receiving the greatest protection. This allows account to be taken of the latest research, which suggests that tariffs and NTBs are substitutes.²³ NTBs calculated for Australia and China are reported in table 1.5.

²² See World Bank 2008, *World Trade Indicators 2008: Benchmarking Policy and Performance*, The World Bank, Washington 2008.

²³ See Kee, L.H., Nicita, A. and Olarreaga, M. 2008, *Estimating Trade Restrictiveness Indices*, Development Research Group, The World Bank, Washington, January 2008.

1.5 Non-tariff barriers to trade

Sector	Aus.	China.	Sector	Aus.	China
	NTB	NTB		NTB	NTB
	Per cent	Per cent		Per cent	Per cent
Coal	0.0	3.5	Chemical, rubber, plastic	1.3	1.8
Oil	0.0	3.5	Mineral products nec	2.3	0.0
Gas	0.0	3.5	Ferrous metals	2.6	0.1
Minerals nec	0.0	2.0	Metals nec	0.0	1.2
Textiles	2.4	0.0	Metal products	1.1	0.0
Wearing apparel	3.6	0.0	Motor vehicles and parts	2.3	3.9
Leather products	1.9	0.0	Transport equipment nec	2.5	1.1
Wood products	2.5	0.0	Electronic equipment	2.6	0.0
Paper goods, publishing	1.9	3.8	Machinery nec	2.5	0.5
Petroleum, coal products	0.0	3.5	Manufactures nec	2.2	0.0

Source: CIE calculations based on World Bank research.

As the impacts of bilateral trade liberalisation are being investigated, it is important to note that only those NTBs that can be addressed bilaterally can be included in the modelling. Hence it is not possible to incorporate all NTBs (such as production subsidies) into the analysis.

It is also important to appreciate that many of the NTBs may be applied in a manner consistent with WTO rules.

Barriers to services trade

The service sectors account for around 70 per cent of Australian GDP and 40 per cent of China's GDP, with trends suggesting this proportion will increase.²⁴ International trade in services is also well established with Australia exports of service valued at A\$48 billion, and Chinese service exports approaching A\$152 billion.²⁵ In 2007 Australia had a nearly A\$2 billion trade surplus in services whereas China had A\$2.8 billion service trade deficit.

International trade in services can occur via four modes, these being:

1. cross border supply, where an Australian individual or firm offers their services to customers outside of Australia (for example, an Australian insurance firm who sells insurance to consumers residing in China);
2. consumption abroad, where an individual or firm provides services to an international visitor (for example, tourism services provided within Australia to visiting Chinese tourists);

²⁴ Note that these GDP shares exclude the 'quasi' service sectors of construction and electricity, water and gas.

²⁵ ABS Catalogue No. 5368 March 2008, WTO services trade online database and CIE calculations.

3. commercial presence, where an Australian service provider sets up operations in a foreign country (for example, an Australian bank opening a branch in China); and
4. movement of natural persons, where an individual or firm offers their services while in the destination country (for example, a lecturer teaching in China while employed by an Australian university).

Barriers to services trade are nationalistic treatments that hinder or prevent market entry and price competition between ‘foreign’ service providers and domestic providers. These barriers to services may include one or more of:

- restrictions on foreign direct investment (FDI);
- licensing requirements on management;
- restrictions on the recognition of professional qualifications;
- restrictions on the acquisition of land;
- restrictions on the promotion of products and services;
- nationality/citizenship requirements;
- residency/local presence obligations;
- requirements for joint ventures to be formed with domestic producers; and
- limitations on the scope of activities that can be undertaken.

There is very little in the way of notable/sizeable barriers to bilateral services trade via consumption abroad. For example, there is little in the way of barriers to Australians taking holidays in China, or to Chinese students studying in Australia.²⁶ Given the already open education and tourism markets, barriers to services exported via mode 2 are not considered further.

Barriers to services delivered via commercial presence are typically barriers to FDI. Negotiating bilateral FDI liberalisation can therefore have the same end result as negotiating liberalisation of services delivered via commercial presence (and vice-versa). Liberalisation of bilateral FDI flows is discussed in chapter 2.

This leaves barriers to services delivered via cross border supply and movement of persons (such as professionals travelling temporarily to the economy into which they are delivering their services). While service barriers will be of a ‘behind the border’ and regulatory nature, the effect thereof will be similar to a tariff applied to

²⁶ It should be appreciated that while there might not be barriers to, for example, a Chinese student obtaining an Australian tertiary university qualification, there may be barriers to that now foreign trained student practising in China. This latter barrier is a barrier to the movement of natural persons (mode 4) and not a barrier to consumption abroad (mode 2) per se.

merchandise imports – the service barriers will act to increase the cost of those imports and reduce competition in the local market.

Ultimately, the impact of a reduction in barriers to services trade between Australia and China will depend on:

- the level of existing restriction – treatment that hinders/prevents trade and price competition between foreign service providers and domestic providers; and
- the potential for market penetration – whether service providers in the partner country have a comparative advantage in supplying services in the sector through the ability to take advantage of a reduction in barriers to services trade.

Therefore, even if restrictions in a particular sector are extremely high, if the partner country is not in a position to further penetrate that sector, then gains from services trade (and/or investment) liberalisation will be limited.

Barriers to cross border supply and movement of persons

A tariff equivalence of Australian barriers to services delivered via cross border supply or movement of persons has been estimated drawing on research undertaken by the Australian Productivity Commission.²⁷ This research saw frequency indexes being constructed for service restrictions, with the associated price and cost impact thereof being determined econometrically.

The estimated tariff equivalence of barriers to services delivered via cross border supply or movement of persons are reported in table 1.6. Although frequency indexes have been calculated for the majority of service industries, some industries do not have associated price impact estimates. For these industries, the barrier impact was estimated by one of two approaches. The first approach saw an average relationship being established between the index and price impact across (a minimum of) 15 countries, and then application of that price–index relationship to the service industry of interest (for which a frequency index existed). Alternatively, the barrier impact was estimated by taking a ratio of frequency indexes for the industry of interest to a benchmark service industry, and then multiplying that ratio by the known cost impact for the benchmark industry. Chinese barriers to services

²⁷ See Doove, S., Gabbitas, O., Nguyen-Hong, D., and Owen, J. 2001, *Price effects of regulation: International air transport, telecommunications, and electricity supply*, Productivity Commission, Staff research paper, AusInfo, Canberra, October; Nguyen-Hong, D., and Wells, R. 2003, *Restrictions on trade in education services: Some basic indexes*, Productivity Commission, Staff working paper, AusInfo, Canberra, October; Nguyen-Hong, D. 2000, *Restrictions on trade in professional services*, Productivity Commission, Staff research paper, AusInfo, August; and Kalirajan, K., 2000, *Restrictions on trade in distribution services*, Productivity Commission, Staff working paper, AusInfo, Canberra, August.

delivered via cross border trade and movement of natural persons were taken from previous CIE work.²⁸

1.6 Barriers to services trade via modes 1 and 4

Sector	Australia	China
	Per cent	Per cent
Water transport	5.2	21.7
Communications	0.0	13.2
Other business services ^a	2.1	8.4

^a Includes professional services such as accountancy, architecture, engineering and legal services.

Source: CIE calculations based on Productivity Commission research (for Australian tariff estimates) and CIE 2004, *Measuring the possible impact of the FTA between New Zealand and China*, table 3.3, report prepared for New Zealand Ministry of Foreign Affairs and Trade (for Chinese tariff estimates).

Barriers to cross border supply or movement of natural persons typically take the form of barriers that impact on the price, demand for or availability of foreign services provided from abroad, or restrictions on the nationality of professionals who can provide services. Some examples of barriers to cross border supply include and the movement of natural persons include:

- Australia requires that at least 80 per cent of all (analogue) free-to-air television programming between the hours of 6:00 am and midnight to be of Australian origin, thereby potentially reducing the demand for foreign television material.
- foreign lawyers are not allowed to practice Chinese law, must reside in China for at least 6 months per year, and must seek and achieve approval before having ‘representative’ status (with foreign lawyers without representative status not being allowed to provide legal services to clients), thereby limiting the ability of foreign lawyers to provide legal services in China; and
- both Australia and China apply restrictions in terms of the recognition of foreign qualifications in many professions, from teaching to healthcare, and requirements before foreign trained professionals can fill positions within the local economy.

Note that only those barriers that can be addressed bilaterally are considered. This raises the issue of air transport services (passenger and freight movements). Air transport services could, in theory, be liberalised within an FTA. However, in reality most FTAs do not address liberalisation of air transport services. For example, in reviewing 12 major free trade agreements that have taken place around the world, Ochiai found that most agreements do not go beyond commitments imposed by the WTO’s General Agreement on Trade in Services.²⁹ It has therefore been assumed that

²⁸ See CIE 2004, *Measuring the possible impact of the FTA between New Zealand and China*, report prepared for New Zealand Ministry of Foreign Affairs and Trade, October 2004.

²⁹ Ochiai, R., P. Dee, and Findlay, C. 2007, *Services in free trade agreements*, RIETI Discussion paper series 07-E-015, www.rieti.go.jp/jp/publications/dp/07e015.pdf, accessed 11 April, 2007.

there will be no liberalisation of air transport services between Australia and China within a free trade agreement.

Trade liberalisation and dynamic productivity

Examination of the performance of economic models leads to the observation that they typically tend to under predict the gains resulting from trade liberalisation. The current thinking is that economic models typically under predict the gains associated with trade liberalisation due to ignoring effects related to productivity linkages, pro-competitive effects and investment dynamics. These effects have been termed the ‘dynamic productivity’ effects of trade liberalisation. Research into dynamic productivity is increasing, the latest research (by the IMF) suggesting that reform of product markets, including trade liberalisation, is one factor that helps to explain Australia’s strong productivity performance since the early 1990s.³⁰

It is generally accepted that countries can achieve allocative efficiency gains through trade liberalisation. Allocative gains – arising through the (re)allocation of resources to the efficient sectors of the economy – represent the traditional theory on the benefits from trade liberalisation. Consequently, it is these gains that are typically estimated and reported.

However, trade reform also sees an increase in import competition, thereby encouraging domestic producers to pursue productivity gains, either through the use of better technology and business practices, or through innovation and/or quicker adoption of new ideas. Improved domestic efficiency and liberalisation of other countries’ trade barriers will improve the competitive position of exporters, and greater exports may also be associated with productivity gains. There can be learning by exporting where the experience and knowledge gained in export markets can be translated into productivity gains.³¹ Exporting may also allow producers to expand output and exploit economies of scale, thereby lowering average production costs.³²

Finally, a ‘more efficient’ economy will likely open the way for new foreign investment opportunities leading to transfer of technical know-how and capital accumulation, which can in turn stimulate productivity growth and lead to higher economic growth.

³⁰ See Tressel, T. 2008, *Does Technological Diffusion Explain Australia’s Productivity Performance?*, IMF Working Paper, WP/08/4.

³¹ Aw, B.A., Chung, S. and Roberts, M.J. 2000, ‘Productivity and Turnover in the Export Market: Micro-level Evidence from the Republic of China and Taiwan (China)’, *The World Bank Economic Review*, 14(1), pp. 65–90.

³² Itakura, K., Hertel, T.W. and Reimer, J.J. 2003, *The Contribution of Productivity Linkages to the General Equilibrium Analysis of Free Trade Agreements*, GTAP Working Paper 23, March 2003.

Ignoring the relationship between trade and investment liberalisation and dynamic productivity gains may therefore see an understatement of gains from trade liberalisation. Following the approach of Itakura, Hertel and Reimer (2003), dynamic productivity gains arising from increased imports, exports and foreign direct investment due to Australia and China undertaking bilateral trade and investment liberalisation have been included in the economic modelling, specifically:

- increases in imports – productivity gain is a function of the percentage change in relative prices of imports and local production and the ability of firms to absorb a reduction in mark-ups (prices) in order to maintain output (the elasticity of domestic price mark-up with respect to foreign prices, assumed to be 0.2);
- increases in exports – exporters are assumed to be 8 per cent more efficient than domestically orientated firms, hence if the change in output exported exceeds the change in output sold domestically, productivity of the sector rises (productivity gain depends on relative changes in output exported/sold domestically and share of output exported/used domestically); and
- increases in foreign direct investment – a 1 per cent increase in sector FDI sees a 1.4 per cent increase in sector productivity.

2 *Investment liberalisation*

Investment liberalisation is playing an increasingly important role in negotiations aimed at international integration. Bilateral trade and investment liberalisation between Australia and China may see removal of some barriers to bilateral investment. This chapter assesses the current barriers to investment in Australia and China, identifies areas where barriers may be removed and provides a basis for modelling the impact of these changes on investment flows and the economy.

Current barriers to investment

Barriers to investment can come in a number of forms and are typically spread unevenly across industries. The Australian Productivity Commission, OECD and UNCTAD have explored quantification of barriers to foreign direct investment (FDI).³³ Australia's investment barriers are spread relatively evenly across limits on foreign ownership, investment screening requirements and operational freedom, while Chinese barriers are mainly limits on foreign ownership. Chart 2.1 shows barriers to FDI in the service sectors for various economies. It should be noted that chart 2.1 reflects barriers to FDI as reported to the OECD by the assessed countries. Hence there could be 'informal' impediments to FDI not captured in the figures.

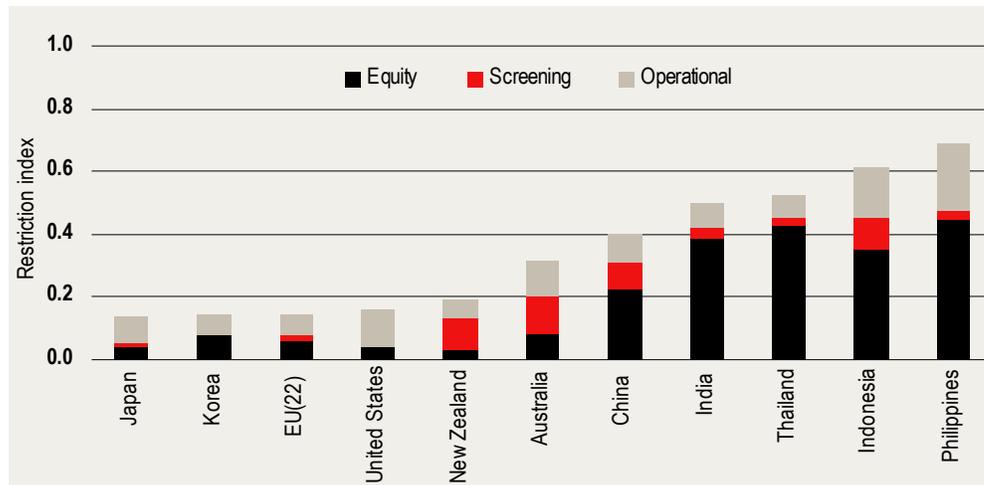
FDI barrier data is available for 29 OECD countries and 48 other (largely developing) countries. In terms of the OECD countries, the Australian service sector has the second most restrictive investment environment, with only Mexico being more restrictive. Of the 48 other economies, China is estimated to have the 39th most restrictive FDI environment.

Australia's investment barriers

Several firms and industries in Australia are considered to be strategic or in some way sensitive. As a result, there are established policies and regulations that protect these firms and industries in particular ways. Reflecting these sensitivities, Australia

³³ For example, see Hardin, A. and L. Holmes 2002, 'Measuring and Modelling Barriers to FDI', in Bora, B. (ed.) *Foreign Direct Investment: Research Issues*, Routledge, London; Golub, S. 2003, 'Measures of Restrictions on Inward Foreign Direct Investment for OECD Countries', *OECD Economic Studies* No. 36, 2003/1; and UNCTAD 2006, 'Measuring Restrictions on FDI in Services in Developing Countries and Transition Economies', UNCTAD/ITE/IIA/2006/1, United Nations, Switzerland.

2.1 FDI restrictions in regional economies^a Service sectors



^a The indicator ranges from 0 (no restrictions) to 1 (totally restricted).

Data source: Stephen Golub personal communication 13 March 2007, unpublished data and UNCTAD, personal communication 29 June 2006, unpublished data (data underlying paper UNCTAD 2006, *Measuring Restrictions on FDI in Services in Developing Countries and Transition Economies*, UNCTAD/ITE/IIA/2006/1, United Nations, Switzerland).

has relatively high FDI restrictions, especially when compared with other high income OECD countries. Restrictions range from limits on foreign ownership in certain sectors to modest screening procedures for a wide range of investment proposals. Across all service sectors, it is estimated that 26 per cent of Australia's restrictions on FDI result from limits on foreign ownership, 37 per cent from screening requirements and 36 per cent from limits to operational freedom.

Restrictions that result in a more binding barrier to entry are those that apply to investments in sensitive sectors. Australia maintains specific limits on, or requirements relating to, foreign investment in:

- newspapers;
- broadcasting;
- Telstra;
- Commonwealth Serum Laboratories (CSL);
- Qantas Airways Ltd and other Australian international airlines;
- federal leased airports;
- urban land; and
- shipping.

Notification to the Foreign Investment Review Board (FIRB) and possible objection procedures for foreign investment include those for:

- investments by foreign persons in existing Australian businesses in the media sector including direct (that is, non-portfolio) investment irrespective of size and portfolio investments of 5 per cent or more;

- investments by foreign persons in existing Australian businesses of \$50 million or more in:
 - the telecommunications sector;
 - the transport sector, including airports, port facilities, rail infrastructure, international and domestic aviation and shipping services provided either within or to and from Australia;
 - the manufacture or supply of training, human resources or military goods, equipment or technology to the Australian or other defence forces;
 - the manufacture or supply of goods, equipment or technologies able to be used for a military purpose;
 - the development, manufacture or supply of, or provision of services relating to, encryption and security technologies and communication systems; and
 - the extraction of (or where rights to extract are held) uranium or plutonium, or the operation of nuclear facilities;
- direct investments by foreign governments or their agencies, or companies with a greater than 15 per cent direct or indirect holding by a foreign government or agency, or otherwise regarded as controlled by a foreign government, irrespective of size; and
- acquisitions of interests in Australian urban land (with the exception of acquisitions of interests in developed commercial real estate).

China's investment barriers

From chart 2.1 it can be seen that there is a notable increase in the magnitude of barriers to FDI (in the service sectors) between OECD and developing regional economies, with limits on foreign ownership being particularly prevalent in the latter. In the case of China, limits on foreign ownership account for 56 per cent of estimated FDI barriers (in the service sectors), screening requirements account for 22 per cent of barriers, as do operational restrictions.

The Chinese economy has been growing at around 10 per cent per annum in real terms since 1990, with the government aiming for annual growth of 8 per cent (real) over the longer term in order to facilitate poverty reduction.³⁴ In 2006 China was the destination for 5.4 per cent (some US\$69.5 billion) of global FDI (in)flows. Most of the FDI and associated technology/know-how transfer is directed towards China's manufacturing sector, with investment and exports being an important contributor to China's economic growth.

China has affirmed its commitment to further open the economy to foreign investment, and to adopt the principle of non-discrimination in investment

³⁴ WTO Secretariat 2008, *2008 Trade Policy Review of China*, WTO, page 1.

regulation. However, the United States Trade Representative (USTR) reports that recent steps by China may discriminate against foreign investors. For example, foreign investment in state owned enterprises operating in the sectors such as equipment manufacturing, automotive, electronic information, construction, iron and steel, non-ferrous metal and chemical (amongst others) is to be restricted (as these sectors have been identified as being critical to the national economy).³⁵ The USTR also suggests that China is becoming more selective in the areas in which foreign investment is welcomed.

FDI inflows into China increased from US\$3.5 billion in 1990 to US\$69.5 billion in 2006.³⁶ While US\$69.5 billion is a large figure, it is equivalent to only 2.6 per cent of China's GDP in 2006, indicating that more can be done in terms of liberalising China's FDI environment. (The comparable 2006 FDI inflow figure for Australia was 3.1 per cent of GDP.)

Despite moves to liberalise foreign investment, China still maintains some explicit barriers to FDI, most notably:

- China maintains a positive list (the Catalogue for the Guidance of Foreign Investment Industries) of industries in which foreign investment is to be encouraged, permitted, restricted or prohibited, with investment approvals requiring verification depending on the category and value of investment (the Catalogue reflects China's economic and social development goals);
- mergers and acquisitions of domestic firms can be subjected to a 'national economic security' test that can be used to block control of a domestic enterprise, the test also allowing for an assessment of whether the acquisition target was properly valued;
- limits on foreign equity, with for example, foreign equity limited to 50 per cent for life insurance companies, 49 per cent in telecommunications and airlines, and outright prohibitions of FDI in movie production, news websites, audio visual and Internet services;
- restrictions on the services that can be provided by foreign banks and insurers;
- excessive (and discriminatory) capital requirements imposed on foreign investors wishing to enter sectors such as telecommunications, construction, insurance and banking (the latter also subjected to profitability and tenure of operation requirements);
- difficulties in expanding operations through internal branches (with domestic investors not subjected to the same difficulties);

³⁵ United States Trade Representative 2008, *2008 National Trade Estimate on Foreign Trade barriers – China*, USTR.

³⁶ China's FDI inflow statistics taken from the UNCTAD Foreign Direct Investment Database (online).

- retail and wholesale distribution of some products is restricted to state owned enterprises or joint ventures with minority foreign ownership;
- foreign law firms are prohibited from fully participating in China’s legal market, with restrictions on the provision of legal advice on Chinese law, and operational restrictions such as that preventing a new representative office from being opened until the last office has been in practice for three consecutive years;
- there are local licensing requirements and nationality restrictions on the composition of company boards for some sectors; and
- restrictions are placed on the movement of foreign personnel (stays of between 1–3 years are typically permitted).

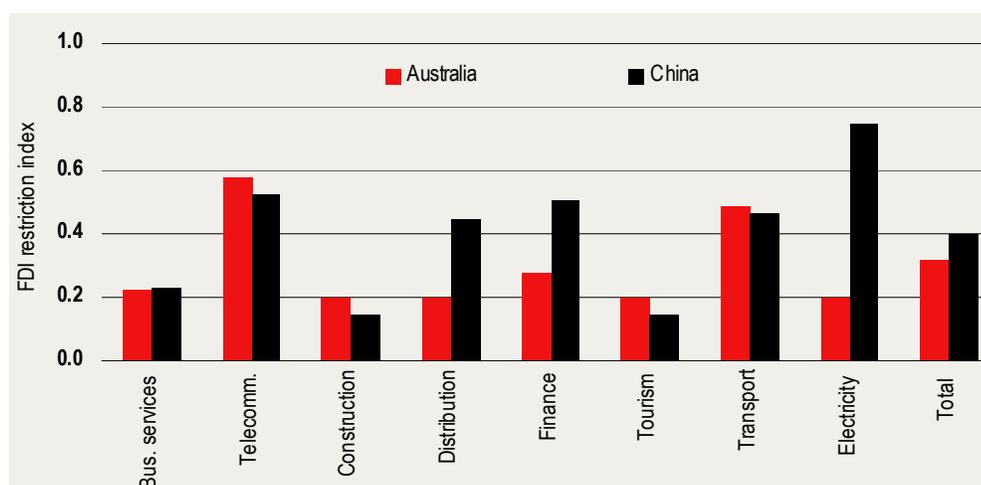
Australia–China bilateral investment liberalisation

This study is an ex ante analysis of the possible gains of trade and investment liberalisation between Australia and China. As such, the extent and patterns of the trade and investment liberalisation that would occur under any future liberalisation is unknown. The sectoral patterns of investment barriers for Australia and China give some guidance as to areas where the largest investment liberalisation could occur (outlined in chart 2.2).

Recent trade and investment agreements entered into by Australia and China might provide some insight into the likely pattern and extent of investment liberalisation between Australia and China.

A major element of Australia’s investment liberalisation under the recently (January 2005) commenced Australia–United States Free Trade Agreement was the increase in

2.2 FDI barriers in Australia and China Service sectors



Data sources: Golub personal communication 13 March 2007, unpublished data (data underlying OECD 2006, *OECD’s Regulatory Restrictiveness Index: Revision and Extension to More Economies*, Working Paper on International Investment number 2006/4, OECD, Paris).

the notification limit for foreign investment from the United States. Instead of foreign investment greater than \$50 million needing to notify the Foreign Investment Review Board, this threshold was raised to \$800 million (indexed over time). This was an across the board change in non-sensitive sectors. As screening requirements represent Australia's largest source of FDI restrictions (refer back to chart 2.1), the changes under AUSFTA should see Australian restrictions on FDI from the United States being substantially reduced.

The Chinese Government has signed 112 bilateral investment protection agreements (IPA) since 1982, 50 of which have already entered into force. An IPA was ratified with Australia on 11 July 1988. The IPAs address the 'standard' areas of fair and equitable treatment of foreign investment; protection against expropriation without adequate compensate; MFN treatment for foreign investment and investors; and provisions for dispute settlement.

In April 2008 China and New Zealand announced that they had negotiated a trade and investment agreement, with the agreement expected to enter into force in October 2008. The CNZFTA is China's first trade and investment agreement with a developed country. Under the agreement, China and New Zealand are to accord treatment no less favourable to investors of the other party than that accorded to its own domestic investors. Hence there is to be national treatment of investors from the other party (amongst other measures).

What are the effects of investment liberalisation?

Lowering investment barriers can have a number of impacts.

1. Increasing the allocative efficiency of investment. That is, investment can move to areas where it has the highest marginal product of capital or can generate the greatest value of production. This can happen by reducing discrepancies in the marginal product of capital between different countries. Alternatively, it can happen if investment is attached to particular skills and technology, in which case these attributes are allocated more efficiently. Improvements in allocative efficiency can drive up productivity.
2. Lowering the cost of investment through increasing the pool of available funds. A reduction in investment barriers may effectively increase the supply of funds for Australia and Chinese investment and therefore lower the cost of obtaining those funds. Note that there could also be increase in the demand for funds through the impacts noted above.
3. Lowering the transaction costs of investment barriers. For instance, the requirement to notify the Overseas Investment Office in Australia of a proposed foreign investment imposes a (small) transactions cost on that investment.

Note that like import competition, the potential for investment to move between countries can lead to benefits without any change in investment flows. That is, removing investment restrictions may increase contestability.

Quantifying the impact of investment liberalisation

Quantifying the impact of investment liberalisation on investment and welfare is not an easy task. Empirical work has found wide estimates of the impact of trade and investment agreements on investment (see box 2.3). This reflects a number of factors.

- Isolating the impact of any investment liberalisation from the numerous other events going on in the economy is inherently difficult.
- Quantifying the size of the liberalisation is difficult. Because each liberalisation is different, as are countries' starting positions, the most robust work would need to quantify the differences in the extent and patterns of liberalisation between different agreements. There has only been limited research into quantifying investment barriers, and little to quantify the extent of investment agreements on these barriers.
- There may be many other aspects of the economies that mitigate or enhance the impact of investment liberalisation. For instance, the structure and size of the economies and savings patterns could all be important.

2.3 Empirical estimates of the relationship between investment barriers and investment

The literature has not been able to precisely estimate the impact of trade and investment liberalisation on FDI, but some broad conclusions have emerged:

- agreements tend to lead to large increases in FDI flows to the developing country and moderate increases to developed countries (Mexico and NAFTA);
- free trade agreements typically have some impact on FDI flows; and
- investment liberalisation can lead to extra impacts on FDI flows, beyond that arising from trade liberalisation.

Despite the difficulties of empirical work, the literature gives us a broad handle on the magnitude of the impact of trade and investment liberalisation on FDI flows. These estimates range from little impact (for straight investment treaties), to a 25 per cent increase in FDI inflows in Mexico following NAFTA.

Estimates include:

- an investment and trade liberalisation agreement is associated with a 26 per cent increase in FDI stock, based on a number of liberalisation agreements;³⁷
- NAFTA was associated with a 0.6 to 1.6 per cent increase in FDI inflows for the US, Canada and Mexico;³⁸
- NAFTA was associated with a 25.4 per cent increase in FDI inflows to Mexico³⁹ and
- bilateral investment treaties have little effect on FDI.⁴⁰

The literature also suggests that in agreements between developed and developing countries, it is the developing country that experiences the larger FDI change.⁴¹

Other strands of evidence also point to the potential for increases in FDI to follow trade and investment liberalisation agreements. For example, it is found that investment promotion agencies can increase FDI.⁴² In many respects a trade and liberalisation agreement can play a similar role through the dissemination of information.

³⁷ Yeyati, L.,E., Stein, E. and Daude, C. 2002, 'The FTAA and the location of FDI', Paper prepared for the IDB-Harvard Conference on the FTAA in Punta del Este, Uruguay, December 7.

³⁸ MacDermott, R. 2004, 'NAFTA and Foreign Direct Investment', mimeo, Western Illinois University.

³⁹ Sanchez, M. and Karp, N. 2000, 'NAFTA's economic affects on Mexico', Grupo Financiero Bancomer draft paper.

⁴⁰ Hallward-Driemeier M. 2003, 'Do Bilateral Investment Treaties Attract FDI? Only a bit...and they could bite', World Bank, *Development Economics Research Group* paper.

Current direct investment between Australia and China

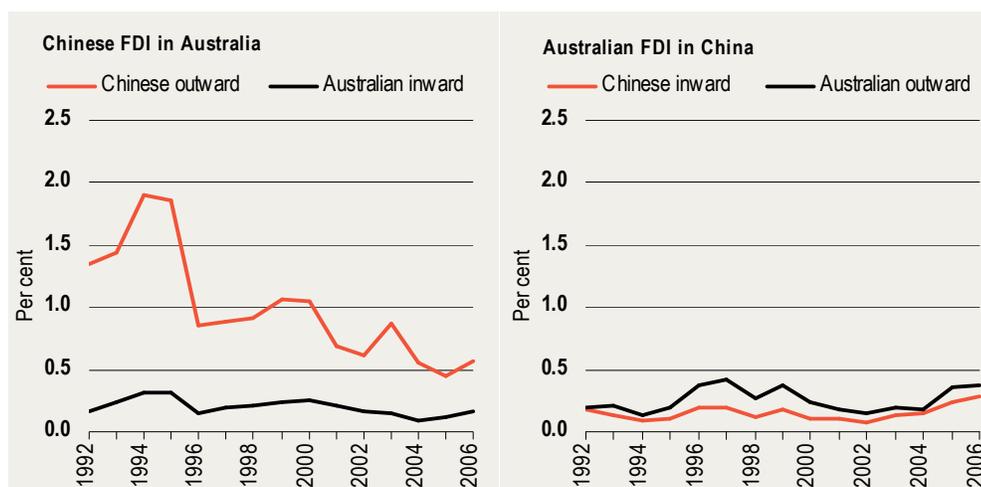
Current bilateral FDI flows between Australia and China are modest.

Inward FDI is quite considerable for Australia with an FDI stock to GDP ratio of 32 per cent.⁴³ However, China is not an important source of FDI for Australia, with just 0.2 per cent of Australia's inward FDI stock in 2006 estimated to come from China (see left hand panel of chart 2.4). This FDI stock is slightly more important from China's perspective, making up nearly 0.6 per cent of China's total outward FDI stock in 2006. It is estimated that the stock of Chinese FDI in Australia was valued at A\$550 million in 2006.

China is the destination for a likewise small share (0.4 per cent) of Australia's outward FDI stock in 2006. From China's perspective, the inward FDI stock from Australia accounts for nearly 0.3 per cent of China's total FDI stock in 2006 (see right hand panel of chart 2.4). In 2006, the Australian FDI stock in China was valued at A\$1133 million.

Total FDI in China is not currently as important as is the case for Australia – China's FDI to GDP ratio is currently 11 per cent, the figure it was in around 1992–93. At its peak in 1999, China's FDI to GDP ratio was 17.2 per cent. The decline in the FDI to GDP ratio is not due to a falling stock of FDI, but rather GDP growing at a faster rate

2.4 Bilateral Australia–China FDI

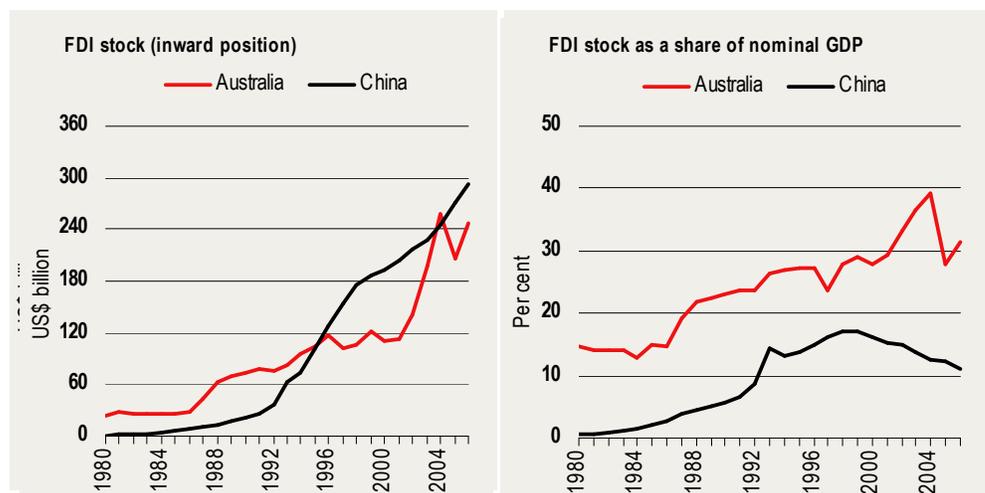


Data sources: ABS 5352.0 (various years), UNCTAD Foreign Direct Investment Database (online) and CIE calculations.

⁴¹ Blomstrom, M. and Kokko, A. 1997, 'How foreign investment affects host countries', World Bank *Policy Research Working Paper*, No. 1745.

than FDI. Indeed, over 1999 to 2006, China's GDP grew at an average annual rate of 13.6 per cent versus 6.7 per cent in the case of the FDI stock. As of 2006, the inward FDI stock of Australia was US\$246 billion versus US\$293 billion in China (see chart 2.5).

2.5 FDI stocks in Australia and China



Data source: UNCTAD Foreign Direct Investment Database (online) and World Bank World Development Indicators Database (online).

Modelling Australia–China investment liberalisation

The methodology used in modelling the impact of investment liberalisation considers two effects of investment liberalisation.

1. An increase in foreign investment following liberalisation.
2. An increase in dynamic productivity through FDI churn and improved capital allocation, and the transfer of skills, know-how and technology associated with that FDI.

Table 2.6 shows the key assumptions made in the modelling of investment liberalisation.

⁴² Morisset, J. and Andrews Johnson, K. 2004, 'The effectiveness of promotion agencies at attracting foreign direct investment', Foreign Investment Advisory Service, *Occasional Paper*, no. 16.

⁴³ Note that FDI is a stock and GND is a flow.

2.6 Assumptions used to condition the analysis

Area	Assumption
Reduction in investment barriers	All barriers to bilateral FDI are removed.
Increase in FDI stock from reduction in investment barriers	From China to Australia: 218 per cent based on upper panel of chart 2.7 From Australia to China: 161 per cent based on lower panel of chart 2.7
Sectoral pattern of investment change due to lowering of investment barriers	Modelled according to capital intensive nature of sectors.
Timing of increase in investment	Modelled according to capital depreciation.

Source: CIE.

Increase in investment

As is to be expected, there is a broad relationship between investment barriers and the level of inward investment. As can be seen in chart 2.7, and typically speaking, the stock of FDI is greater the lower the investment barriers. This is to be expected.

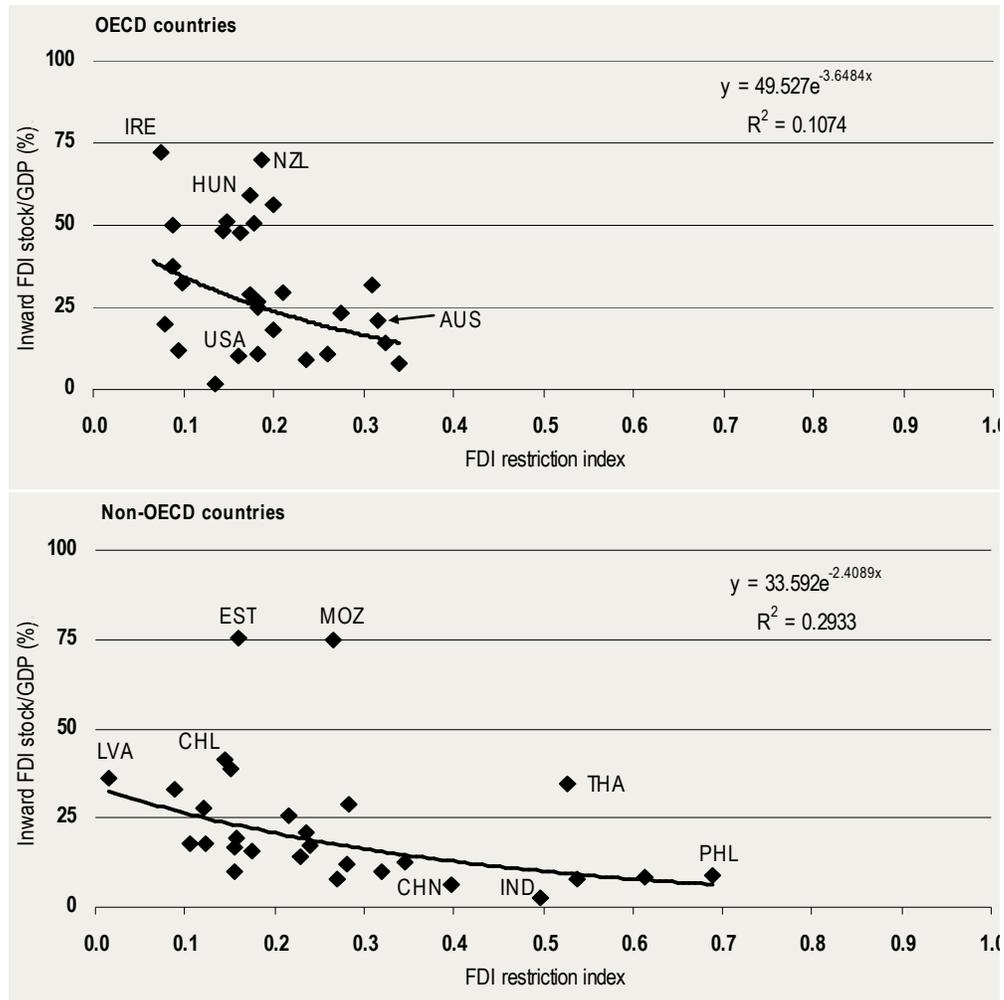
FDI depends on numerous factors, including macroeconomic and political stability, market opportunities, high quality infrastructure, supplier access and the presence of a skilled work force. (Note that there are other factors that are important in determining the FDI stock, chief amongst which is a country's domestic saving and investment patterns.) Hence even if a country has no investment barriers, the FDI inward stock will be low if the country's performance in these other areas is lacking. Generally speaking, high income countries typically have good track records in these other areas. Removal of investment barriers will therefore likely be associated with a larger increase in FDI in high income countries than in say non-OECD countries (which have other impediments to FDI).

As this is an ex ante analysis of liberalisation between Australia and China, there is little precise information on the extent and patterns of investment liberalisation. A number of assumptions are made to quantify the impact of investment liberalisation, and the magnitude of impacts is conditional on these assumptions.

For the purpose of the economic modelling, and not wanting to second guess what might be achieved in any Australia–China negotiations, it has been assumed that both Australia and China remove all barriers to FDI originating in the other country.

Running regressions of the ratio of inward FDI stock (in the service sectors) to GDP (from the service sectors) against investment barriers (in the service sectors) allows a relationship between reduction in investment barriers and FDI stock to be established (see chart 2.7 for relationship). The relationship shows that removal of all of Australia's investment barriers would increase the inward FDI stock to GDP ratio

2.7 Investment barriers and FDI Service sectors



Data source: Stephen Golub personal communication 13 March 2007, unpublished data; UNCTAD personal communication 29 June 2006, unpublished data; World Bank World Development Indicators online database; OECD 2007, *OECD In Figures: 2007 Edition*, OECD, Paris; and CIE calculations.

by 218 per cent if the liberalisation occurred on a multilateral basis.⁴⁴ For China, the increase in the inward FDI stock is estimated to be 161 per cent (once again, if the liberalisation was comprehensive and multilateral in nature).

Trade and investment liberalisation between Australia and China would be bilateral in nature. The stock of Chinese FDI in Australia in 2007 is estimated at A\$916 million in 2007, so a 218 per cent increase in this amount is equivalent to an A\$2.0 billion increase in Australia's inward FDI stock. Using the same approach, the increase in China's inward FDI stock is estimated to be over A\$2.7 billion.

⁴⁴ Note that the calculated increase in FDI stock should, strictly speaking, occur only in the service sectors (as only barriers for FDI in these sectors have been quantified). However, in the absence of data pertaining to the other sectors, it is assumed that an equal FDI increase occurs in other sectors of the economy.

The case for downgrading the effect of bilateral investment liberalisation to reflect the share sourced from the other country is not as clear-cut as it first appears. Under the Australia–China agreement, it is likely that capital from other countries could flow through China and into Australia, and likewise through Australia and into China. That is, unlike for goods flows, country of origin restrictions are very difficult to enforce for capital flows. However, in this case, China should already be able to move capital through other countries that have agreements with Australia, such as the United States, Singapore and Thailand. Because the importance of these factors is not well understood, the increase in the inward FDI stock associated with investment liberalisation is kept at A\$2.0 billion for Australia and A\$2.7 billion for China.

The impact of lowering investment barriers will not occur instantly, as assets are not easily moveable between activities. For instance, while new capital is able to move almost costlessly, capital already invested in plant or machinery is typically unable to be transferred to another use. Instead, investment patterns change as the machinery depreciates and is not replaced. This is endogenously accounted for within the CIEG-Cubed global economic model.

The increase in FDI captures only the impact of investment liberalisation. Foreign investment would also increase in response to trade liberalisation and increases in dynamic productivity, and overall improvements to the investment climate (such as streamlining regulation, infrastructure improvements, greater government transparency and improved governance, and so on). Furthermore, the exogenous increases in investment will drive greater dynamic productivity gains and hence see further increases in investment in response to the improved productivity.

The investment liberalisation that has been modelled assumes the total liberalisation of bilateral FDI flows. In the event that any investment liberalisation is smaller than that modelled, there will be likewise smaller effects on foreign investment flows.

Finally, the modelling makes no assumption as to whether the additional FDI inflow arises from households, businesses or sovereign wealth funds in Australia or China. From ‘an impact on GDP’ perspective, FDI from a sovereign wealth fund is no different to any other type of FDI, so long as commercial decision making is driving that investment. Investments made by sovereign wealth funds on the basis of a strategic decision, such as securing resources for future consumption, should likewise be GDP neutral if the goods/services are sold at the prevailing world price. Strategic behaviour that involves transfer pricing, culminating in the transferral of tax revenue to the government controlling the sovereign wealth fund, could however see FDI liberalisation resulting in the loss of taxation revenue. However, countries typically have laws and process for preventing transfer pricing. For example, in Australia companies in different (tax) jurisdictions but with common ownership must undertake all transactions at arms length, with the Australian Taxation Office having the power to investigate firms suspected of transfer pricing. For these reasons, the nature of the FDI inflow is not considered further.

3 Assessing the economic impacts of liberalisation

In negotiating bilateral trade and investment liberalisation, Australia and China must decide on the rate at which trade and investment barriers are removed and the range of goods, services and sectors subject to trade and investment liberalisation. The pace and scope of liberalisation will be key factors in determining the magnitude of any economic gains arising from the liberalisation.

As yet, neither Australia nor China has tabled, as a starting point for future negotiation, a program of trade and investment liberalisation. Hence at this point in time we are not in a position to know what the pace and scope of trade and investment liberalisation under any resulting agreement may be. A hypothetical modelling simulation has therefore been conducted in order to estimate the possible economic benefits from ACFTA.

Before discussing the trade liberalisation scenarios investigated, the model used to evaluate the economic impacts is briefly discussed.

The economic model used

The CIEG-Cubed global economic model has been used to estimate the impacts of Australia and China entering into a bilateral trade and investment agreement.

CIEG-Cubed is the most appropriate global economic model currently available with which to analyse the welfare implications of a trade and investment agreement. The advantages of using CIEG-Cubed include:

- identification of trade flows between countries/regions;
- identification of investment flows between countries/regions;
- incorporates an integrated financial sector (comprising money, bonds, interest rates, lending, borrowing, expectations, financial flows, and wealth);
- it is a fully dynamic model that can capture the time path of adjustment for each of the economies/regions modelled;
- consumers and producers are allowed to borrow and lend money over time, with decision influenced by the return on capital versus other assets;
- inclusion of adjustment costs and expectations; and

- identification of up to 57 sectors of production and 87 countries.⁴⁵

The GTAP6 database underlies the CIEG-Cubed model. However, GTAP6 pertains to year 2001. In order to make the modelling results as realistic as possible, trade flows with major trading partners, trade barriers and the structure of the Australian and Chinese economies have been updated with the latest statistics (typically year 2007). To keep the modelling tractable, 57 sectors of production and 9 regions are identified.⁴⁶

While CIEG-Cubed is the best available global economic model, it must be appreciated that the CIEG-Cubed model, like all computable general equilibrium models, are not perfect. By definition, economic models are a simplification of reality and rely on numerous assumptions about economic parameters, behaviour and relationships. As such, modelling results should only be used to infer the outcome of trade liberalisation (positive or negative) and the magnitude of such impacts (small or large). It would be inappropriate to, for example, report modelling results to the 3rd decimal point and claim that as the unambiguous impact of any bilateral trade reforms. The qualitative and geopolitical considerations will therefore also be important in deciding whether Australia and China successfully conclude their FTA negotiations.

The baseline

To estimate the potential economic impacts of trade and investment liberalisation between Australia and China, an appropriate counterfactual (the ‘baseline’) needs to be established. The baseline represents the business-as-usual scenario – that is, what we can expect to happen in the absence of trade and investment liberalisation between Australia and China.

The baseline needs to encompass views about the future structure of the economy and include other (relevant) policy decisions, such as scheduled tariff reductions resulting from previous commitments made elsewhere (for example, WTO commitments and unilateral reductions). It would not be appropriate to, for example, remove Australia tariffs on clothing imports from China under the trade agreement and attribute all resultant outcomes as a impact of the bilateral liberalisation when

⁴⁵ More details on the APG model (the predecessor of CIEG-Cubed) can be found at www.msgpl.com.au and in McKibbin W.J. and Vines, D. (2000), “Modelling Reality: The Need for Both Intertemporal Optimization and Stickiness in models for Policymaking”, *Oxford Review of economic Policy*, vol. 16, no. 4; and McKibbin W. and Wilcoxon P. (1998), “The Theoretical and Empirical Structure of the G-Cubed Model”, *Economic Modelling*, 16, 1, pp. 123–148.

⁴⁶ The 9 regions identified in the modelling comprise Australia, China, ASEAN, India, Japan, EU(25), New Zealand, the United States and the Rest of the World.

some of those impacts would be realised anyway as Australia has already announced unilateral reductions in clothing tariffs.

A key consideration in developing the baseline concerns the structure of the Australia and Chinese economies in the future. In developing the baseline, it has been assumed that:

- the Australian and Chinese economies meet IMF medium term forecasts for major macroeconomic indicators;
- Australia and China meet their unilateral tariff liberalisation commitments as already specified/announced (China's tariff liberalisation a condition of its 2001 WTO accession);
- Australia and the US meets its phased bilateral trade liberalisation commitments as negotiated in the Australia–United States FTA;
- the recently negotiated New Zealand–China FTA enters into force (as expected) in October 2008, with the negotiated timeline for tariff liberalisation being met;
- as the respective tariff reduction paths to meet the APEC Bogor commitment of complete unilateral trade liberalisation by 2010 for developed country members and by 2020 for developing members are voluntary and unknown, any such liberalisation has been overlooked; and
- no bilateral trade liberalisation results from other trade agreements currently being negotiated/under consideration by Australia (with ASEAN, Gulf states, India, Indonesia, Japan, Korea and Malaysia) and China (with ASEAN, India, Singapore and South Africa).

Finally, it needs to be appreciated that the baseline represents what is known about the future trade policy environment at the time the economic modelling was conducted (late 2008). As soon as a new (and significant) policy announcement is made that has the potential to influence trade flows – such as an emissions trading scheme – or the occurrence of some other economic ‘disruption’ – such as the sub-prime inspired financial crisis – the baseline used in the modelling is immediately out-of-date. The question then turns to whether or not the modelling results are still applicable given the new baseline. What can be said in response to this question is that unless the new policy/disruption sees a significant and fundamental change in the sectoral composition of the economy over the long term, then the modelling results still hold in terms of direction and likely magnitude. That is, if the bilateral trade and investment liberalisation is found to have a beneficial impact on Australian and Chinese GDP, then that finding will likely still hold under an alternative baseline (assuming that there is not a significant change over the long term to the composition of the economies modelled).

Bilateral liberalisation undertaken by Australia and China

Results from the liberalisation simulation is compared with the baseline, with the difference being attributable to the bilateral trade and investment liberalisation between Australia and China. Model results are typically presented as a percentage change from the baseline outcome and are presented for each year until 2030.

Australia and China have a range of liberalisation implementation scenarios at their disposal. For example, trade barriers could either be completely or partially eliminated; removed immediately or phased out over 5 or 10 years; goods, services and investment could be covered, or just goods; and so on. Furthermore, both countries need not adopt the same trade liberalisation schedule.

Given the uncertainty with respect to the pace and scope of liberalisation, and not wanting to second guess (any) trade negotiations, it has been assumed that the bilateral trade and investment liberalisation will be comprehensive in scope with barriers being removed immediately on commencement of the agreement. The modelling simulation therefore sees:

- Overnight trade and investment liberalisation – Australia and China announce on 1 January 2009 that they will enter into a bilateral trade agreement, with trade barriers (identified in chapter 1) and investment barriers (chapter 2) being removed on the commencement of the trade and investment agreement, which is assumed to be 1 January 2010.

Results for the modelling simulation can be found in chapters 4 (macroeconomic) and 5 (sectoral impacts).

It should be appreciated that modelling a bilateral trade and investment agreement that sees the overnight removal of all tariff, NTB, service and investment barriers to bilateral trade and investment represents a significant change to policy. As such, and over the short term, the economic impacts thereof may be quite large and fluctuate. However, when gauging the impact of the trade liberalisation, it is perhaps more prudent to focus on the impacts over the longer term (say 10–15 years post liberalisation). That way the policy changes will have worked their way through the economy and any changes to GDP (etc) will have settled down to a constant deviation from baseline.

4 *Macroeconomic effects of the liberalisation*

Bilateral trade and investment liberalisation between Australia and China would have implications for growth, trade and investment flows in both countries. Being a fully dynamic model that integrates goods and financial markets with a sophisticated treatment of assets and financial variables, the CIEG-Cubed model is well placed to explore the implications of the liberalisation for the macroeconomy.

This chapter reports the macroeconomic impacts on Australia and China of comprehensive and overnight trade and investment liberalisation, occurring on 1 January 2010 when the bilateral agreement is assumed to enter into force. Results are reported for each year until 2030.

Before turning to the modelling results, the size of any gains from trade will be primarily determined by several factors, namely:

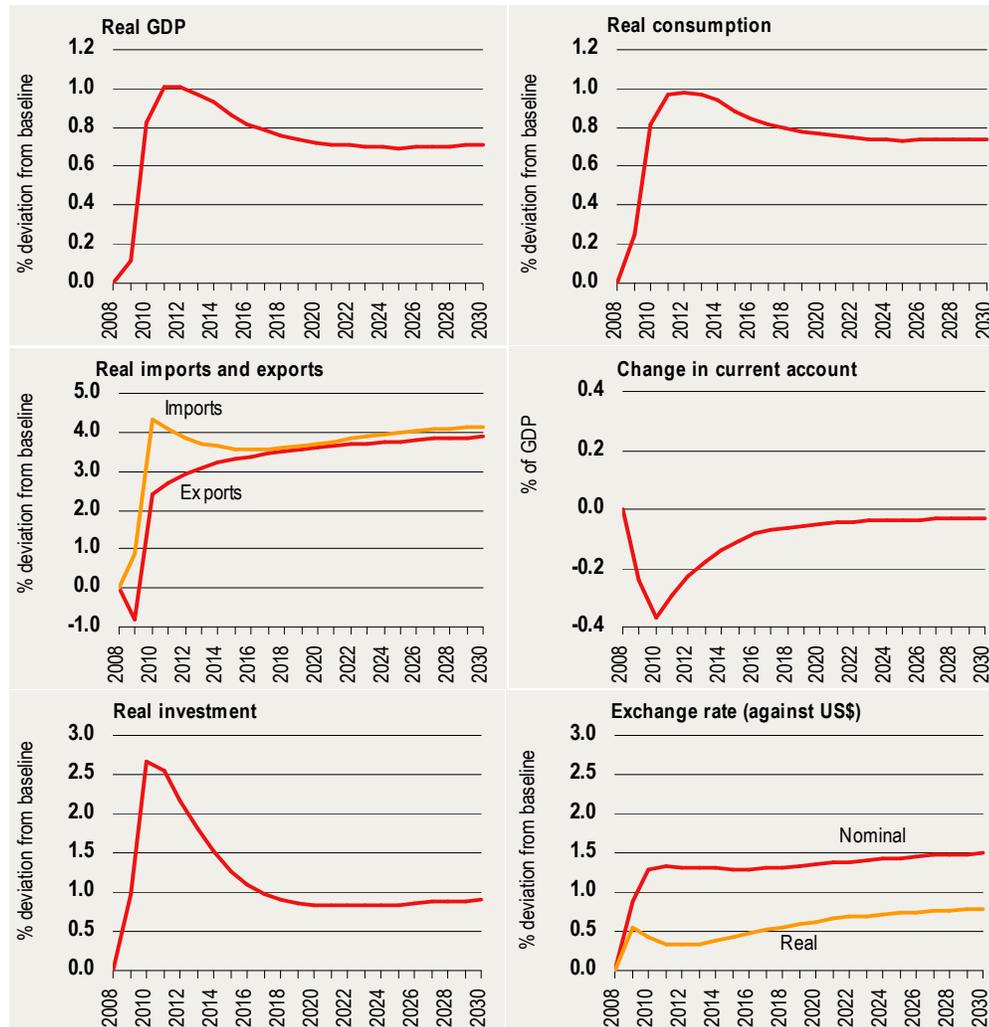
- the size of barriers to trade and investment:
 - the average Australian tariff in 2010 is estimated to be 2.6 per cent;
 - the average Chinese tariff in 2010 is estimated to be 11.6 per cent;
- the contribution of exports and imports to GDP; and
- the extent and composition of bilateral trade between the countries:
 - 12.8 per cent of Australia’s total (merchandise and service) exports go to China, while China is the source of 12.9 per cent of Australia’s total imports;
 - 1.4 per cent of China’s total exports go to Australia, while Australia is the source of 2.7 per cent of China’s total imports;
 - hence China is a more important trading partner to Australia than Australia is to China.

Given the above facts, we would expect Australia to benefit relatively more from the trade and investment agreement than China.

Macroeconomic effects – Australia

The macroeconomic effects of trade and investment liberalisation under the overnight and comprehensive liberalisation scenario are reported in chart set 4.1. For Australia, the trade and investment liberalisation is projected to bring about a

4.1 Macroeconomic effects for Australia



Data source: CIEG-Cubed modelling simulation.

positive and large economywide impact. Both output and welfare are projected to increase above baseline levels as a result of the liberalisation. The rise in real GDP peaks at 1 per cent above baseline in 2012, 2 years after liberalisation commences; before settling down to a 0.7 per cent gain over the longer term. The rise in real consumption – the preferred welfare measure – is estimated to be over 0.7 above baseline over the long term.

What is interesting to note is that agents' forward looking expectations/behaviour sees changes to the Australia economy even before the trade and investment liberalisation commences in 2010. For example, investment is projected to increase over the period 2008–2009, even though the FTA is not assumed to commence until 2010. This occurs as a result of anticipated higher future returns to capital stemming from the FTA. In expectation of these higher returns, investment is

made prior to the liberalisation so that once that liberalisation occurs, that investment is 'online' and can reap the higher returns. This investment activity impacts on other macroeconomic indicators (for example, GDP and consumption).

Increased openness to (Chinese) FDI lowers the cost of investing in Australia. This, combined with improved access to the Chinese market and the greater domestic efficiency that trade liberalisation brings, sees capital in the Australia economy earning a higher return. This in turn causes a rise in real investment, with investment peaking at nearly 2.7 per cent above baseline in 2010. Once that investment is online and as liberalisation under the FTA slows, investment tapers off to around 0.9 per cent above baseline (reflecting that over the longer term, the FTA improves the attractiveness of Australia to investment).

The decline in exports prior to 2010 can be attributed to greater investment and the switching of goods from the export market to the local investment market (that is, exports are crowded out).

Despite rising GDP, domestic saving does not increase by a sufficient amount to cover the rise in investment. This is due, in part, to consumers seeing/expecting future income gains and raising consumption (today) to smooth this. The extra capital for investment is therefore met by additional capital inflow. 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 deficit (that is, imports exceed exports). Hence Australia's current account deficit further increases, by an amount equivalent to 0.4 per cent of real GDP in 2010. After 2010, the demand for capital inflow eases once the new investment is in place and the current account begins to return to baseline levels.

Exports from Australia are projected to be nearly 4 per cent above baseline by 2030. With the rise in Australia's economic activity and lower barriers to Chinese imports, there is an increase in imports of a around the same magnitude – just over 4 per cent above baseline in 2030. With the change in imports exceeding the change in exports over the longer term, the slight deterioration in the current account deficit is expected to be permanent.

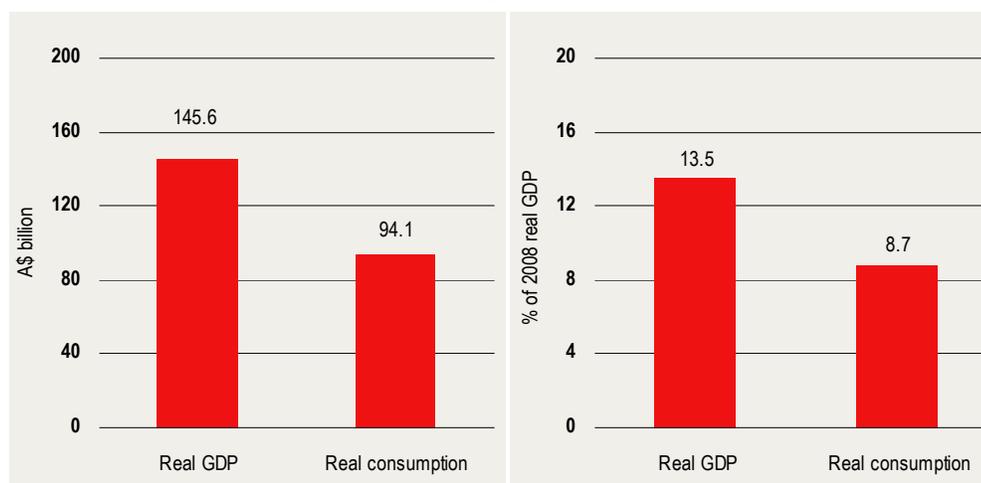
Prior to 2014/15, the shape of the investment curve mimics that of the import curve. This primarily reflects that the increased investment funds machinery/capital equipment that is imported. Locally manufactured products will also be diverted from local consumption to investment, with imports being used to meet the 'gap' between consumption demand and domestically produced goods sent to the consumption market. Post 2014/15 the role of investment in driving imports diminishes, with import demand being driven by other sources of final demand (a growing domestic economy).

To facilitate the capital inflow and trade changes, there must be an appreciation of the Australian currency. The Australian dollar is estimated to strengthen against the US dollar in nominal terms by 1.5 per cent, and in real terms by 0.8 per cent, by 2030.

Welfare and production gains

The predicted additional production (real GDP) and welfare (real consumption) gains under the FTA are reported in chart 4.2. Results are presented in net present value (NPV) terms. The net present value allows a current value to be placed on gains that may not be experienced until some time in the future. Over 22 years from 2008 to 2030, Australia is estimated to gain A\$146 billion in real GDP and A\$94 billion in real consumption, being equivalent to 13.5 and 8.7 per cent of GDP (respectively) in 2008. 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 underlying economy.

4.2 Australia's production and welfare gains NPV^a



^a Over 2008 to 2030 discounted at a 5 per cent real interest rate.

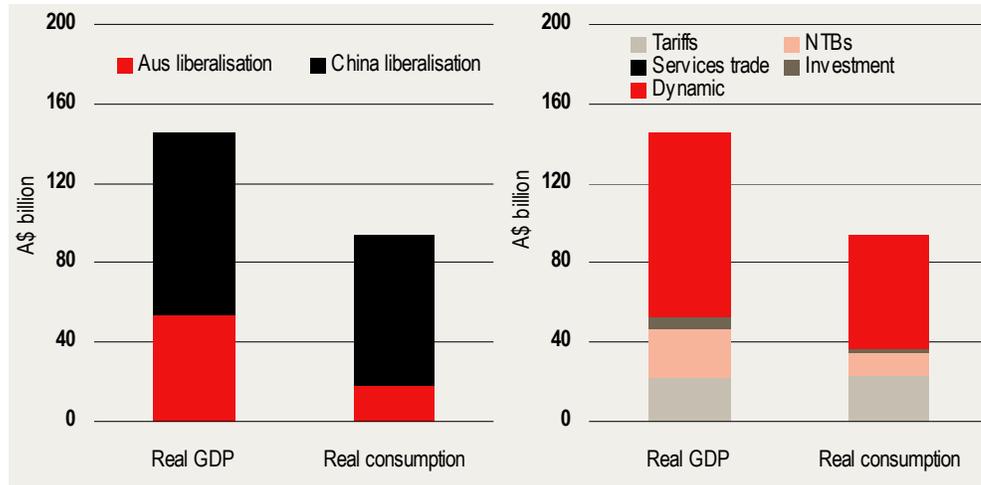
Data source: CIEG-Cubed modelling simulation.

Sources of benefits

Charts 4.3 and 4.4 decompose Australia's predicted gains from bilateral trade and investment liberalisation with China into the various contributing factors.

The left hand panel of chart 4.3 shows the gains from each country acting alone (that is, Australia and Chinese unilateral trade and investment liberalisation against trade/investment from the other country). What is interesting to note is that improved access to the Chinese market is of more importance to Australia's production and welfare gains than is the opening up the Australian economy to greater trade and investment.

4.3 Sources of Australia's gains NPV 2008^a



^a Over 2008 to 2030 discounted at a 5 per cent real interest rate.

Data source: CIEG-Cubed modelling simulation.

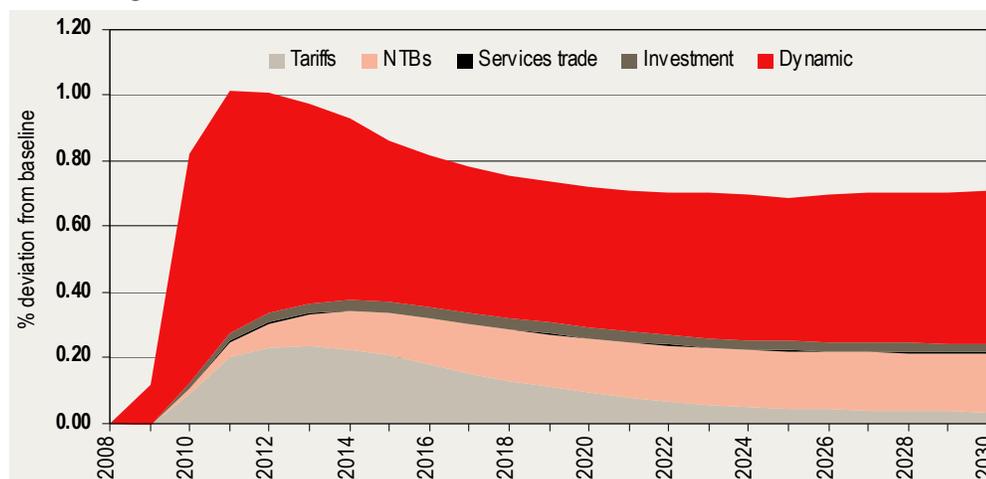
China's liberalisation accounts for 63 and 80 per cent of Australia's GDP and consumption gains (respectively). This primarily reflects the starting point for the trade liberalisation. As Australia's trade barriers are already low, Australia has less to gain from its own removal of already low tariff barriers than Australia has to gain from an important trading partner removing high barriers to Australian exports (and noting that China was the destination for 12.8 per cent of total Australian exports in 2007).

The right hand panel of chart 4.3 (and chart 4.4) decomposes the impacts of the trade and investment liberalisation into five factors, namely:

- removal of bilateral tariff barriers to merchandise trade;
- removal of bilateral non-tariff barriers to merchandise trade;
- removal of barriers to bilateral services trade;
- removal of barriers to bilateral investment; and
- resultant dynamic productivity gains.

Australia's gains are dominated by dynamic productivity gains arising from the trade and investment liberalisation. Indeed, dynamic productivity accounts for nearly 64 per cent of the real GDP gains. It is interesting to note that dynamic productivity gains occur prior to the FTA commencing in 2010. Over 2008–2009 there is increased capital inflow as investment increases in preparation for the trade liberalisation commencing in 2010. Some of this capital inflow will be in the form of FDI, which in turn is associated with dynamic productivity gains. The capital inflow also sees an appreciation in the exchange rate, which in turn makes imports cheaper. Imports increase, driving further dynamic productivity gains.

4.4 Change in Australia's real GDP



Data source: CIEG-Cubed modelling simulation.

Excluding the dynamic productivity gains would see Australia's GDP being around 0.25 per cent above baseline in 2030, versus 0.71 per cent with the dynamic productivity gains.

From the right hand panel of chart 4.3 it can also be seen that removal of tariffs has a slightly smaller impact on Australia's GDP gain as does the removal of non-tariff barriers (15 versus 17 per cent, respectively). In the FTA negotiations, sufficient attention should therefore be given to removing NTBs to bilateral trade.

The small, almost negligible, gain attributable to liberalisation of bilateral services trade reflects the current (small) level of services trade delivered via cross border trade. As noted in chapter 1, barriers to services delivered via commercial presence are typically barriers to FDI. Negotiating bilateral FDI liberalisation can therefore have the same end result as negotiating liberalisation of services delivered via commercial presence (and vice-versa). Hence, strictly speaking, some of the gains attributable to investment liberalisation can be apportioned to service liberalisation, as could some of the FDI induced dynamic productivity gains.

Finally, the observed importance of dynamic productivity gains to Australia, combined with the fact that it is China's liberalisation that accounts for the majority of Australia's gains, leads to the conclusion that Australia's dynamic productivity gains are largely export based. That is, 'learning by exporting' sees the experience and knowledge gained in export markets being translated into productivity gains.

Employment

With the estimated increase in real GDP, the trade and investment liberalisation has a positive impact on employment in Australia (see chart 4.5).

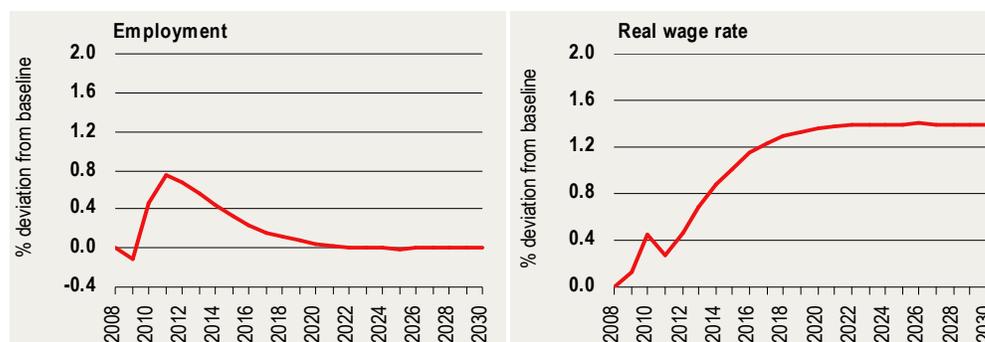
Although the economic model assumes fixed labour supply and full employment determined by the population growth rate in the long run, in the short run employment deviates from the full employment equilibrium level because real wages adjust slowly to labour market conditions.

Prior to the liberalisation commencing in 2010, employment falls slightly below baseline levels. Even though GDP increases over 2008–2009, most of the increase (around 85 per cent) is driven by dynamic productivity gains (see chart 4.4). Productivity gains see less labour (and other inputs) being required per unit of output, hence the demand for labour falls even though there is increased economic activity. The dynamic productivity gains also see prices falling (0.1 per cent lower in 2008), and with sticky nominal wages, this in turn sees an increase in the real wage. As real wages increase, there is a further decline in employment.

After the liberalisation commences dynamic productivity contributes less to the GDP gain. The increased economic activity and associated demand for labour begin to dominate. This sees employment rising above baseline levels. Sticky nominal wages limit the ability of wage increases to bring the demand for labour back to baseline levels. Employment is estimated to peak at over 0.7 per cent above baseline in 2011.

Over time, 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 is estimated to be around 1.4 per cent higher than the baseline level in 2030.

4.5 Changes in employment and wages in Australia



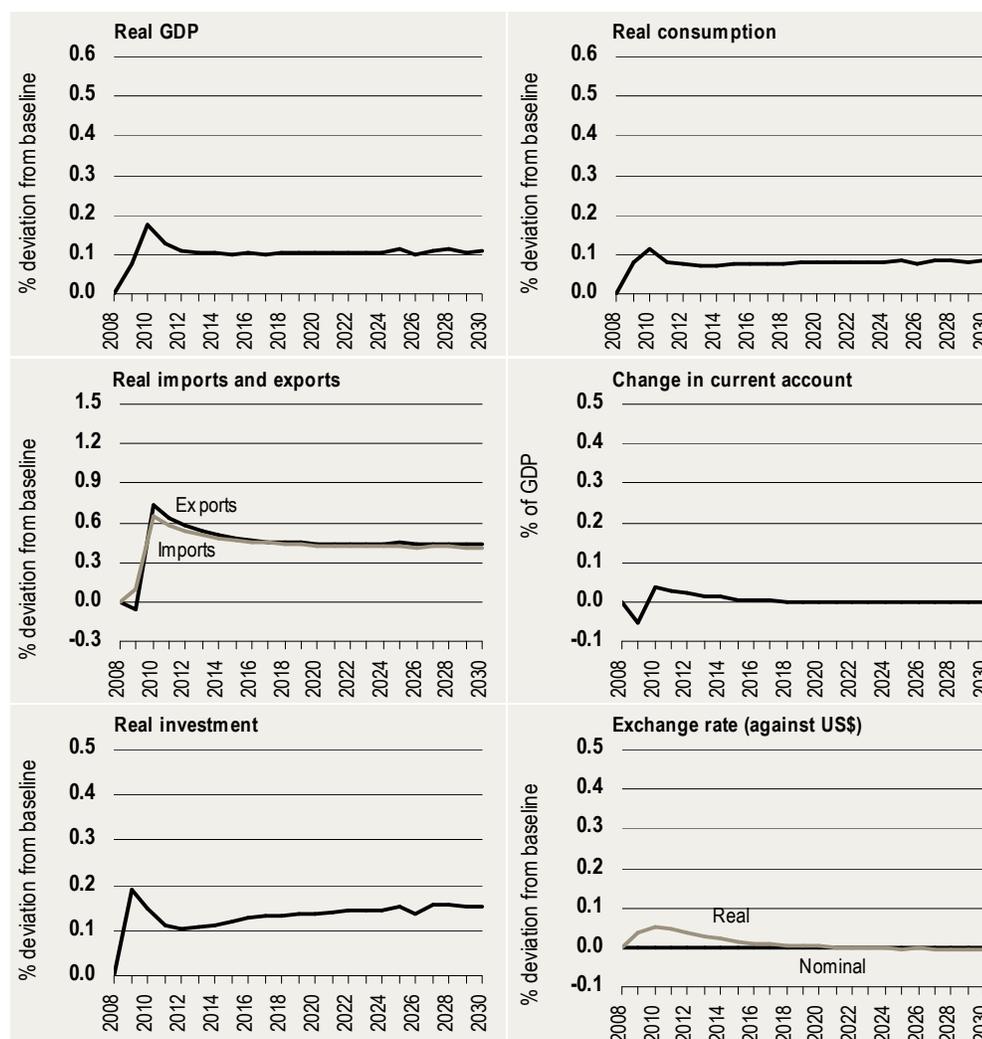
Data source: CIEG-Cubed modelling simulation.

Macroeconomic effects – China

China is also projected to benefit from bilateral trade and investment liberalisation with Australia.

Chart 4.6 provides the macroeconomic effects for China of entering into a comprehensive bilateral trade and investment agreement with Australia. A first observation to make is that, by and large, the effects on the Chinese economy are much smaller than that experienced by Australia. This is to be expected given the importance of the Australia economy to China – Australia is the destination for only 1.4 per cent of China’s exports and is the source of 2.7 per cent of China’s imports.

4.6 Macroeconomic effects for China



Data source: CIEG-Cubed modelling simulation.

It is estimated that China's real GDP would rise with the commencement of the FTA in 2010, and peak at around 0.18 per cent above baseline in 2010, before falling back to 0.1 per cent above baseline in 2012 and remaining relatively constant thereafter. Ordinarily, a country with trade barriers as high as China's could be expected to experience an initial decline in real GDP due to there being large structural adjustment costs. However, as Australia accounts for only a small share of Chinese trade, the (economywide) structural adjustment pressures are muted.

Real consumption is also estimated to be around 0.1 per cent above baseline over the longer term.

China's exports, after initially declining as output is diverted from the export market to the local investment market, are estimated to spike at over 0.7 per cent above baseline in 2010, before levelling off at over 0.4 per cent above baseline over the longer term. The change in China's imports is of a very similar magnitude to the change in exports. The shape of China's export and import curves reflects the composition of China's trade. The initial spike in exports largely reflects what is happening in Australia – an increase in investment – and the sourcing of machinery and capital equipment etc from China (and paid for by the increased investment in Australia). Similarly, the initial spike in China's imports reflects the increase in investment in China, and the sourcing of investment items from other countries. Over time, the investment demand softens in both Australia and China, with import demand being driven instead by areas such as growing household demand.

Over the longer term the change in exports and imports is almost the same, and this sees no change in the current account from baseline levels. However, in the short term the current account records a negative change (note that as China runs a large current account surplus, a change in the current account of -0.05 per cent in 2009 results in China running a marginally smaller current account surplus). The fall in current account surplus reflects what is happening to investment. Following announcement of the FTA in 2009 and the prospect of allocative efficiency gains, investment in the Chinese economy peaks at 0.2 per cent above baseline levels. As the trade and investment liberalisation is yet to occur, household income has not increased sufficiently to fund the increase in investment – savings are only 0.1 per cent above baseline in 2009. Hence there is an investment-savings gap, meaning that the additional investment is in part funded by increased capital inflow from abroad. The balanced Balance of Payments assumption means that the increased capital account requires, by definition, a deterioration of the current account. Hence over 2008–2009 China's current account (surplus) contracts, imports exceed exports, with the upward pressure put on the Yuan by the capital inflow necessary to fund the increase in investment seeing an appreciation of the real exchange rate.

Over the longer term, household savings in China increase by a sufficient margin so that the long term increase in investment can be domestically funded. Hence over the longer term, a trade and investment agreement with Australia is not expected to see

China experiencing any change to its current account position or real exchange rate (the nominal exchange rate is fixed). However, the trade and investment agreement does improve the attractiveness of China to investment.

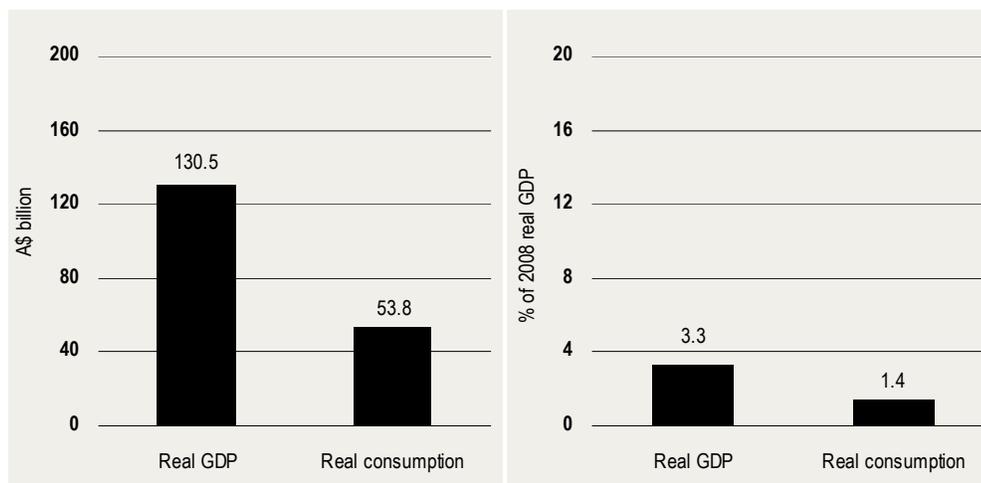
As was the case for Australia, the allocative efficiency gains expected/brought about by the trade and investment liberalisation sees real investment in China rising due to capital earning a higher return. There is an initial spike in investment of 0.2 per cent above baseline in 2009 as investment is with the view of having it ‘online’ by 2010 so that it can then earn the (expected) higher returns. Investment then tapers off to be 0.1 per cent above baseline in 2012, before increasing again to 0.15 per cent above baseline and remaining relatively constant thereafter as the liberalisation effects work their way through the economy.

Welfare and production gains

Chart 4.7 reports China’s estimated gains in net present value terms. Over the 22 year period from 2008 to 2030, the NPV of increases in China’s real GDP and consumption are estimated to be A\$131 billion and A\$54 billion (respectively). China’s real GDP and consumption gains are equivalent to 3.3 and 1.4 per cent (respectively) of GDP in 2008.

Through comparing charts 4.2 and 4.7 it can be seen that Australia stands to gain more in both absolute terms and relative to the size of the economy than does China from the bilateral trade and investment liberalisation. This is expected due to China being a more important trading partner to Australia than Australia is to China.

4.7 China’s production and welfare gains NPV 2008^a



^a Over 2008 to 2030 discounted at a 5 per cent real interest rate.

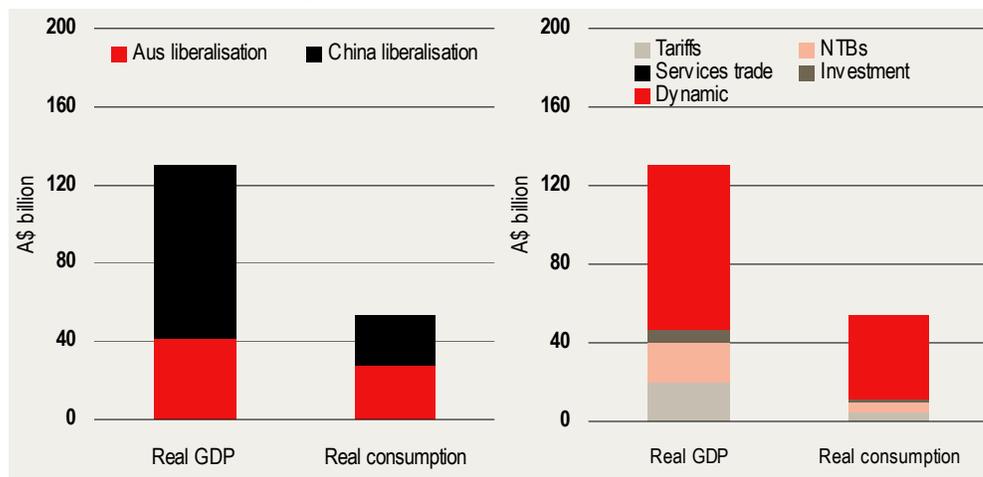
Data source: CIEG-Cubed modelling simulation.

Sources of benefits

Charts 4.8 and 4.9 decompose China’s estimated gains from the FTA with Australia into the various contributing factors.

The left hand panel of chart 4.8 shows the gains from each country acting alone. As can be seen, China’s gains would arise mainly from its own liberalisation, as a result of improved allocative efficiency and dynamic productivity gains resulting from removing high trade barriers. China’s liberalisation accounts for 68 per cent of its GDP gains, with improved access to the Australian market accounting for 32 per cent of GDP gains.

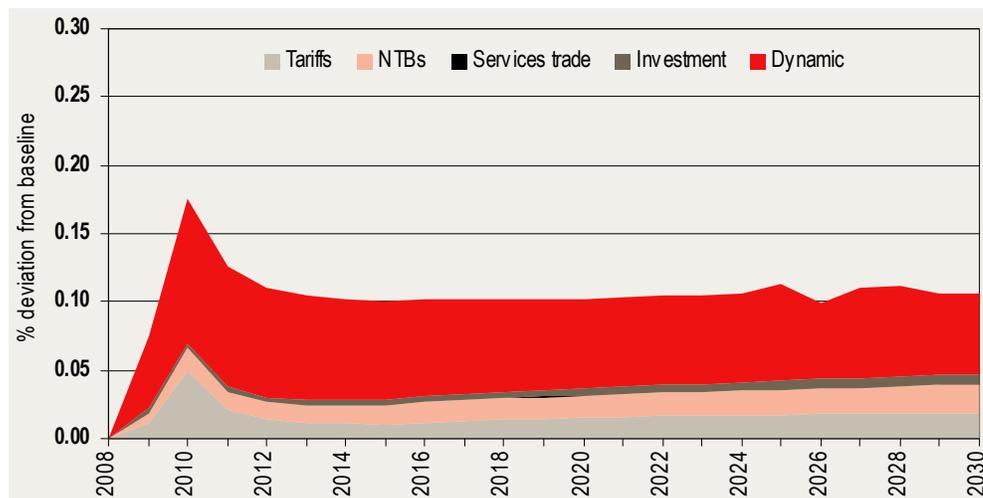
4.8 Sources of China’s gains NPV 2008^a



^a Over 2008 to 2030 discounted at a 5 per cent real interest rate.

Data source: CIEG-Cubed modelling simulation.

4.9 Change in China’s real GDP



Data source: CIEG-Cubed modelling simulation.

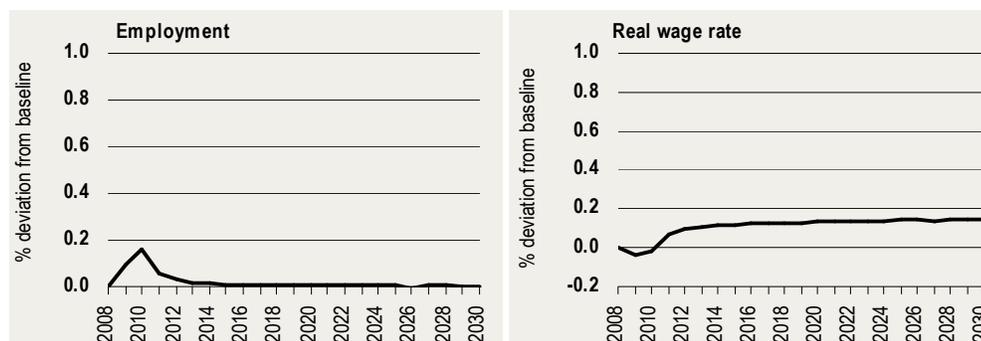
The right hand panel of chart 4.8 (and chart 4.9) decomposes the impacts of the trade and investment liberalisation. As shown in the charts, and as was the case for Australia, dynamic productivity contributes the most to China’s GDP and consumption gains. In the absence of dynamic productivity, China’s long term GDP gain is estimated to be 0.05 per cent above baseline, versus 0.11 per cent with dynamic productivity.

Employment

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 China. The smaller impact on employment reflects the smaller impact of the trade and investment liberalisation on Chinese economic activity. As shown in chart 4.10, and due to slow adjustment in wages, employment rises initially, peaking at 0.16 per cent higher than the baseline level in 2010. The initial decline in the real wage reflects a combination of sticky nominal wages and the impact on prices of an increase in economic activity. Investment, and hence economic activity, increases in China before the trade and investment liberalisation commences (in 2010). While China does experience dynamic productivity gains (see chart 4.9), the productivity gains are not sufficient to see a fall in prices (as was the case for Australia). Hence the increased economic activity and the productivity gains have a net upward impact on prices – prices are estimated to be 0.04 per cent above baseline levels in 2009. With sticky nominal wages, the price increase translates into a fall in the real wage of 0.04 per cent. As the real wage falls, there is a further increase in employment.

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 are estimated to be 0.15 per cent higher than the baseline level in 2030.

4.10 Changes in employment and wages in China



Data source: CIEG-Cubed modelling simulation.

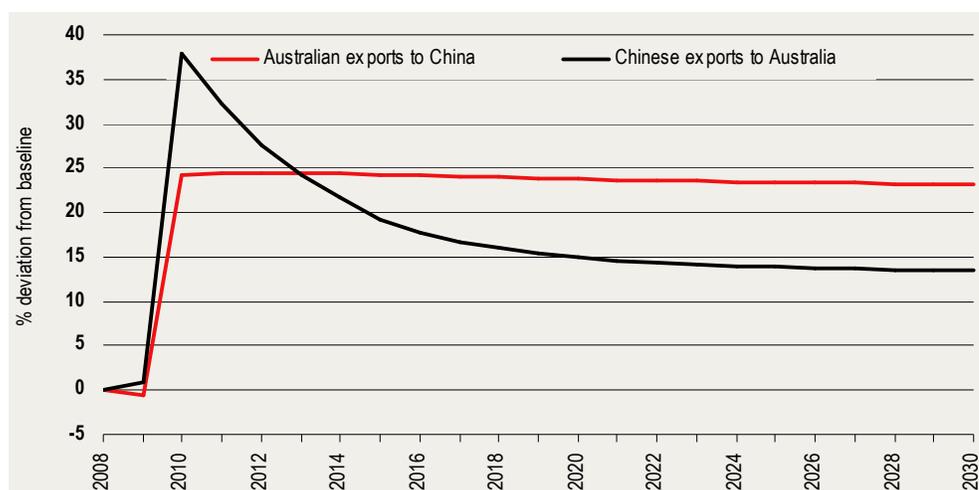
Bilateral trade

China’s trade barriers are notably higher than those in Australia. As such, bilateral trade liberalisation will advantage Australian exporters more than Chinese exporters.

As such, it is to be expected that Australian exports to China should increase by significantly more than Chinese exports to Australia. As can be seen in chart 4.11, this expectation is observed. By 2030, Australia’s exports to China are estimated to be over 23 per cent above baseline, whereas Chinese exports to Australia are nearly 14 per cent higher.

The decline in Chinese exports to Australia from the initial high of 38 per cent above baseline in 2010 reflects the decline in investment in Australia following commencement of the trade and investment liberalisation, and the sourcing of machinery and capital equipment from China. Following the announcement in 2009 that Australia and China are to enter into a comprehensive trade and investment agreement in 2010, there is a substantial increase in investment in Australia in order to get additional productive capacity online as close to 2010 as possible. This sees an increase in investment/expenditure on machinery and capital equipment, and hence imports thereof from China (and elsewhere). As investment tapers off, so do investment related imports from China. Over time, other sources of final demand in Australia (such as household consumption) start to dominate and provide the demand for Chinese imports.

4.11 Bilateral Australia-China trade



Data source: CIEG-Cubed modelling simulation.

5 *Sectoral effects of the liberalisation*

Trade and investment liberalisation between Australia and China is estimated to see Australia's GDP being 0.7 per cent above baseline over the longer term, and 0.1 per cent above baseline in the case of China. While the economic modelling suggests that both economies as a whole benefit from the bilateral liberalisation, there will be differing impacts between sectors.

Before looking at the sectoral effects, it is important to appreciate that:

- sectors already facing low/no barriers to trade will not be advantaged by a trade and investment agreement, and indeed may even be disadvantaged by the agreement;
- modelling results are presented as a percentage deviation from baseline, hence a small change may be recorded as a large percentage change if the underlying base is small (the so-called 'low base' problem);
- the relative sizes of the Australian and Chinese economies means that even a small increase in the size of the Chinese economy can have large effects for Australian sectors; and
- dynamic productivity has a substantial impact on sectoral results, seeing some sectors going from an expected decline in sectoral output (no dynamic productivity gains) to an increase in sectoral output (with dynamic productivity gains). Due to uncertainty about the veracity of the dynamic productivity assumptions, results are reported with and without dynamic productivity.

Impact of liberalisation on Australian sectors

China has high trade barriers in the areas of agricultural and processed food products, areas where Australia has low/no trade barriers and is typically considered to have a comparative advantage. Hence it would be expected, a priori, that it is these sectors that stand to benefit the most from a trade and investment agreement with China. Conversely, it could be expected that some of Australia's more protected sectors, such as Textiles, clothing & footwear (TCF), and certain areas of 'heavy' manufacturing (metals, automotive, etc) would experience a decline in output under the agreement.

Table 5.1 provides results for the key variables of sectoral output, exports and imports for 27 sectors of the Australian economy in year 2030 (hence the impact over

5.1 Impact of liberalisation on Australian sectors 2030, per cent deviation from baseline

Sector	Without dynamic productivity			With dynamic productivity		
	Output	Exports	Imports	Output	Exports	Imports
	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
Rice	-0.1	-2.8	1.5	0.0	-4.0	2.4
Wheat	-1.6	-3.9	0.9	-3.3	-6.8	-0.6
Other crops	2.5	6.6	3.4	2.5	6.2	4.2
Vegetable & fruit	0.3	-0.6	2.1	0.6	-1.4	3.0
Cattle	0.9	-0.7	2.5	0.6	-1.3	3.0
Other animal products	9.5	28.7	9.7	7.8	22.3	9.6
Forestry	0.9	11.3	2.9	1.8	10.5	4.7
Fishing	0.5	2.9	1.3	1.0	2.7	2.0
Minerals & energy	2.4	3.6	3.1	2.2	2.9	3.0
Meat	0.9	2.9	3.3	0.6	0.9	4.1
Dairy	0.5	2.4	3.7	0.7	1.2	5.0
Sugar	0.6	3.1	3.9	1.0	2.6	5.2
Other food & beverages	0.4	2.9	2.3	0.9	2.8	2.9
Textiles & clothing	-4.3	37.2	9.9	1.5	44.4	7.2
Chemicals	1.2	14.2	4.8	2.7	15.9	5.0
Metals	-0.1	1.6	5.6	1.4	2.5	5.6
Transport equipment	-0.1	2.8	2.1	1.1	3.9	2.3
Electrical products	-1.4	10.2	3.4	2.1	12.1	3.4
Machinery	-0.2	13.0	5.0	2.8	15.9	4.7
Other manufacturing	-0.4	6.9	6.2	1.4	10.2	5.9
Construction	0.0	-2.2	0.0	0.1	-3.4	0.0
Transport	0.2	-0.8	1.4	0.4	-1.6	2.1
Communication	0.3	2.9	1.4	0.5	1.8	2.2
Financial services	0.0	-2.6	1.4	0.0	-4.5	2.4
Business services	-0.2	-1.0	1.3	-0.7	-2.9	1.9
Other private services	0.1	-2.5	1.3	0.4	-4.1	2.4
Public services	0.1	-3.1	1.8	0.4	-5.5	3.3

Source: CIEG-Cubed modelling simulation.

the longer term).⁴⁷ Due to the large influence dynamic productivity has on the results, results in the presence/absence of dynamic productivity are reported.

Sectoral effects in the absence of dynamic productivity gains

From table 5.1, and just focusing on the without dynamic productivity results (for the moment), it can be seen that, by and large, the a priori expectations are observed. That is, Australia's resource/primary and food based sectors benefit under the agreement, while numerous manufacturing sectors are expected to experience a decline in output.

The exception to the typical manufacturing outcome is the Chemicals sector (comprising chemicals, plastics, petroleum and other mineral products), whose

⁴⁷ While the CIEG-Cubed model identifies 57 sectors, for ease of presentation these 57 sectors have been aggregated to the 27 sectors identified in table 5.1).

output in 2030 is expected to be over 1 per cent above baseline levels. This result reflects a combination of export led growth as China removes its own large trade barriers, and a growing Australian economy. Total sector exports increase by 14 per cent (with exports to China increasing by 84 per cent), with imports also increasing by nearly 5 per cent so as to meet growing domestic demand.

In terms of the primary/resourced based sectors, the only sector experiencing a notable decline in output is the Wheat sector, whose output is estimated to be nearly 2 per cent lower in 2030. This result is attributable to the low Chinese tariff on wheat imports (1 per cent) and the fact that other primary sectors face high trade barriers, and hence the other primary sectors are relatively more advantaged under the trade liberalisation. For example, as China removes a tariff of 13.8 per cent on vegetable and fruit imports, this Australian Vegetable and fruit sector is relatively more advantaged than is the Australian Wheat sector, who only experience a reduction in tariffs of 1 percentage point. The more advantaged sectors under the trade liberalisation expand at the expense of the less advantaged sectors. Hence as the primary sectors expand, resources (land, labour, capital) are attracted away from the wheat sector and into the expanding sectors (those more advantaged by the trade liberalisation). This culminates in the Wheat sector experiencing a decline in output. A similar story exists for the Australian Rice sector.

A further observation from table 5.1 is the large changes in exports recorded by some sectors (once again, in the absence of dynamic productivity). These exports either add to sectoral growth, or act to offset sector contractions due to import competition. An example of the latter is the TCF sector. In 2010, Australian TCF barriers are approximately of the same magnitude as those in China (indeed, lower in the case of textiles and leather products). However, trade liberalisation sees a 4 per cent fall in output of the Australian TCF, while China's TCF sector records a 0.3 per cent increase in output.

An obvious question arises – why does the Australian sector experience a fall in output, while the more heavily protected Chinese sector experiences an increase in output? The answer lies in the share of each country's TCF imports accounted for by the other country. In the case of Australia, 81 per cent of TCF imports in 2030 are estimated to come from China. In the case of China, only 0.4 per cent of China's TCF imports in 2030 are estimated to come from Australia. Hence Australia's trade liberalisation with China is almost akin to (TCF) trade liberalisation with the world. As a result, total TCF imports increase by around 10 per cent, the local TCF sector loses market share to more competitive Chinese imports, and sector output falls by over 4 per cent. In contrast, Australian TCF exports to China, while now being cheaper following China's trade liberalisation, are simply too small to have a discernable impact on China's TCF sector.

Offsetting the impact of losing market share on Australian TCF output is the increase in TCF exports, estimated to be over 37 per cent higher in 2030. Indeed, without the

increase in exports output of the Australian TCF sector would have been 6.8 per cent below baseline in 2030. The growth in TCF exports reflects a unique feature about the TCF supply chain – there is a considerable amount of intra industry trade. As China removes its tariffs on Australian exports of textiles (9.8 per cent), wearing apparel (16.2 per cent) and leather (14.1 per cent), the competitive position of Australian TCF products in China is improved. And as textiles, leather products etc are an input to the manufacture of apparel, greater TCF exports to Australia and a growing Chinese economy necessitate greater TCF imports, some of which will be sourced from Australia. Indeed, Australian TCF exports to China are estimated to be around 90 per cent above baseline levels in 2030. Some of the textile/leather exports then likely return to Australia as clothing (or further processed textile/leather products). Australia’s own TCF liberalisation means textile inputs etc from China are now cheaper, thereby improving the competitive position of Australian TCF exporters that rely on TCF inputs sourced from China. It is estimated that Australian TCF exports to the rest of the world will be over 8 per cent higher as a result of being able to source cheaper TCF (and other) inputs from China.

The trade and investment liberalisation with China is estimated to have little overall impact on Australia’s service sectors. However, this is likely to be a result of a low-base effect. Many services sectors historically have not been traded in volume between Australia and China. For example, the value of Australian merchandise exports to China in 2007 were over 6 times the value of service exports. The low service export base can see little modelled change in output of the service sectors. This is because resources are assumed to flow to merchandise sectors where trade has occurred in the past, and away from the service sectors (where there is little cross border trade). However, trade in financial services, for instance, has historically been negligible between many trading partners due to legislated barriers, such as licence requirements, which can completely block such trade occurring (rather than raising the cost of such business as tariffs do). As a result, when those legislated blockages are removed, it may be discovered that partner countries’ financial sectors are much more competitive than was apparent, and more substantial trade could commence after liberalisation.

The fact that some service sectors record a fall in exports has more to do with a growing domestic economy and the diverting of services from the export market to the local market, than a loss of competitive presence in export markets. The notable exception is the communications sector, whose exports increase as a result of China removing (larger than average) barriers to communication imports from Australia. The increased export demand, combined with a larger Australian economy, see output of the Communications sector being some 0.3 per cent higher than baseline in 2030.

The output of one service sector – Business services – is estimated to be lower than baseline in 2030. This is attributable to the cost structure of the sector, who it sells its services to, and how the price of those services changes following trade and

investment liberalisation. Following liberalisation, the growing Australian economy sees sectors competing for resources. In the labour intensive Business services, this has an upward impact on the price. However, allocative efficiency gains and investment liberalisation see the cost of other resources (capital, inputs) falling, so overall there is a slight decline in the price of Australian produced business services (however, the price decline is one of the smallest experienced by the service sectors). Following China's trade liberalisation, Australian exports of business services to China are estimated to be 27 per cent higher in 2030. However, exports to other countries decline, as the appreciating Australian dollar makes those services now more expensive in other foreign markets despite the price decline. Hence exports to other countries contract, and this contraction exceeds the increase in exports to China. Overall, business service exports fall. The sector also does not stand to benefit from growing household consumption, as output of the Business service sector is typically sold to other businesses (that is, it is an intermediate input to production). These factors combine to see sector output being lower than baseline levels. (Note that price/exchange rate story impacts on all service sectors, but to a lesser extent.)

Finally, it is important to appreciate the time profile of results, and note that table 5.1 only reports results for year 2030. This is especially the case for the Construction sector. Over the years 2009–15 investment increase substantially in Australia, and hence it could be expected that there would be an increase in construction activity. Indeed, over 2009–15 output of the Construction sector is estimated to be over 0.8 per cent higher on average. As investment tapers off, so too does construction activity. Hence if just looking at the results presented in table 5.1, the conclusion reached for the Construction sector is that the trade and investment liberalisation has no discernible impact on the sector. However, when results are considered over the entire 2008–2030 time period, it is clear that the trade and investment liberalisation is unambiguously good for the Construction sector.

Sectoral effects in the presence of dynamic productivity gains

Productivity gains see fewer inputs being needed to produce the same level of output (or alternatively, greater output from the same amount of inputs). The modelled dynamic productivity gains are a function of the size of the tariff barrier being removed, any change in the share of production exported, and foreign direct investment inflows. This, combined with whether a sector is upstream or downstream in the supply chain, will influence whether dynamic productivity sees an increase or decrease in sectoral output relative to the without dynamic productivity results.

By way of example, consider the Other animal products sector (typically, wool, hides etc). Compared to the without dynamic productivity situation, the with dynamic productivity results see a fall in output (from 9.5 to 7.8 per cent above baseline), a fall in exports (28.7 to 22.3 per cent), and a marginal fall in imports (9.7 to 9.6 per cent).

On the import side, Australian tariffs are very low (under 1 per cent) on these imports, hence the local Other animal products sector will get little in the way of import driven dynamic productivity gains. The end result sees the competitive position of the Australian Other animal products sector not being sufficiently improved to see a noticeable decline in imports.

On the export side, a large proportion (64 per cent in 2007) of total other animal product exports go to China. The corresponding Chinese sectors are quite heavily protected, with tariffs of between 9–11 per cent. The downstream Chinese sectors using those inputs – TCF – are also quite heavily protected (tariffs of 10–16 per cent). Hence when China liberalises, the competing Chinese Other animal products sector, and the downstream TCF sector get productivity gains (quite substantial – 3 per cent – in the case of the former, marginal in the case of the latter). The Chinese productivity gains see either reduced demand for Australian wool, hides etc exports, and a loss of market share in China to the now more productive local Chinese Other animal products sector. Either way, Australian exports fall, and this sees a fall in output.

Now consider the case of the downstream Australian TCF sector. Compared to the without dynamic productivity situation, the with dynamic productivity results see an increase in output (from -4.3 to 1.5 per cent above baseline), an increase in exports (37. to 44.4 per cent), and a fall in imports (9.9 to 7.2 per cent). As Australia liberalises, the relatively heavily protected TCF sector gets a large dynamic productivity gain (in the order of 2 per cent), driven by import competition from now cheaper TCF imports sourced from China. The now more productive Australian TCF sector is better placed to compete with TCF imports from China, and hence imports under the with dynamic productivity scenario are lower. The more productive TCF sector is also now more competitive internationally, and hence exports are higher. The higher exports, combined with the smaller loss of local market share to TCF imports from China, see output of the Australian TCF sector being higher than baseline levels in 2030. Indeed, the increase in exports is sufficient to see sectoral output being higher than baseline levels. (It should also be noted that the now more productive Australian TCF sector needs fewer inputs to production, some of which will be sourced from the upstream Other animal products sector. Hence the TCF productivity gain sees a fall in demand for locally produced other animal products, contributing to the smaller increase in that sector's output under the with dynamic productivity scenario.)

Hence depending on whether a sector is upstream or downstream in the supply chain, and the size of the dynamic productivity gains in both the Australian sector and the corresponding Chinese sector, dynamic productivity can see a sector's output either being higher, or lower, than the without dynamic productivity scenario. Hence while unambiguously good for the Australian economy, dynamic productivity can have both positive and negative impacts on sectors (relative to the without dynamic productivity scenario).

Impact of liberalisation on Chinese sectors

Reflecting China's smaller GDP gains under a trade and investment agreement with Australia, the sectoral impacts are likewise typically small. For some sectors, the impacts are only observable at the second decimal point. Sectoral results for China in the presence and absence of dynamic productivity gains are reported in table 5.2.

China is typically considered to have a comparative (or competitive) advantage in manufacturing, hence it would be expected that these sectors would benefit under a trade and investment agreement with Australia. As can be seen from table 5.2, this expectation is observed in the modelling results. Conversely, those sectors operating in areas where Australia is thought to have a comparative advantage – the resource and primary sectors (and downstream thereof) – typically experience a contraction in output.

5.2 Impact of liberalisation on Chinese sectors 2030, per cent deviation from baseline

Sector	Without dynamic productivity			With dynamic productivity		
	Output	Exports	Imports	Output	Exports	Imports
	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
Rice	0.0	0.0	0.0	0.0	-0.1	0.2
Wheat	-0.2	0.6	-0.2	-0.1	0.5	-0.1
Other crops	0.0	0.1	0.3	0.0	0.0	0.4
Vegetable & fruit	0.0	0.0	0.3	0.1	-0.2	0.5
Cattle	-0.2	0.2	4.2	-0.1	-0.1	4.3
Other animal products	-0.2	1.4	8.8	-0.1	2.4	6.0
Forestry	0.0	-0.1	0.2	0.1	-0.3	0.4
Fishing	0.0	0.0	1.8	0.1	-0.1	2.0
Minerals & energy	-0.8	1.3	3.1	0.0	2.1	1.9
Meat	-0.1	0.4	1.3	0.0	0.5	1.2
Dairy	-0.7	3.5	2.3	0.0	5.1	1.9
Sugar	-0.3	0.4	0.0	0.0	0.5	0.2
Other food & beverages	0.0	0.3	0.4	0.1	0.2	0.5
Textiles & clothing	0.3	0.5	0.2	0.3	0.4	0.3
Chemicals	0.1	0.5	0.2	0.2	0.5	0.3
Metals	0.2	0.9	0.4	0.3	1.1	0.4
Transport equipment	0.2	0.7	0.2	0.2	0.7	0.3
Electrical products	0.2	0.3	0.2	0.2	0.2	0.2
Machinery	0.2	0.6	0.2	0.3	0.6	0.3
Other manufacturing	0.2	0.4	0.3	0.2	0.4	0.4
Construction	0.1	0.1	0.1	0.1	0.0	0.1
Transport	0.3	0.1	0.2	0.3	0.0	0.2
Communication	0.0	0.0	0.2	0.2	0.2	0.2
Financial services	0.0	0.0	0.1	0.1	-0.1	0.2
Business services	0.0	0.1	0.1	0.1	0.0	0.2
Other private services	0.0	0.0	0.0	0.1	0.0	0.1
Public services	0.0	0.0	0.0	0.1	-0.2	0.1

Source: CIEG-Cubed modelling simulation.

Sectoral effects in the absence of dynamic productivity gains

Overall, China's primary/resource sectors (and the downstream sectors thereof) are disadvantaged under the trade and investment agreement, while the manufacturing sectors are advantaged. The service sectors record little change. While some sectors are advantaged/disadvantaged under a trade and investment agreement with Australia, the overall impact is positive for China, with GDP being around 0.05 per cent higher in 2030 (in the absence of dynamic productivity gains).

China's Minerals and energy, Dairy, and Sugar sectors are all estimated to experience notable declines in output under the trade and investment agreement. This result is not unexpected given Australia's strengths in these sectors. Furthermore, China has large barriers to dairy and sugar imports, so when these are liberalised the best practice Australian sectors gain access to the Chinese market and capture some market share, and in so doing displace local production. (In the case of sugar, the increase in Australian exports displaces sugar imports from other countries, resulting in no net change in the value of China's sugar imports.)

However, as Australia exports more minerals and energy, dairy and sugar to China, Australian exporters vacate other export markets (in order to divert more product to China). These vacated markets are then picked up by exporters in other countries, including China. Hence exports from China of these products increase (noting potential low-base problems). For example, China's exports of dairy products to the rest of the world increase by more than the increase in dairy exports to Australia, despite Australia liberalising its trade with China. The increase in exports will help to offset declines in sectoral output brought about by liberalising market access to Australian exporters.

Naturally enough, Australia's liberalisation of its TCF barriers sees an increase in exports of the Chinese TCF sector, and an increase in output. However, China's own TCF sectors are equally, or more protected than the Australian TCF sectors. Hence as China liberalises TCF imports increase. Other animal products (wool, hides etc) record the largest change in imports – nearly 9 per cent. These products are an input into the downstream TCF sector, hence as the TCF sector expands it needs greater inputs of wool etc. As China liberalises, these inputs are sourced from Australia, hence imports increase. The increase in imports of other animal products and capture of local market share is sufficiently large that output of the Chinese sector falls, despite an increase in exports (to fill the void left by Australia vacating other international markets).

Sectoral effects in the presence of dynamic productivity gains

Allowing for dynamic productivity gains typically sees increases in sector output (or a smaller decline in output) relative to the without dynamic productivity scenario.

This is to be expected as dynamic productivity sees China's GDP gain in 2030 being 0.1 per cent, versus 0.5 per cent in the absence of dynamic productivity.

China's largest dynamic productivity gains are in the primary/resource and downstream sectors thereof (such as processed food, meat, dairy etc), as it is these sectors that are typically the most heavily protected in China and where Australia has a comparative advantage. Competition from Australian imports will therefore be strong following liberalisation, and this in turn will help to drive productivity gains in China's primary/resource sectors. Indeed, the average productivity gain across China's primary/resource/food processing sectors is 0.32 per cent, versus 0.07 per cent in the case of China's manufacturing sectors, and 0.06 per cent in the case of the service sectors. Hence when comparing the without dynamic productivity results to the with dynamic productivity results, the biggest changes are in the primary/resource/food processing sectors.

Despite the productivity gains, there are more sectors experiencing a decline in exports. This reflects not a loss of competitive presence in export markets, but rather a growing domestic economy and the diversion of products from export markets to the local market.