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***The Australia–
Thailand Free Trade
Agreement:
economic effects***

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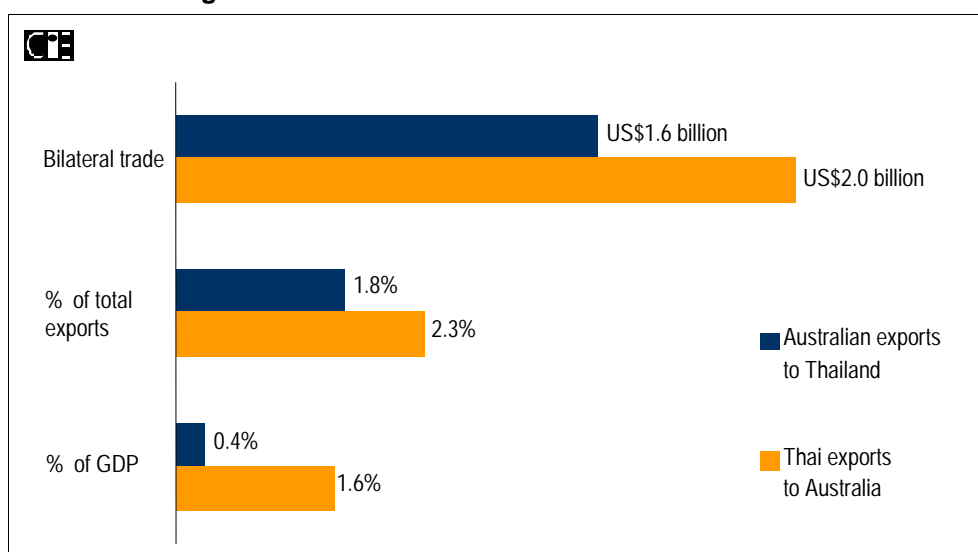
Summary

AUSTRALIA AND THAILAND successfully concluded negotiations on a free trade agreement (FTA) in October 2003. The Australia–Thailand Closer Economic Relations Free Trade Agreement (the Agreement) is Australia’s third FTA, while it is Thailand’s first comprehensive FTA and first with a developed country. This study, commissioned by DFAT, estimates the economic benefits and costs arising from the Agreement.

Australia–Thailand trade

- Bilateral Australia–Thailand trade is valued at US\$3.6 billion, comprising Australian exports to Thailand of US\$1.6 billion, and Thai exports to Australia of \$2.0 billion.
- As is shown in chart 1, bilateral trade between Australia and Thailand is relatively more important to Thailand than it is to Australia. Exports to Australia account for 1.6 per cent of Thailand’s GDP, while exports to Thailand account for 0.4 per cent of Australia’s GDP.

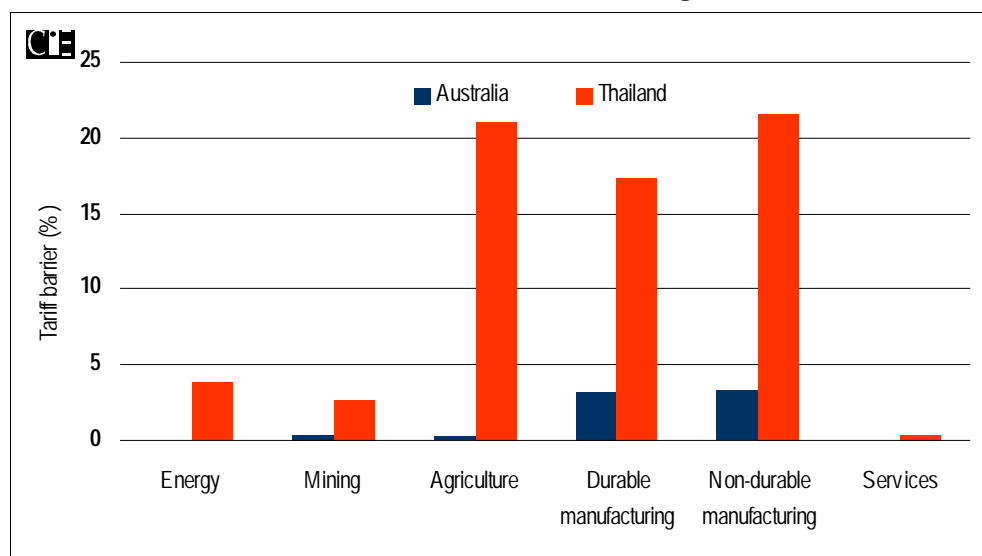
1 Relative significance of bilateral trade between Australia and Thailand



Data sources: DFAT (2003), Thai Customs (2004) and CIE estimates.

- Thailand's tariffs on merchandise trade are considerably higher than those placed on imports to Australia (see chart 2).
- Australia's highest tariffs are levied on durable and non-durable manufacturing imports, particularly passenger motor vehicles and parts, and textiles, clothing and footwear. The lowest tariffs are on agriculture imports while in Thailand these goods receive some of the highest tariff rates. Manufacturing imports to Thailand — particularly non-durable goods — also attract high tariff rates.
- Under the Agreement, the tariff barriers identified in chart 2 will be eliminated. Australia will eliminate tariffs on all Thai merchandise trade by 2010, with the exception of some textiles and clothing imports, which do not achieve free trade status until 2015. Thailand's tariff reduction occurs over a longer period — tariffs on Australian imports are not completely eliminated until 2025. Thai tariffs levied on Australian imports of some agricultural products (such as cereal grains) and non-durable manufacturing commodities (such as meat and sugar) are not eliminated until 2020. Tariffs on a few dairy imports are not eliminated until 2025.
- Although there are many barriers to trade other than tariffs — such as quarantine issues, quotas and subsidies — it has not been possible to incorporate these barriers in this study. Therefore, the estimated results only assume the removal (over various time frames) of the identified tariff barriers on bilateral trade reported in chart 2.

2 Reduction in bilateral trade barriers under the Agreement



^a Barriers to services trade are reported as the percentage reduction in the cost of that service following trade liberalisation.

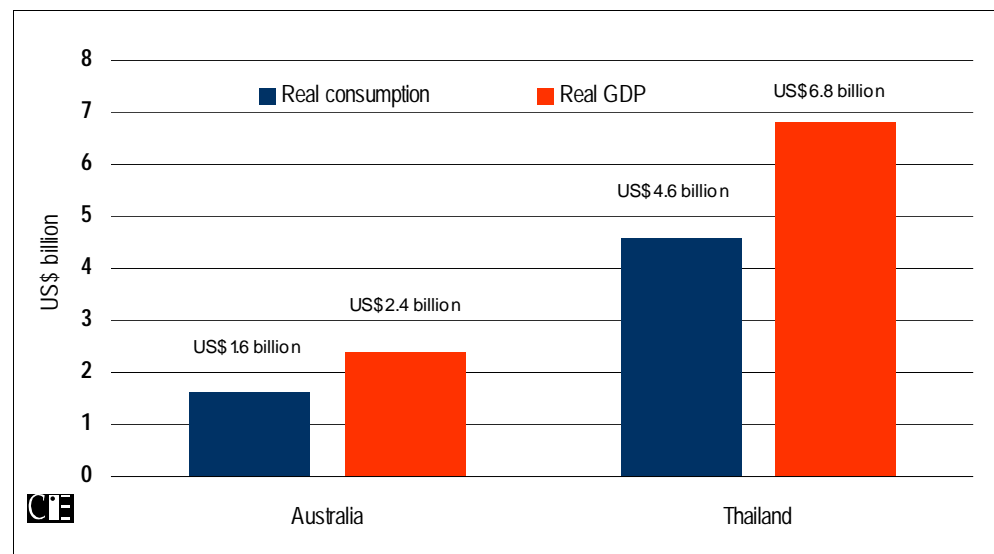
Data sources: DFAT, personal communication, 2004; CIE calculations.

Economic gains from the Agreement

The trade liberalisation undertaken as a result of the Agreement entering into force will deliver economic benefits to both Australian and Thailand. The gains to Thailand are larger than for Australia due to Thailand having higher barriers to trade, and, therefore, a less efficient economy, than Australia.

- Production (as measured by real GDP) and welfare (as measured by real consumption) are estimated to rise for both countries over time.
- Australian GDP could be 0.01 per cent higher than what it might otherwise be, peaking at just under 0.03 per cent higher in 2010. The rise in Australia's real consumption is slightly greater, peaking at around 0.04 per cent in 2012.
- Thailand's GDP is 0.16 per cent higher than would otherwise be the case in 2005 and 0.45 per cent higher from 2020 onwards. Consumption in Thailand is also higher under the Agreement, peaking at 0.85 per cent above baseline in 2020.
- Expressing the stream of production and welfare gains over 20 years in net present value terms, the Agreement is estimated to be worth US\$2.4 billion of additional GDP to Australia, and US\$6.8 billion to Thailand. The NPV increase in real consumption is valued at US\$1.6 billion for Australia and US\$4.6 billion for Thailand (see chart 3).
- The gain to Thailand being around three times the gains for Australia. This result is to be expected as Thailand currently has higher barriers to trade relative to Australia and, therefore, has more to gain from trade

3 Welfare and production gains from the Agreement Net present value^a



^a Over 20 years discounted at model determined real interest rates.

Data source: APG-Cubed model simulations.

liberalisation. This result also reflects the greater relative importance of bilateral trade to Thailand than to Australia.

- Trade liberalisation improves efficiency in the domestic sectors, and as a result both countries experience an increase in real investment. In Australia, investment peaks at 0.1 per cent above the baseline in 2007 and stays at 0.02 per cent above the baseline after 2020. In Thailand, investment increases in to a peak of 0.38 per cent higher above baseline in 2013, and then reduces to 0.22 per cent above baseline in 2026.

At the sectoral level, all sectors in both countries experience an increase in output. The lowering of trade barriers is associated with more efficient domestic industries, while improving access to markets of the bilateral trading partner.

- Domestic industries in both countries expand their output as they move to meet increased consumption, export and investment demand.
- The Australian non-durable manufacturing sector experiences the largest increase in output out of the Australian sectors — output is US\$127 million higher in 2025. In Thailand, the largest absolute increase in output is experienced by the services sector — output is US\$450 million higher in 2025. The large expansion in Thai services is due to the cost reducing effect from trade liberalisation that extends beyond the bilateral relationship between Australia and Thailand. In the case of other (merchandise trade) sectors the gains are confined to the bilateral trade.
- In proportional terms, the Australian durable and non-durable manufacturing sectors experience the greatest gains in output (around 0.11 per cent). In Thailand, the service sector experiences the greatest proportional gain — output is 0.7 per cent higher in 2025.

1

Background

AUSTRALIA AND THAILAND successfully concluded negotiations on a free trade agreement (FTA) in October 2003. The Australia–Thailand Closer Economic Relations Free Trade Agreement (the Agreement) is Australia’s third FTA, while it is Thailand’s first comprehensive FTA and first with a developed country. The Agreement will see tariffs on virtually all goods imported from the other country being eliminated by 1 January 2010, and progress made towards liberalising services trade and improving the environment for investment flows between the two countries. The FTA between Australia and Thailand represents a continuation of past efforts of both countries towards more open and deregulated economies.

This study

The Department of Foreign Affairs and Trade (DFAT) is preparing a Regulation Impact Statement (RIS) on the Agreement. As part of the RIS, the economic benefits and costs to Australia from the Agreement need to be quantified. This study, commissioned by DFAT, estimates the economic benefits and costs arising from the Agreement.

This study updates a scoping study carried out in 2002 into the economic impacts of an Australia–Thailand FTA (see CIE 2002). The previous study evaluated the impacts of an Australia–Thailand FTA under a range of trade liberalisation scenarios, from complete liberalisation ‘overnight’ to phased reductions over a number of years.

With the conclusion of negotiations on the FTA, we are now better placed to quantify the economic benefits and costs of the Agreement as the timing of trade liberalisation has been specified as has the range of commodities and services to undergo liberalisation.

Quantifying the benefits and costs

A broad, economywide approach is the preferred framework for assessing the measurable economic effects arising from a free trade agreement. The economywide approach is favoured as it can capture both the direct and indirect (flow-on) effects of a policy change as the economic relationships and linkages between various sectors of the economy are taken into consideration.

The APG–Cubed economic model is used to quantify the effects of the Agreement. The model is dynamic, thus allowing tariff reductions to be phased in over time as specified under the Agreement and observation of the effects of the Agreement over time. APG–Cubed also takes into account structural adjustment costs that emerge from the reallocation of labour and capital between sectors when trade barriers fall. Because the APG–Cubed model includes a specification of capital markets and captures financial flows, it can provide detailed information about the effects of trade liberalisation on the macroeconomy.

Report structure

Chapter 2 provides some background information to the extent and nature of existing trade between Australia and Thailand. Such information will provide a guide to the expected benefits from the Agreement — the size of benefits being dependent on, amongst other things, the relative importance of each country as a trading partner and the size of existing trade barriers. Barriers to commodity and service trade are reported. These barriers are removed under the Agreement over a number of years. The methodology underlying the calculation of trade barriers is also discussed. Derived barriers to merchandise and services trade is reported in greater detail in appendix A.

Chapter 3 outlines the simulation to be modelled. A brief insight into the APG–Cubed economic model is provided.

Chapter 4 presents the results of the modelling exercise to estimate the impact of the Agreement on member countries. Results are given to year 2026. Detailed results from the APG–Cubed economic model are presented in appendix B.

2

Australia–Thailand trade

THE ECONOMIC BENEFITS accruing to Australia and Thailand from the Agreement will depend on a range of factors, including:

- the relative importance of each country as a trading partner;
- current trade patterns;
- the size of existing trade barriers (and liberalisation pace/scope); and
- the extent to which the FTA will stimulate trade creation as opposed to trade diversion.

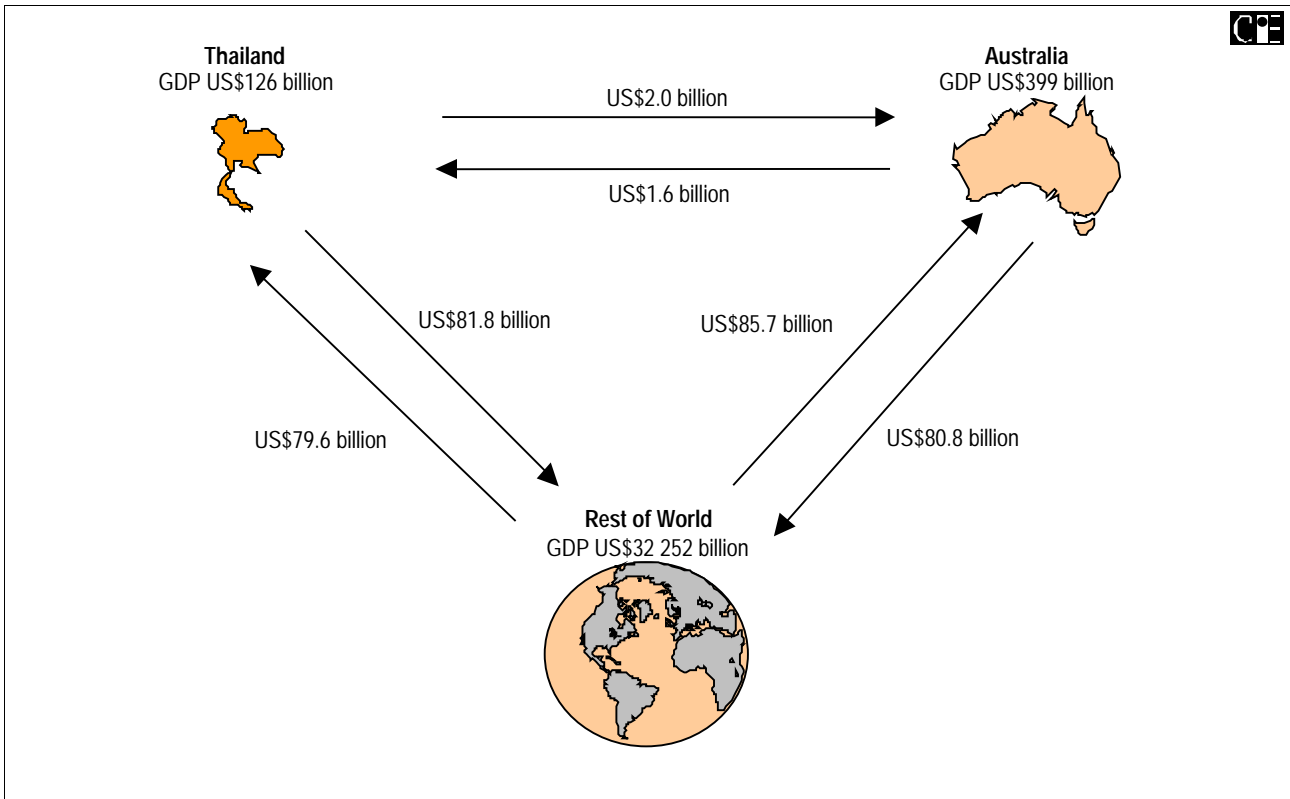
Hence the starting point to quantifying the economic benefits from the Agreement is to first investigate the size and nature of Australia–Thailand trade, and quantify the current (tariff) barriers to such trade.

Trade between Australia and Thailand

Bilateral and external trade for Australia and Thailand is summarised in chart 2.1. As a proportion of gross domestic product (GDP), trade between Australia and Thailand is relatively more important to Thailand than to Australia. Thai exports to Australia account for approximately 1.6 per cent of Thailand's GDP, while Australian exports to Thailand account for only 0.4 per cent of Australia's GDP.

Aggregate trade between Australia and Thailand was valued at just over US\$3.6 billion. Australian exports to Thailand (valued at US\$1.6 billion) account for around 1.8 per cent of total Australian exports. Thai exports to Australia (valued at US\$2.0 billion) account for around 2.3 per cent of Thailand's total exports (see chart 2.2).

Australia ran a small trade deficit with Thailand in 2002, with imports exceeding exports by US\$512 million. Merchandise trade accounts for around 85 per cent of the total trade deficit while services make up the remaining 15 per cent. This deficit is due to Thailand being the destination

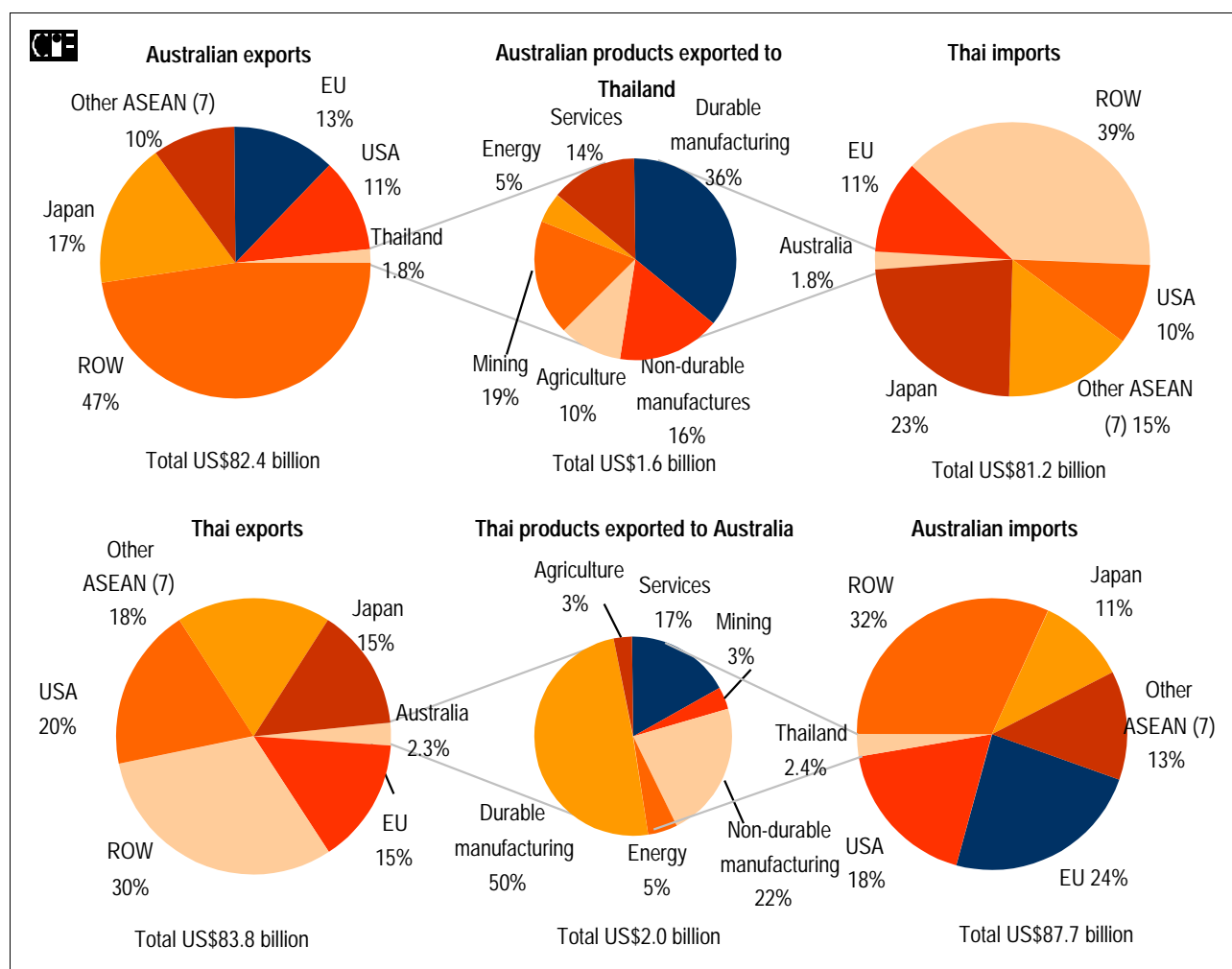
2.1 Bilateral and external trade for Australia and Thailand^a 2002

^a Domestic currencies have been converted to US dollars using exchange rates of AUD1.8056 = \$US1 and AUD1 = 23.7 Thai baht.
Data sources: DFAT (2003), WB (2004) and CIE calculations.

for 1.8 per cent of Australia's exports but the source of 2.4 per cent of Australia's imports.

Australia's main exports to Thailand are primary products and manufactured metals. Copper, aluminium, iron, and steel make up approximately 36 per cent of total exports to Thailand. Other primary products such as wool, cotton, cereal and dairy products (milk and cream) account for approximately 13 per cent (Thai Customs 2004).

Manufactures dominate Thailand's exports to Australia. Automotive exports have grown rapidly over the past decade and now account for approximately 24 per cent of total exports to Australia. Australia is now the major export market for Thai fully built-up passenger cars and light commercial vehicles, displacing similar imports from Japan and the United States. Plastics, electrical machinery such as computers, televisions and telecommunication equipment, mineral fuel and seafood are Thailand's other major exports to Australia (DFAT 2000 and Thai Customs 2004).

2.2 Australia's trade with Thailand^a 2002

^a Domestic currencies have been converted to US dollars using exchange rates of AUD1.8056 = \$US1 and AUD1 = 23.7 Thai baht.

Data sources: DFAT (2003), Thai Customs (2004) and CIE estimates.

Trade liberalisation under the Agreement

Trade liberalisation under the agreement is mainly focused on merchandise trade. Both countries will eliminate tariffs on all products under the Agreement. For Australia, this means 6237 commodities (identified at the 8 digit Harmonised System level) while for Thailand, this means the 5501 commodities identified in its tariff.

The Australian and Thai economies are orientated towards services — around 70 per cent of Australia's GDP is accounted for by the service sectors, while in Thailand the figure around 60 per cent of GDP. Furthermore, bilateral trade in services is not insignificant, amounting to around US\$570 million in 2002. Despite the importance of the service sectors and

the size of bilateral trade in services, liberalisation of services trade under the Agreement is not as pronounced as that for merchandise trade.

Australia and Thailand have committed to strengthen trade in a range of services by progressively liberalising the barriers that prevent businesses from entering markets in the other country. However, Australia's commitment under the Agreement is essentially standstill (that is, no *additional* trade liberalisation is being undertaken as a result of the Agreement). Thailand has agreed to relax some equity thresholds and implement business facilitating measures (relaxing visa requirements and the like). While an encouraging start to liberalisation of services trade, the measures contained as part of the Agreement, do not, however, constitute significant (additional) reductions to trade in services.

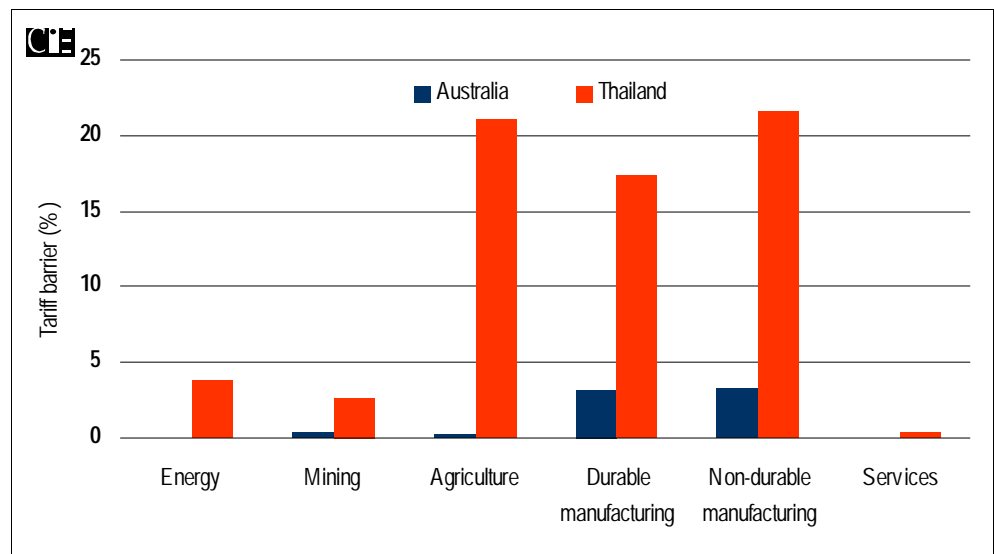
The reduction in barriers to bilateral trade between Australia and Thailand is discussed below.

Barriers to trade

A combination of techniques was used to obtain estimates of the trade barriers faced by Australia and Thailand when exporting their goods and services to one another. These techniques are detailed below.

By way of overview, chart 2.3 shows the estimated barriers to merchandise and services trade at the sector level used by the APG–Cubed economic

2.3 Reduction in bilateral trade barriers^a 2004



^a Barriers to services trade are reported as the percentage reduction in the cost of that service following trade liberalisation.

Data sources: DFAT, personal communication, 2004; CIE calculations.

model. These barriers are used in the quantitative modelling. The timing of trade liberalisation under the Agreement is discussed in chapter 3.

Merchandise trade

The tariff barriers imposed on bilateral Australia–Thailand merchandise trade has been calculated using a combination of simple averaging and production weighted tariffs. Tariff schedules for Australia and Thailand, operating at either the 6 or 8 digit Harmonised System (HS) level, were provided by DFAT. These schedules were used to derive simple average MFN tariff rates. Across all sectors, Australia’s simple average MFN tariff rate was calculated to be 3.9 per cent in 2004, while for Thailand it was 15.0 per cent.

The quantitative analysis for this study requires estimates of protection for the six sectors identified in the APG–Cubed model. A concordance (McDougall, date uncertain) was used to match tariff rates contained in the tariff schedules to the corresponding sector identified by the latest Global Trade Analysis Project (GTAP) database. This allowed the calculation of a simple average tariff rate for each of the 42 merchandise trade GTAP sectors. Production weights — obtained from the GTAP5 database — were then used to aggregate these barriers to the sectors identified in the APG–Cubed model.

Production weights are favoured over import weights as import weights may give insufficient weighting to high, and, therefore, very distortionary, import tariffs. For example, if high tariffs are successful in discouraging imports this will mean that they have a low weighting and the level of protection afforded by the tariff will be significantly underestimated. As protection encourages domestic production, local production is deemed to be the most suitable weight. An absence of sufficiently disaggregated production data prevents using production weights to aggregate the tariffs obtained directly from the tariff schedules (which report duties for over 11 700 commodities).

Of the 5501 commodities included by Thailand under the Agreement, 1260 commodities (around 23 per cent of those listed) attract the higher of an ad valorem tariff or a specific duty. For example, Thailand’s fresh cheese imports (of which Australia accounted for 16 per cent in 2003) are levied with either an ad valorem tariff of 33 per cent or a specific duty of 11 baht per kilogram. Investigation of Thai import statistics has revealed that it is typically the ad valorem tariff that is the greater of the two duties (and hence is applied). Continuing the example cited above, the average price of fresh cheese imported by Thailand during 2003 was around 110 baht per

kilogram. Hence a specific duty of 11 baht per kilogram equates to an ad valorem rate of 10 per cent, which is substantially below the tariff of 33 per cent. (Alternatively, the tariff of 33 per cent would see a duty of 36 baht being levied on each kilogram of fresh cheese, which is clearly larger than the specific duty of 11 baht.)

When deriving the tariff rates imposed on merchandise trade, it has been assumed for those commodities attracting either an ad valorem tariff rate or specific duty that it is the ad valorem rate that results in a higher amount of duty being levied and hence is applied. To the extent that for some commodities the specific duty results in a higher amount of duty being levied, the derived tariff rates will be understated.

Australia's highest tariffs are on durable and non-durable manufacturing imports, particularly textiles, wearing apparel, and motor vehicles and parts. The lowest tariffs are on agriculture imports while in Thailand these goods receive some of the highest tariffs. Manufacturing imports to Thailand — particularly non-durable goods — also have high tariff rates applied. Derived barriers to merchandise trade are reported in greater detail in appendix A.

Services trade

Information on the quantitative barriers to protection in the service sectors represents a significant problem for analysis of free trade agreements. Hard data on quantitative barriers to services trade does not exist in the same way as tariffs exist for merchandise trade. Instead, the barriers to services trade are nationalistic treatment that hinders or prevents market entry and price competition between 'foreign' service providers and domestic providers. These barriers to services may include:

- restrictions on foreign direct investment;
- licensing requirements on management;
- restrictions on the acquisition of land;
- restrictions on the promotion of products and services;
- nationality requirements — conditions to provide service based on nationality or citizenship;
- residency and local presence requirements — obligations to be established or resident in the market where the service is provided; and
- limitations on the scope of activities.

The effect of such barriers is the same as a tariff levied on merchandise trade — restrictions on competition mean that particular services are not provided at the lowest possible price. Bilaterally removing these restrictions would in some cases increase competition, improve efficiency and allow for the service to be provided locally at more competitive prices.

The technical challenge lies in quantifying the impact of a reduction in barriers to services trade between Australia and Thailand. The impact in each sector depends on both:

- the level of existing restriction — treatment that hinders/prevents market entry 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.

Therefore, even if restrictions in a particular sector are extremely high — providing the potential for significant cost savings — if the partner country is not in a position to penetrate that sector then gains from the FTA will be negligible.

Over the last few decades Australia has undertaken an extensive program of microeconomic reform in services. This has encompassed reform in the areas of trade and industry assistance, industrial relations, competition policy, financial markets and taxation, regulatory arrangements and government performance. The end product of this reform has been a more dynamic, productive and competitive Australian economy, especially in the service sectors.

Thailand has not progressed as far as Australia in terms of microeconomic reform. Foreign equity limitations of 49 per cent on commercial presence are in place for a range of professional services, limiting foreign competition. Financial services has undergone the most significant deregulation, as Thai authorities consolidated and restructured after the 1997 Asian financial crisis and enhanced supervisory controls, especially in banking, insurance, and fund management. In telecommunications, Thailand aims to fully liberalise basic telecommunications by 2006, however foreign participants will still face foreign ownership limitations of 49 per cent. In construction, architecture, and engineering, foreigners are prohibited from participating in construction and civil engineering, although joint ventures between Thai companies are allowed.

Under the auspices of the Agreement, Australia and Thailand endeavour to strengthen trade in a range of services by progressively liberalising the

barriers that prevent businesses from entering those markets. Australian service sectors where Australia has made commitments include:

- professional and business services;
- banking and insurance;
- telecommunications;
- environmental services;
- education/training services relating to aspects of Thai culture;
- restaurant services; and
- mining services.

However, DFAT has noted that these commitments do not actually reduce service barriers to Thailand. Essentially, Australia's liberalisation of trade in services under the Agreement is standstill.

Thailand is to liberalise the regulatory climate that currently applies to a number of service sectors, including:

- management and consultancy services and a range of business services;
- certain construction and communication services;
- retailing and wholesale services for products manufactured by Australian companies based in Thailand;
- certain tertiary education services;
- hotel, restaurant and certain recreational services; and
- auxiliary maritime transport services (DFAT 2003).

The majority of service liberalisation will be in foreign ownership and the labour market. Under the Agreement Thailand will permit majority Australian ownership of a number of service providers to increase from 49.9 per cent to 60 per cent. Thailand will also grant extended visas and work permits for all Australian citizens being transferred to work in Thailand from one year to five, increase the work permit from one year to three for contractors working in Thailand, and allow Australians who hold work permits to participate in business meetings anywhere in Thailand.

The cost savings for Thailand available through formation of a FTA with Australia have been estimated in the first instance on a GTAP5 sector level. Production weights have then been used to aggregate the 15 GTAP5 service sectors to the APG–Cubed Service sector. Due to the relatively small liberalisation on services trade offered by Thailand, it has been estimated

that the cost of Thai services will be reduced by approximately 0.2 per cent only.

Likely magnitude of the economic benefits

Before conducting the economic modelling, it is possible to predict the likely order of magnitude of the economic benefits attributable to the Agreement through examination of the bilateral trade flows, the magnitude of the reductions in trade barriers and the sectoral composition of the respective economies. Table 2.4 provides a summary of this information.

As can be seen from table 2.4, the largest sector of the Australian economy (in terms of contribution to GDP) is exempt from trade additional liberalisation under the Agreement. Furthermore, where trade liberalisation does occur, the affected sectors account for only 21 per cent of GDP. This, combined with the relatively low value of imports, means the Agreement's impact on Australian (real) GDP and welfare will likely be quite reserved. A more noticeable effect would be observed if the trade liberalisation under the Agreement targeted trade barriers in the largest sector of the Australian economy — the services sector.

The implications for Thailand of trade liberalisation under the Agreement are broadly similar. Thailand's greatest areas of tariff reduction — agriculture, durable and non-durable manufacturing — are the smallest sectors of the economy, accounting for only 22 per cent of GDP. However, under the Agreement Thailand is to further liberalise services trade, which is expected to lead to welfare and production gains as the services represent the largest sector in the Thai economy.

It should also be noted that trade liberalisation can deliver economic benefits other than those directly related to removal of trade barriers — for

2.4 Factors influencing order of magnitude of economic benefits

APG–Cubed sector	Imports from		Share of GDP		Reduction in trade barriers ^a	
	Australia	Thailand	Australia	Thailand	Australia	Thailand
	US\$ million	US\$ million	Per cent	Per cent	Per cent	Per cent
Energy	78	92	13	14	0.0	3.8
Mining	309	68	1	1	0.4	2.6
Agriculture	161	62	5	6	0.2	21.1
Durable manufacturing	585	986	8	9	3.1	17.3
Non-durable manufacturing	263	449	7	7	3.3	21.5
Services	228	344	67	62	0.0	0.2

^a Barriers to services trade are reported as the percentage reduction in the cost of that service following trade liberalisation.

Sources: Charts 2.2 and 2.3, APG–Cubed economic model.

example, mechanisms to promote closer economic, political and cultural linkages and institutional reform and strengthening. These additional effects can in turn drive substantial efficiency gains in the domestic economy. As the APG–Cubed model does not capture such gains, the estimated gains from the Agreement will be a lower bound.

3

Quantifying the impacts of the Agreement

THE PROPOSAL EVALUATED in this study is that the trade liberalisation between Australia and Thailand as negotiated under the Agreement enters into force. In forming the FTA, Australia and Thailand both abide by the scheduled timing of tariff reductions and services liberalisation.

Before discussing the simulation modelled, the computable model used to evaluate the implications of an Australia–Thailand free trade area is briefly discussed. Full documentation for the APG–Cubed economic model can be found at www.msgpl.com.au.

The APG–Cubed model

Forming a free trade agreement implies significant and inter-related changes between countries. Opening to markets implies the creation of trade for countries participating in the FTA. But it can also mean diverting trade from other (and potentially lower cost) countries. Furthermore, there will be adjustment costs as a result of changes to resource allocation that flow from the FTA, which is the flip-side of the gains.

Removing trade barriers can have large effects on the efficiency of the economy and the return to capital. Higher returns to capital attract investment, some of which will be foreign. This higher foreign investment changes the exchange rate, which has an effect on the exports and imports of a country. The higher efficiency and investment causes incomes to rise, which has an effect on demand for goods and services — some of which are imported.

In short, there are many channels of influence and the best way to capture the net effect of an FTA is through an economywide model that formally incorporates the real and financial sectors of an economy and links trade and capital flows between countries. FTAs are frequently phased in over time to minimise adjustment costs, and, the need to allow for the dynamic

accumulation of capital over time means that any framework should be capable of capturing these dynamic effects.

The APG–Cubed model is the best framework that meets these requirements. Being a fully dynamic model that considers both the real and financial sectors, the APG–Cubed model can explore the time path of trade liberalisation effects on welfare, gross domestic product (GDP), investment, capital flow and current account effects as well as effects on interest rates and exchange rates.

The APG–Cubed general equilibrium model developed by McKibbin (1996) is a global model covering 18 countries/regions and, to keep the model to a manageable size, covers six sectors of production. Table 3.1 sets out the country and industry sector coverage used in APG–Cubed.

3.1 Country and industry coverage of APG–Cubed

<i>Countries/regions</i>		<i>Industry sectors</i>
Australia	New Zealand	Energy
China	OECD Europe and Canada	Mining
Taiwan	OPEC (ex. Indonesia)	Agriculture
Eastern Europe	Other	Non-durable manufacturing
Hong Kong	Philippines	Durable manufacturing
India	Republic of Korea	Services
Indonesia	Singapore	
Japan	Thailand	
Malaysia	United States	

To estimate the economic impacts of the Agreement, an appropriate counterfactual (the ‘baseline’) has to be generated since many tariffs are scheduled to fall anyway as a result of previous commitments made elsewhere (for example, under the Uruguay Round of the GATT, the ASEAN Free Trade Area and APEC). Results from the Agreement simulation are compared with the baseline, with the difference being attributable to trade liberalisation arising from the Agreement. Model results are presented as a (percentage) change from the baseline outcome until year 2026.¹

This study uses the most recent version of the model, APG-Cubed v55n. Compared with the version used in the previous study, the database has been updated and the base year is brought up to year 2002. This version

¹ The actual model runs are much longer, extending to year 2131 for baseline generation and year 2100 for policy simulation.

also distinguishes between unilateral and bilateral tariff changes so that the economic implications of a FTA can be more appropriately quantified.

The baseline

The baseline represents the business-as-usual scenario — that is, what can we expect to happen in the absence of the Agreement? In the absence of the Agreement further trade liberalisation could still occur on a number of fronts. Australia and Thailand will likely undertake further (multilateral) trade liberalisation through MFN reductions negotiated under the WTO; and both countries are members of APEC which, through the Bogor Declaration, has set a target of complete (unilateral) trade liberalisation by 2010 for developed country members and 2020 for developing country members. Australia has also recently announced tariff reductions in the (relatively) heavily protected textiles, wearing apparel, and motor vehicles and parts sectors. Furthermore, Australia and Thailand are in the process of negotiating, or intending to negotiate, trade agreements with a number of other countries.

Multilateral and unilateral trade liberalisation

Given the recent uncertainty surrounding future rounds of the WTO, we are not in a position to speculate about further trade liberalisation on a MFN basis. Further trade liberalisation organised under the auspices of the WTO is, therefore, excluded from the baseline. The APEC liberalisations announced under the Bogor Declaration are voluntary and do not have the legal force that MFN tariff reductions have as agreed and signed under the Uruguay Round of the GATT. Therefore, APEC trade liberalisation is not included in the baseline scenario.

The Australian Government has recently announced that tariff barriers in the (relative to other sectors) heavily protected textiles, clothing and footwear (TCF), and passenger motor vehicles and parts (PMV) sectors would be phased down over a number of years. PMV tariffs, currently at 15 per cent, will be reduced to 10 per cent in January 2005. They will remain at this level until January 2010 when they will be reduced to 5 per cent and remain at this level until 2015. TCF tariffs, currently at 25, 15 or 10 per cent are scheduled to fall to 17.5, 10 and 7.5 per cent (respectively) in January 2005. In January 2010, the 10 and 7.5 per cent TCF tariffs will be reduced to 5 per cent, while the 17.5 per cent tariff will fall to 10 per cent. These tariffs will be further reduced to 5 per cent in 2015 (PC 2003, p. 2.8). As the

Australian Government is committed to these tariff reductions, they have been included in the baseline.

Bilateral trade liberalisation

The Agreement between Australia and Thailand represents Australia's third such free trade agreement — Australia also has FTAs with New Zealand (entered into 1983) and more recently, Singapore (entered into July 2003). Given Australia's and Singapore's already low tariff rates, bilateral Australia–Singapore trade will not be subject to significant distortions, and as such moving to the free trade area will not bring about significant additional change. Hence for the modelling exercise, it makes little difference whether the Singapore–Australia FTA is included in the baseline or not. We have chosen to exclude it. In February 2004 the Australian Government concluded negotiations on a FTA with the United States. However, this latest FTA has yet to be passed by the House of Parliament (in both countries) and hence its implementation is not guaranteed. As such, the Australia–United States FTA has been excluded from the baseline.

Thailand is part of the ASEAN FTA, and has FTAs with Bahrain, China and India. Thailand is also negotiating, or intending to negotiate, FTAs with Japan, Mexico, New Zealand, Peru, South Korea and the United States. Thailand's signed FTAs have been excluded from the baseline due to their limited nature and/or uncertainty over timing of liberalisation. For example, the FTA with China is more of a preferential trading arrangement, and is limited (at this stage) to elimination of tariffs on 188 fruit and vegetables. Thailand's FTA with Bahrain will see tariffs on 626 commodities being reduced to zero in 2005, with timing on 5000 commodities to undergo trade liberalisation still being negotiated (ISEAS 2003). FTAs currently being negotiated have been excluded due to uncertainty about coverage and liberalisation timing.

As part of the ASEAN FTA (AFTA), Thailand (and other ASEAN members) have shown a commitment to trade liberalisation, and indeed have accelerated implementation of the FTA as a means of restoring business confidence, enhancing economic recovery and promoting growth in the region following the 1997 financial crisis. AFTA requires tariffs on intra ASEAN(5) — comprising Indonesia, Malaysia, Philippines, Singapore and Thailand — trade to be between 0–5 per cent by 2002 (for the majority of tariff lines). These low rates mean that bilateral ASEAN(5) trade will not be subject to significant distortions, and as such moving to free trade will not bring about significant additional change (the majority of change having already occurred). Hence AFTA has been excluded from the baseline.

Trade liberalisation under the Agreement

The tariff schedules for bilateral Australia-Thailand trade as negotiated under the Agreement are shown in table 3.2. It has been assumed that the Agreement enters into force on 1 January 2005. Under the Agreement Australia will have eliminated tariffs on all Thai merchandise trade by 2010, with the exception of some textiles and clothing imports (a non-durable manufacture) which do not achieve free trade status until 2015. Thailand's tariff reduction occurs over a longer period — tariffs on Australian imports are not completely eliminated until 2025. Thai tariffs levied on Australian imports of some agricultural products (such as cereal grains, vegetables and fruits) and non-durable manufacturing commodities (such as meat and sugar) are not eliminated until 2020. Tariffs on a few dairy imports from Australia are not eliminated until 2025 (but when aggregated into the APG-Cubed sector of non-durable manufacturing, the tariffs are not noticeable at second decimal point beyond 2021).

It can be seen from table 3.2 that Thailand has a higher level of protection before implementation of the Agreement, and a longer phase-in period than Australia. This higher level of protection implies that Thailand will benefit from the Agreement more than Australia (other things being the same). However, the longer phase-in period means that the economic benefits will be delayed. It can also be seen that manufacturing sectors in both countries receive higher protection than other sectors, implying that the impacts of the Agreement on these sectors will be larger.

The FTA has a different meaning to the service sector where tariff reduction may not be applicable. Instead, we envisage that the Agreement will improve the productivity of the Thai service sector, leading to a cost reduction of around 0.2 per cent.

3.2 Tariff schedules under the Agreement

<i>APG-Cubed sector</i>	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Australia																							
Energy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mining	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Agriculture	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Durable manufacturing	3.14	0.26	0.26	0.26	0.25	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Non-durable manufacturing	3.35	0.78	0.76	0.74	0.65	0.63	0.16	0.16	0.16	0.16	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Services ^a	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Thailand																							
Energy	3.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mining	2.60	1.55	1.20	0.63	0.54	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Agriculture	21.08	8.49	6.83	5.53	3.75	1.89	0.24	0.20	0.17	0.13	0.10	0.07	0.05	0.04	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Durable manufacturing	17.29	7.18	5.69	3.96	2.66	1.91	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Non-durable manufacturing	21.51	12.59	10.34	8.22	6.48	4.87	1.98	1.83	1.69	1.54	1.39	0.62	0.50	0.37	0.25	0.13	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Services ^a	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18

^a Barriers to services trade are reported as the percentage reduction in the cost of that service following trade liberalisation.

Source: CIE calculations.

4

Implications of the Agreement for growth, trade and investment flows

THE RESULTS FROM THE APG-CUBED model of the world economy are reported in this chapter. The implications for each economy's (real) gross domestic product, household consumption, investment, exchange rate, and sectoral production under the Agreement are investigated.

Changes in real GDP and real consumption are two commonly used measures of changes in economic welfare. In general, changes in GDP reflect only changes in the overall level of economic activity and not changes in welfare or living standards *per se*. In this study, the change in real consumption is used as the primary indicator of the welfare gain to consumers from trade liberalisation.

What drives the results?

As noted in chapter 2, the magnitude of the effects reported below is primarily determined by several factors, namely:

- the size of barriers to trade imposed by Australia and Thailand;
- the contribution of exports and imports to GDP; and
- the extent of bilateral trade between the two countries.

It was seen in table 3.3 that Australia's barriers to merchandise trade are quite low, ranging between zero and 3.35 per cent, while Thailand's barriers to merchandise trade are relatively high, ranging between 2.60 and 21.51 per cent. Australia's trade is, therefore, less distorted than that of Thailand's, and hence (all other things being equal) Thailand is anticipated to experience greater gains from the Agreement than Australia. This expectation is reinforced by exports and imports being more important to Thailand's GDP than is the case for Australia. Total trade (exports plus imports) for Thailand is equivalent to 134 per cent of GDP, while for Australia total trade is equivalent to 42 per cent of GDP.

However, the small amount of bilateral trade between the two countries will act to limit the size of any benefits. Thailand accounts for only 2.1 per cent of Australia's total trade, while Australia accounts for 2.2 per cent of Thailand's total trade.

Implications of the Agreement for Australia

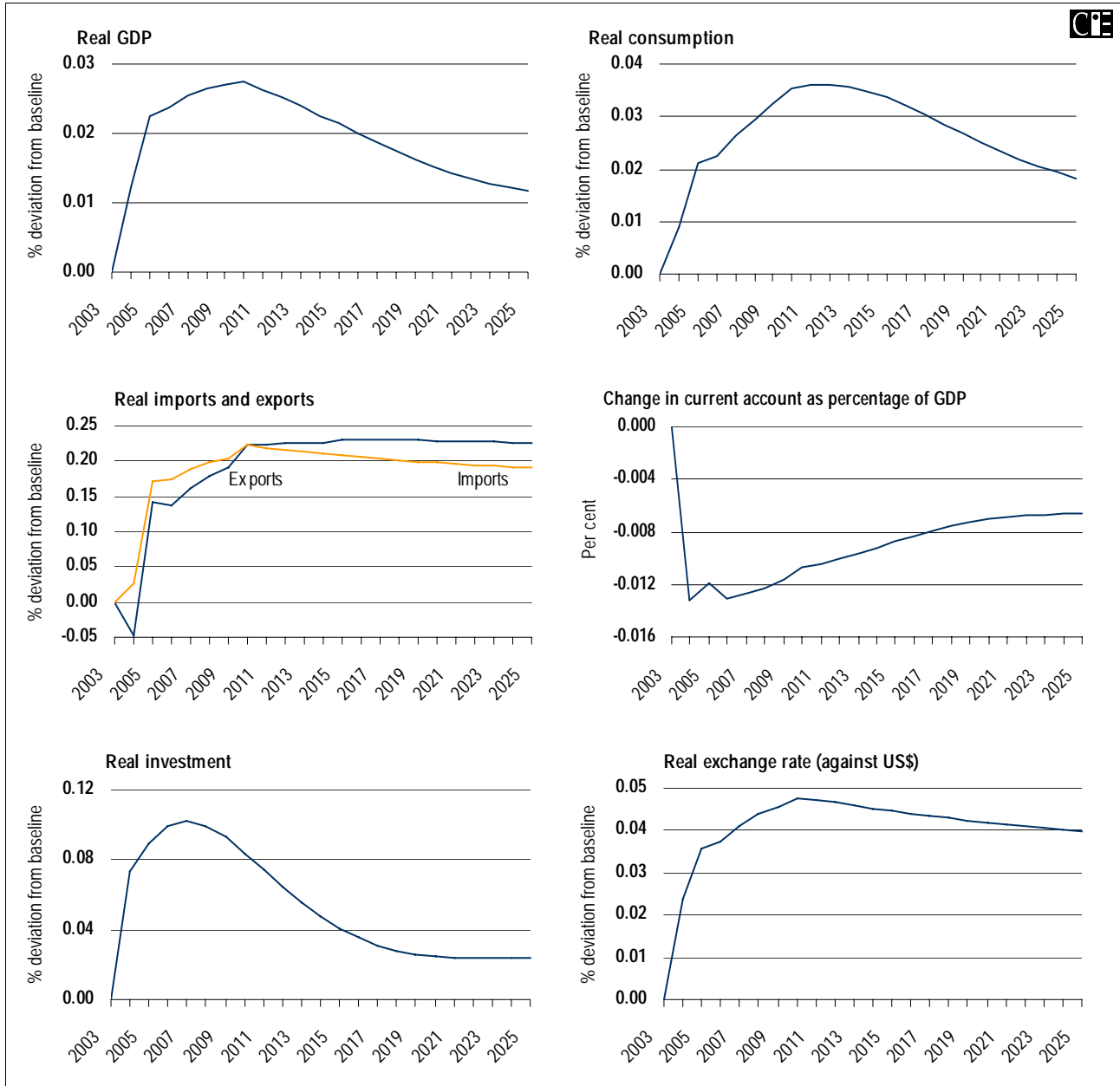
The effects of forming a FTA between Australia and Thailand are shown in the series of five figures that follow. It should be noted before presenting the results that adjustment will have taken place in year 2004 even though the Agreement will not be implemented before year 2005. This occurs because the Agreement is a pre-announced policy issue and the market reacts to such announcements. The APG-Cubed model has the facility to accommodate this pattern of behaviour as the model encapsulates expectations.

Macroeconomic effects

For Australia, the removal of bilateral trade barriers with Thailand on forming an FTA leads to much smaller macroeconomic effects than for Thailand. The principal reason is the greater relative openness of the Australian economy compared with that of Thailand. The macroeconomic implications of the Agreement for Australia are reported in chart 4.1. Real GDP rises above the baseline with the Agreement and peaks in 2011 at just under 0.03 per cent. Over the entire period of 2004 to 2025, real GDP is more than 0.01 per cent above what it would otherwise be. The rise in real consumption is slightly greater, peaking at around 0.04 per cent in 2012.

With the extra access to the Thai market and improved domestic efficiency that trade liberalisation brings, there is a small lift in exports from Australia amounting to around 0.14 per cent in 2005, and gradually rising to a plateau of 0.23 per cent above the baseline. With the rise in real consumption and lower barriers to Thai imports, there is an increase in imports of a similar magnitude to exports (slightly greater before 2010 and slightly smaller afterwards). Despite the increase in real exports exceeding the increase in imports, the *value* of imports exceeds that of the exports. As a result, the current account deteriorates, but the change is very small (as a percentage of GDP), being 0.013 per cent lower than the baseline in 2006 and 0.006 per cent lower in 2025.

4.1 APG–Cubed results for Australia



Data source: Simulations with APG–Cubed model.

With higher efficiency in domestic sectors, investment increases, peaking at 0.1 per cent above the baseline in 2007, staying at 0.024 per cent above the baseline after 2020. Sectoral investments follow a similar pattern, but with different magnitudes, with the non-durable manufacturing sector experiencing the highest increment in real investment.

Despite rising GDP, domestic saving does not increase by a sufficient amount to cover the rise in investment. The deteriorating current account implies a compensatory capital inflow (in order to keep the Balance of Payments balanced), which in turn (helps to) fund the increase in invest-

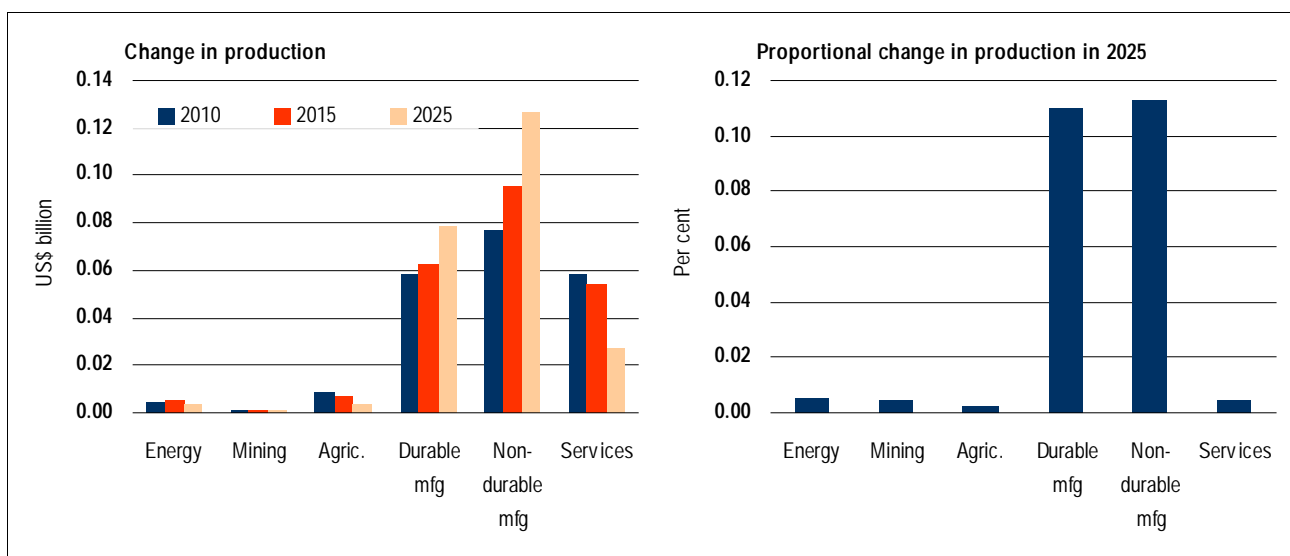
ment. Capital inflows in turn imply higher demand for the Australian dollar, leading to its appreciation against the US dollar of about 0.048 per cent in 2010.

Sectoral effects

Production increases across the six sectors are shown in chart 4.2. The largest absolute increase in production occurs in the non-durable manufacturing sector — production is around US\$127 million higher in 2025. The durable manufacturing sector experiences the second largest absolute increase in production of US\$78 million. Despite only limited additional access to the Thai market as a result of the Agreement, the services sector achieves the third largest absolute increase in production. This happens because the service sector comprises such a large proportion of the Australian economy (around 70 per cent), and the expanding durable and non-durable manufacturing sectors use production inputs provided by the services sector. In relative (proportional) terms, the largest increase in production is in non-durable manufacturing, followed by durable manufacturing. Many food industries (such as meat and dairy products) are in the category non-durable manufacturing.

This pattern of change in production is consistent with the magnitude of the trade liberalisation and the importance of each sector in the economy. The increase in domestic production is the sum of three sources of demand for domestic production, as shown in the identity below.

4.2 Australian sectoral results Deviation from baseline



Data source: Simulations with APG-Cubed model.

$$\text{Domestic production} = \text{Export demand} + \text{Investment demand for domestically produced goods} + \text{Final consumption demand for domestically produced goods}$$

The lowering of Australian trade barriers is associated with more efficient domestic industries, while the lowering of Thailand's trade barriers enables Australian producers greater access to Thai markets. These factors combine to see greater demand for Australian exports. Increasing wealth enables greater consumption by Australians (we saw above that real consumption increases by around 0.04 per cent by 2012), some of which will be met by domestic production.

The production of durable manufactures also rises partly because this category comprises investment goods that are in higher demand as a result of the higher levels of efficiency upon liberalising trade (real investment increases by around 0.1 per cent in 2007). Some investment demand will be met by imports (as will some final consumption demand), but much of the extra investment demand and final consumption will be from domestically produced goods. All three demands — exports, investment and final consumption — rise initially after the Agreement enters into force. But since domestic production is constrained by how quickly new investment can occur, there will be a substitution towards imports and some of the production previously destined for export markets will be diverted to the home market. The small appreciation of the real exchange rate (as discussed earlier) aids this switch to increased reliance on imports.

Implications of the Agreement for Thailand

Macroeconomic effects

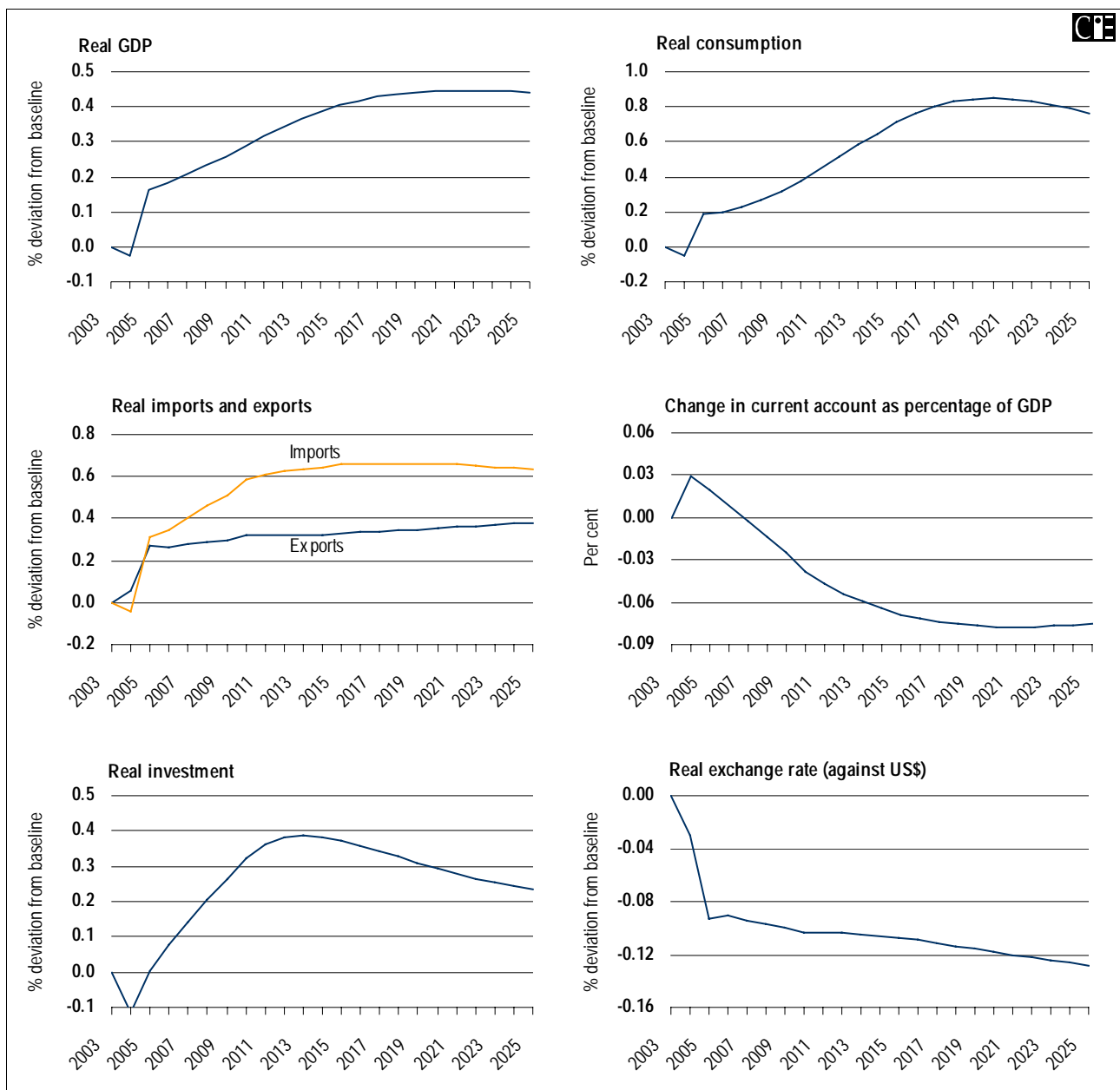
One of the first observations that can be made is that the results for Thailand are greater than those for Australia. Thailand's real GDP (the top left-hand panel of chart 4.3) is 0.16 per cent higher than would otherwise be the case in 2005 and 0.45 per cent higher than the baseline in 2020 and afterwards. The primary reason for this difference is that Thailand starts from a base of higher barriers to trade than Australia and so makes larger reductions to trade barriers (and hence experiences larger gains, all other things being equal). Real consumption — the better measure of welfare — is also higher under the Agreement, peaking at 0.85 per cent higher in 2020.

Chart 4.3 shows the results for Thailand's real GDP, real consumption, real exports and imports, real investment, current account deficit, real exchange rate and real interest rate. The removal of bilateral trade barriers by

Thailand as part of the Agreement has the effect of increasing the marginal productivity of capital in protected sectors of the Thai economy. This rise in efficiency of capital leads to a wealth effect and an increase in real consumption. With the rise in efficiency and consumption in the economy there is a lift in real investment, which increases to a peak of 0.38 per cent higher above baseline in 2013.

The extra real consumption demand is met by increased domestic output as well as imports, and there is an increase in real imports of over 0.6 per cent

4.3 APG–Cubed results for Thailand



Data source: APG–Cubed model.

above baseline by the year 2011. However, the economy of Thailand is also more efficient as a result of removing some trade barriers and exports also rise, but by a smaller amount.

The difference between exports and imports leads to a small deterioration in the current account when expressed as a percentage of GDP except for the initial years after the Agreement.

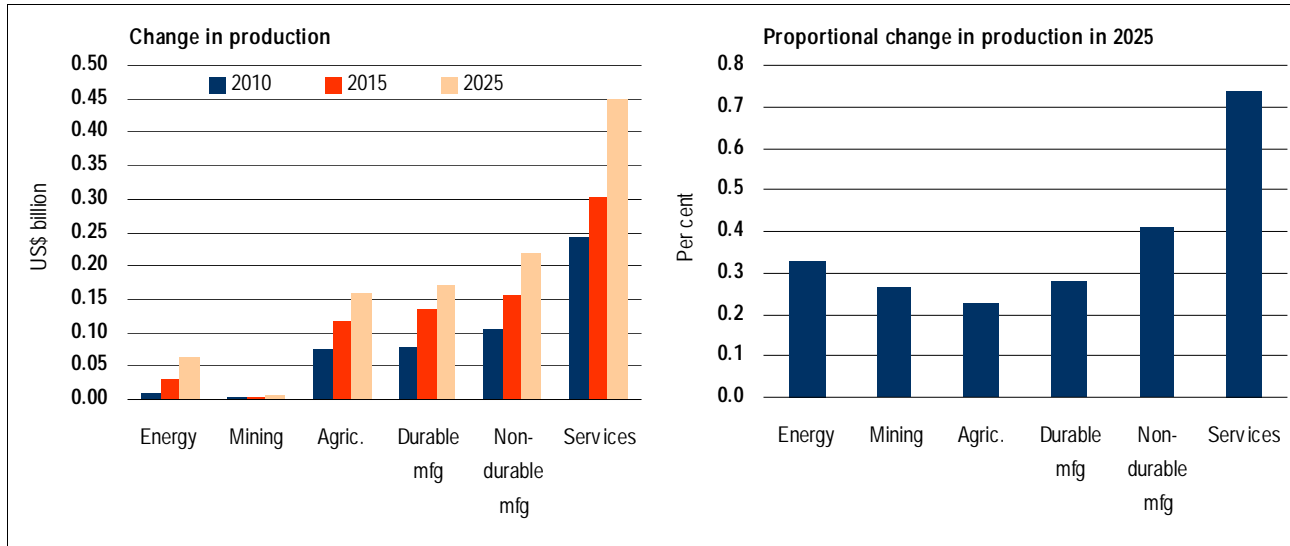
As was the case for Australia, the deteriorating current account implies capital inflow, which leads to nominal appreciation of Thai baht. However, in real terms the Thai currency depreciates (against the US dollar) because significant tariff cuts bring down the price of goods in Thailand relative to prices in the United States.

Sectoral effects

The service sector achieves the greatest change in production — in both absolute and relative terms. Production is around US\$0.45 billion, or 0.74 per cent, higher than the baseline in 2025. This is because the cost reduction in the services sector after the Agreement is not limited to the bilateral relationship between Australia and Thailand as is the case in other (merchandise trade) sectors.

The same demands — export, investment and consumption — give rise to increases in domestic production. What is interesting to note, however, is that the change in production of agricultural products is the smallest of all sectors (around 0.23 per cent in 2025), although agriculture is the second most distorted sector before the trade liberalisation. Two of the three sources of demand rise to a smaller extent for agricultural goods than for other products. The export growth is limited because Thai agricultural products already enjoy relatively free market access in Australia before the Agreement. Furthermore, agricultural products are not typical investment goods, so the investment demand for agricultural goods is small. In fact, the increase in consumption of agricultural products is among the highest in all sectors due to lower price brought by tariff cuts and efficiency improvement, but it is not big enough to make up the lower increases in export and investment demands.

4.4 Thai sectoral results Deviation from baseline



Data source: Simulations with APG-Cubed model.

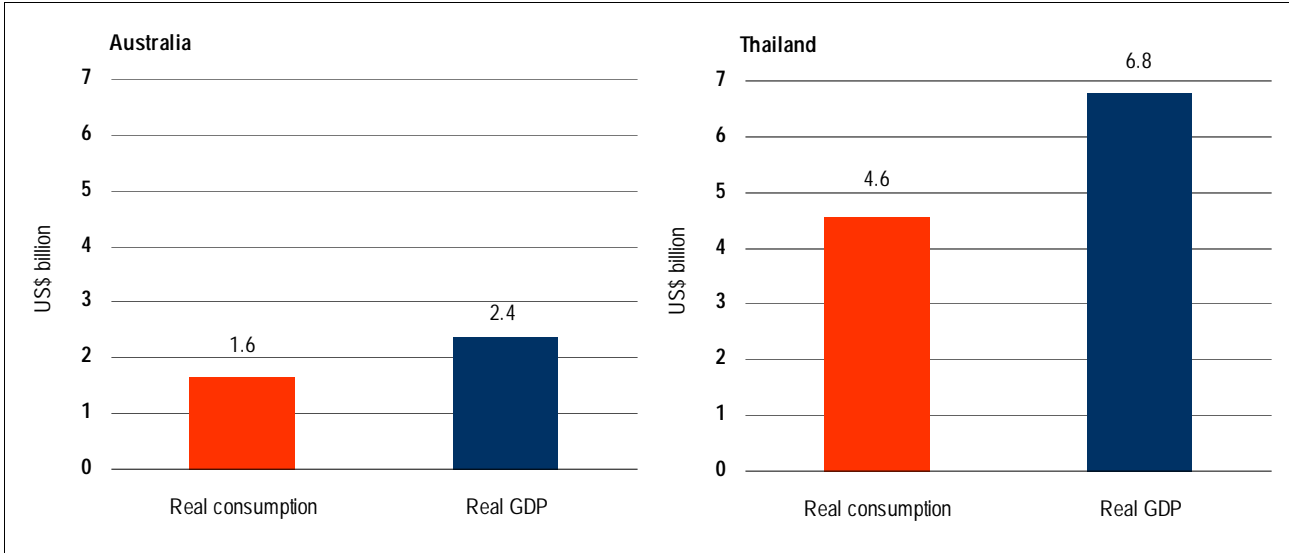
Welfare and production gains

The additional welfare (real consumption) and production (real GDP) gains under the Agreement is reported in chart 4.5. Results are presented in net present value (NPV) terms, which allows us to place a current value on gains that may not be experienced until some time in the future.

Thailand could experience gains to real welfare (consumption) of nearly US\$4.6 billion while Australia gains US\$1.6 billion. For real GDP, the gains are US\$6.8 billion for Thailand and US\$2.4 billion for Australia. The gains to Thailand being around three times the gains for Australia. As explained earlier, the gains are greatest to Thailand principally because they are reducing more distortions to their economy (barriers to trade) than Australia is (Australia is a relatively open economy). This highlights the well-known point that barriers to trade and investment primarily hurt the country imposing the barriers. The implication is that the gains from unilaterally reducing all barriers to trade on a most favoured nation basis would give even greater gains. Other analysis (such as McKibbin 1999 and Stoeckel, Tang and McKibbin) bears this out — that greatest gain to a country comes from is multilateral trade reform, which highlights the importance of the current round of WTO trade talks.

4 IMPLICATIONS OF THE AGREEMENT FOR GROWTH, TRADE AND INVESTMENT FLOWS

4.5 Welfare and production gains from the Agreement NPV 2002^a



^a Over 20 years discounted at model determined real interest rates.

Data source: APG-Cubed model.

Appendices

A

Barriers to trade

THE QUANTITATIVE ANALYSIS for this study requires estimates of protection for the six sectors identified in the APG–Cubed model. To obtain these estimates trade barriers for the 57 GTAP5 sectors have been calculated. Production weights — obtained from the GTAP5 database — have been used to aggregate these barriers to the sectors identified in the APG–Cubed model.

Production weights are favoured over import weights as import weights may give insufficient weighting to high, and therefore very distortionary, import tariffs. For example, if high tariffs are successful in discouraging imports this will mean that they have a low weighting and the level of protection afforded by the tariff will be significantly underestimated. As protection encourages domestic production, local production is deemed to be the most suitable weight.

Barriers to merchandise trade

The derived tariff barriers to merchandise trade at the GTAP5 sector level is shown in table A.1. Using tariff schedules provided by DFAT, Australia’s simple average MFN tariff rate is 3.9 per cent in 2004, while in Thailand it is 15.0 per cent.

The tariff barriers imposed on bilateral Australia–Thailand merchandise trade has been calculated using a combination of simple averaging and production weighted tariffs. Tariff schedules for Australia and Thailand, operating at either the 6 or 8 digit Harmonised System (HS) level, were provided by DFAT. These schedules were used to derive simple average MFN tariff rates.

A.1 Tariff barriers to merchandise trade at the GTAP5 sector level 2004

GTAP sector	Australian tariffs		Thai tariffs
		Per cent	Per cent
1	Paddy rice	0.00	30.00
2	Wheat	0.00	0.00
3	Cereal grains nec	0.00	2.00
4	Vegetables, fruit, nuts	0.59	36.96
5	Oil seeds	0.50	27.79
6	Sugar cane, sugar beet	0.00	31.00
7	Plant-based fibers	0.00	4.29
8	Crops nec	0.13	23.77
9	Bovine cattle, sheep and goats, horses	0.00	11.50
10	Animal products nec	0.27	11.31
11	Raw milk	0.00	0.00
12	Wool, silk-worm cocoons	0.71	2.16
13	Forestry	0.00	13.67
14	Fishing	0.00	10.84
15	Coal	0.00	1.00
16	Oil	0.00	0.50
17	Gas	0.00	0.00
18	Minerals nec	0.39	2.60
19	Bovine meat products	0.00	34.99
20	Meat products nec	0.60	31.73
21	Vegetable oils and fats	1.36	15.27
22	Dairy products	2.88	19.70
23	Processed rice	0.00	30.00
24	Sugar	0.00	39.56
25	Food products nec	1.50	23.15
26	Beverages and tobacco products	2.32	41.41
27	Textiles	9.72	17.57
28	Wearing apparel	19.09	32.28
29	Leather products	6.38	19.24
30	Wood products	3.00	15.60
31	Paper products, publishing	3.07	14.78
32	Petroleum, coal products	0.00	4.27
33	Chemical, rubber, plastic products	2.14	8.45
34	Mineral products nec	3.01	17.51
35	Ferrous metals	1.83	7.98
36	Metals nec	1.02	7.23
37	Metal products	4.17	18.96
38	Motor vehicles and parts	6.78	43.99
39	Transport equipment nec	2.31	16.05
40	Electronic equipment	1.14	10.94
41	Machinery and equipment nec	2.66	10.00
42	Manufactures nec	2.26	14.55

Source: CIE calculations.

The quantitative analysis for this study requires estimates of protection for the six sectors identified in the APG-Cubed model. A concordance (McDougall, date uncertain) was used to match tariff rates contained in the tariff schedules to the corresponding sector identified by the GTAP5 database (the latest currently available). This allowed the calculation of a simple average tariff rate for each of the 42 merchandise trade GTAP sectors. Production weights — obtained from the GTAP5 database — were

then used to aggregate these barriers to the sectors identified in the APG-Cubed model.

Using simple averages to derive the tariff rates has, in a few instances, lead to ‘unexpected’ rates. For example, consider the Australian tariff imposed on Motor vehicles and parts (6.78 per cent). In 2004, the tariff on passenger motor vehicles, original components and replacement components was 15 per cent, but only 5 per cent on light commercial vehicles and four-wheel-drives. As the majority of Motor vehicle and parts imports would be passenger motor vehicles (and components), we would expect the average MFN tariff to be close to 15 per cent. In using a simple average, light commercial vehicle and four-wheel-drive imports have been given equal (and unwarranted) weighting to passenger motor vehicles when determining the average tariff. This lowers the production weighted APG-Cubed durable manufactures tariff rate as Motor vehicles and parts is the second largest contributor to that sector’s production.

When deriving the tariff rates imposed on merchandise trade, it has been assumed for those commodities attracting either an ad valorem tariff rate or specific duty that it is the ad valorem rate that results in a higher amount of duty being levied and hence is applied. To the extent that for some commodities the specific duty results in a higher amount of duty being levied, the derived tariff rates will be understated.

Barriers to services trade

Under the Agreement, Australia and Thailand will endeavour to strengthen trade in a range of services by progressively liberalising the barriers that prevent businesses from entering those markets. Although Australia has made commitments to reduce barriers on a number of services, DFAT has noted that these commitments do not actually include *additional* reductions in barriers to service exports from Thailand. Australia’s liberalisation of trade in services under the Agreement is standstill.

Thailand is to liberalise the regulatory climate that currently applies to a number of service sectors. These include:

- management and consultancy services and a range of business services;
- certain construction and communication services;
- retailing and wholesale services for products manufactured by Australian companies based in Thailand;

- certain tertiary education services;
- hotel, restaurant and certain recreational services; and
- auxiliary maritime transport services (DFAT 2003).

The majority of service liberalisation will be in foreign ownership and the labour market. Liberalisation of trade in these areas is discussed further below.

Table A.2 lists the reduction in costs that Thailand and Australia may experience as a result of the liberalisation of the service sectors under the Agreement. Because Australia's liberalisation on services is standstill, there will be no cost savings experienced by Australia. However, it has been assumed that Thailand will experience a reduction in costs of 0.5 per cent in communications and a reduction of two per cent in business services.

A.2 Barriers to services trade at the GTAP5 sector level^a

<i>GTAP sector</i>		<i>Australian tariffs</i>	<i>Thai tariffs</i>
		Per cent	Per cent
43	Electricity	0	0
44	Gas manufacture, distribution	0	0
45	Water	0	0
46	Construction	0	0
47	Trade	0	0
48	Transport nec	0	0
49	Water transport	0	0
50	Air transport	0	0
51	Communication	0	0.5
52	Financial services nec	0	0
53	Insurance	0	0
54	Business services	0	2.0
55	Recreational and other services	0	0
56	Public Administration, defense, education, health	0	0
57	Dwellings	0	0

^a Barriers to services trade are reported as the percentage reduction in the cost of that service following trade liberalisation.

Source: CIE estimates.

Production weights have been used to aggregate the 15 GTAP5 service sectors to the APG–Cubed Service sector for Thailand. Due to the relatively small liberalisation on services trade offered by Thailand, it has been estimated that the cost of Thai services will be reduced by approximately 0.2 per cent.

Communication

Foreign providers of telecommunication services in Thailand face significant barriers to trade. The Productivity Commission (1999) estimates

that the current market structure and regulatory arrangements raise the price of domestically provided services by 30 per cent, while unfavourable country of origin type treatment raises the price of foreign provided telecommunication services by a *further* 25 per cent.

Thailand committed under the WTO to open the telecommunications services sector to direct foreign competition by 2006. Although the Thai government has allowed foreign participation in the telecommunications sector since 1989, progress towards full liberalisation remains slow. The Telephone Organization of Thailand (TOT) and the Communications Authority of Thailand (CAT) are Thailand's major suppliers of domestic and international telephone services. A few large private sector companies who are either in joint transfers with TOT or CAT, or entered into build, transfer, operate contracts, provide wireless and fixed line services. Both state monopolies compete with private operators in providing mobile and a few other services, such as data communication and paging. The CAT and the TOT both have a small share of the mobile phone market - private consortiums with concessions are the main suppliers (WTO 2004).

Previously, it was assumed Thailand gave Australian companies uninhibited access to the Thai communications market (CIE 2002). Telstra is a world-class telecommunication service provider, and has established operations in a number of Asian countries. Given Telstra's experience in the region, expanding services to Thailand following implementation of ATFTA did not seem beyond Telstra's (or other Australian service providers') capability. Therefore the competitive position of the Australian telecommunication sector was considered to be sufficient to lower the price of telecommunication services in Thailand by 5 per cent.

However, Australia has not obtained uninhibited access to the communications market as there has only been marginal concessions offered by Thailand. Under the Agreement, Australian telecommunication suppliers are still restricted — they will be limited to owning less than 40 per cent of the equity of registered Thai companies supplying telecommunication services and less than 50 per cent for telecommunications equipment sales services. Therefore the impact on costs has been assumed to be only 10 per cent of that available under full liberalisation. That is, a cost reduction of 0.5 per cent has been assumed, which represents the ability of Australia's communication industry to capitalise on the limited reductions in trade barriers.

Business services

Thailand restricts foreign provision of business services such as accounting, legal, architectural and engineering. For example, foreign accountants cannot be licensed as certified public accountants and require a licence to provide statutory auditing. Foreign equity participation is currently limited to 49 per cent and the number of foreign shareholders or partners may not exceed 50 per cent of the total number of shareholders or partners. In addition, a Thai national must be the managing partner (WTO 2000).

The *Alien Occupation Act 1978* restricts the ability of foreign professionals to work in Thailand by limiting the issuing of work visas. Under the Act, many occupations are theoretically off limits to foreign professionals, including auditing and accounting, law, architecture and engineering (although work visas can be obtained in certain circumstances). Foreign professional working in unrestricted professions must have work permits from the Immigration Bureau and Ministry of Labour and Social Welfare (EAAU 2000).

Previously, liberalisation of business services was assumed to reduce costs of those services in Thailand by approximately 2 per cent (CIE 2002). This was based on the Productivity Commission restrictiveness indexes for a range of professional services and assumed liberalising labour movements.

Liberalisation of business services under the Agreement has been retained at 2 per cent. Under the Agreement, there has been a significant easing of labour movement restrictions. Thailand have granted extended visas and work permits for all Australian citizens being transferred to work in Thailand from one year to five, and increased the work permit from one year to three for contractors working in Thailand. They will also allow Australians who hold work permits to participate in business meetings anywhere in Thailand.

Furthermore, Thailand has increased the allowable majority holding from 49.9 per cent to 60 per cent in business services such as distribution, construction, and management consulting services.

B

Detailed results from the APG–Cubed model

DETAILED RESULTS for the modelling of the economic impacts of the trade liberalisation under the Agreement are reported in table B.1.

The following variables are reported:

- GDP — real gross domestic product
- Con — real consumption
- Exp — real exports
- Imp — real imports
- Inv — real investment
- ER — real exchange rate (against US dollar)

B DETAILED RESULTS FROM THE APG-CUBED MODEL

B.1 Detailed results of the ATFTA Percentage deviation from baseline

Year	Australia						Thailand					
	<i>GDP</i>	<i>Con</i>	<i>Exp</i>	<i>Imp</i>	<i>Inv</i>	<i>ER</i>	<i>GDP</i>	<i>Con</i>	<i>Exp</i>	<i>Imp</i>	<i>Inv</i>	<i>ER</i>
	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
2003	0.005	0.000	0.000	0.000	0.000	0.000	-0.019	0.000	0.000	0.000	0.000	0.000
2004	0.012	0.009	-0.049	0.026	0.073	0.024	-0.026	-0.049	0.055	-0.040	-0.114	-0.030
2005	0.022	0.021	0.142	0.172	0.089	0.036	0.162	0.182	0.267	0.316	0.003	-0.093
2006	0.024	0.023	0.138	0.173	0.099	0.037	0.185	0.193	0.262	0.345	0.080	-0.091
2007	0.026	0.026	0.161	0.188	0.102	0.041	0.207	0.223	0.276	0.407	0.142	-0.095
2008	0.026	0.030	0.179	0.198	0.100	0.044	0.232	0.265	0.287	0.461	0.205	-0.098
2009	0.027	0.032	0.192	0.203	0.093	0.046	0.259	0.317	0.295	0.509	0.263	-0.100
2010	0.028	0.035	0.224	0.222	0.084	0.048	0.289	0.379	0.318	0.585	0.324	-0.104
2011	0.026	0.036	0.224	0.219	0.074	0.047	0.317	0.443	0.318	0.607	0.363	-0.104
2012	0.025	0.036	0.224	0.216	0.064	0.047	0.343	0.511	0.319	0.623	0.382	-0.104
2013	0.024	0.036	0.225	0.213	0.056	0.046	0.366	0.581	0.321	0.636	0.386	-0.105
2014	0.023	0.035	0.225	0.210	0.048	0.045	0.386	0.647	0.324	0.645	0.382	-0.106
2015	0.021	0.034	0.229	0.209	0.041	0.045	0.404	0.709	0.330	0.658	0.372	-0.108
2016	0.020	0.032	0.229	0.206	0.035	0.044	0.418	0.760	0.334	0.662	0.358	-0.110
2017	0.019	0.030	0.229	0.204	0.031	0.043	0.429	0.801	0.339	0.663	0.342	-0.111
2018	0.017	0.029	0.229	0.202	0.028	0.043	0.437	0.829	0.343	0.663	0.326	-0.113
2019	0.016	0.027	0.229	0.200	0.026	0.042	0.443	0.845	0.348	0.662	0.310	-0.116
2020	0.015	0.025	0.229	0.198	0.024	0.042	0.446	0.851	0.354	0.660	0.294	-0.118
2021	0.014	0.023	0.228	0.196	0.024	0.041	0.448	0.846	0.359	0.656	0.280	-0.120
2022	0.014	0.022	0.228	0.194	0.023	0.041	0.448	0.833	0.364	0.651	0.266	-0.122
2023	0.013	0.021	0.227	0.193	0.023	0.041	0.446	0.814	0.370	0.646	0.254	-0.124
2024	0.012	0.019	0.226	0.192	0.024	0.040	0.444	0.790	0.375	0.641	0.243	-0.127
2025	0.012	0.018	0.225	0.191	0.024	0.040	0.440	0.763	0.380	0.635	0.232	-0.129

Source: APG-Cubed model simulations.

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