



**Modelling the Potential Benefits of  
an Australia-China Free Trade Agreement:  
Impact on Australian States and Territories**

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## **1. Introduction**

This briefing reports the impact of an Australia-China Free Trade Agreement (FTA) on Australian States and Territories. The impact is analysed by simulating three aspects of an FTA using the Monash Multi-Country (MMC) model developed at the Centre of Policy Studies (CoPS) (see Mai 2004). The three aspects of the FTA simulated are the removal of border protection on merchandise trade, investment facilitation and services trade liberalisation. We assume that the policy changes are implemented in 2006. The modelling assumptions are presented in the main report on the potential benefits of an Australia-China FTA (see Mai, Adams, Fan, Li and Zheng 2005).

The MMC model uses a top-down regional methodology to analyse the effects of national policy changes on States and Territories (see Chapter 6 in Dixon, Parmenter, Sutton and Vincent 1982). The relevant database for the regional extension is drawn from The Enormous Regional Model (TERM) developed at CoPS (See Horridge, Madden and Wittwer 2005).

The top-down regional methodology is less elaborate than a bottom-up regional model such as MMRF (see Adams, Parmenter and Horridge 2000) which models production and trade at an industry level for each State/Territory. Under the top-down framework, the key factors determining the effects of a national policy change on the output and employment for each State/Territory are the locations of affected industries, and the importance of these industries in terms of their shares in the total output of each region. In general, a region's share in national output will increase if it has an economic structure which is over-represented in sectors that are favourably affected by a policy change. The larger the share of the expanding industries in the total output of the States/Territories, the larger the positive impact on output and employment. The expansion in the output, in turn, leads to an increase in the demand for local services, further contributing to the positive impact of the policy change on output.

The next three sections contain discussions on the effects of each of the three aspects of an Australia-China FTA. The last section contains a concluding summary.

## **2. The effects of removing border protection on merchandise trade**

The first column of Table R.1 shows deviations in State and Territory output from their baseline levels in 2015. The deviations are caused by the removal of border protection on merchandise trade. Table R.1 shows that the removal of border protection on merchandise trade has a positive impact on the output of all States/Territories. The increase (relative to baseline) in State and Territory output in 2015 ranges from 0.03 per cent for Australian Capital Territory (ACT) to 0.34 per cent for Western Australia (WA).

Compared to the baseline, the removal of border protection on merchandise trade between Australia and China leads to expansions in Australian agriculture and food, mining, and non-ferrous metals industries; and contractions in clothing, miscellaneous manufacturing, and motor vehicles and parts industries (Mai et. al. 2005). Thus the States/Territories which are over-represented in agriculture and mining tend to benefit more from an FTA than States/Territories which are over-represented in clothing and miscellaneous manufacturing.

## **3. The effects of investment facilitation**

Unlike the removal of border protection on merchandise trade, investment facilitation has a relatively even impact at industry level. The effects of investment facilitation on industry output ranges from 0.1 to 0.2 per cent (Table 5.2 in Mai et. al. 2005). Consequently, investment facilitation measures generate relatively even gains for all States/Territories. The increase relative to baseline in State and Territory output in 2015 due to investment facilitation ranges from 0.10 per cent to 0.12 per cent (Table R.1).

## **4. The effects of services trade liberalisation**

The services sector is the major contributor to output in all Australian States/Territories. The share of services in State and Territory output ranges from about 65 per cent for WA to about 90 per cent for ACT. All States/Territories therefore benefit from the expansion in the output of services industries following the services trade liberalisation. Table R.1 shows that output increases (relative to baseline) by about 0.15 per cent for all States/Territories in 2015. The ACT, with the highest share of services in its total output, benefits slightly more than other States/Territories in percentage change terms.

## **5. The effects of all three aspects of an Australia-China FTA**

Together the three aspects of trade and investment liberalisation under the context of an Australia-China FTA deliver increases in output for all States/Territories relative to the baseline. The increases in State and Territory output in 2015 range from 0.29 per cent for ACT to 0.60 per cent for WA or from US\$36 million for NT to US\$930 million for NSW in absolute terms (see the final columns of Table R.1). The variation in gains in State and Territory output is mainly caused by the removal of border protection on merchandise trade.

In percentage change terms (Table R.1), WA gains more than other States/Territories from the removal of border protection on merchandise trade as it hosts a large share of the agriculture and mining industries that expand following the removal of border protection on merchandise trade. WA is one of the largest agriculture producers among Australian States/Territories and hosts a dominate share of the Australia's mining industries. WA is also expected to gain more than other States/Territories from investment facilitation because the productivity improvement following the investment liberalisation makes Australian products more competitive internationally, and WA is the most export-intensive region. Among the three aspects of an FTA, the removal of border protection on merchandise trade is expected to deliver the largest gains in output for WA (compare the first, third and fifth columns of Table R.1).

New South Wales (NSW) and Victoria (VIC) benefit from the expansion in agriculture and food industries. NSW also gains significantly from the expansion in the non-ferrous metals industry. The benefits, however, are partially offset by an expected contraction in the clothing industry. NSW and VIC each hosts over 40 per cent of the Australian clothing industry. VIC is also the largest producer of miscellaneous manufactured products and motor vehicle and parts among Australian States/Territories. Consequently, NSW and VIC are expected to benefit more from investment facilitation and services trade liberalisation than from the removal of border protection on merchandise trade (compare the first, third and fifth columns of Table R.1). In absolute dollar terms, NSW and VIC are expected to gain more in output than other States/Territories because they

have larger Gross State Output than other States/Territories (see the last column of Table R.1).

South Australia (SA) benefits from the expansion in agriculture, food, and services industries, as well as productivity gains of the investment liberalisation. Unlike NSW and VIC, the benefits are only modestly offset by the contraction in the clothing, miscellaneous manufacturing, and motor vehicles and parts industries.

Queensland (QLD) benefits from the expansion of agriculture and food, mining and non-ferrous metals industries. Among Australian States/Territories, QLD is the largest sugar producer, second largest producer of minerals nec after WA, and one of the largest producers of non-ferrous metals. The benefits from the expanding industries following the removal of border protection on merchandise trade are slightly offset by an expected contraction in the clothing industry – QLD produces about 8 per cent of Australia's clothing output. Among the three aspects of an FTA, services trade liberalisation is expected to deliver the largest gains in output for QLD.

TAS benefits from the expansion in wool and non-ferrous metals industries. Northern Territory (NT) gains from the expansion in mining industries. Both TAS and NT produce few clothing, miscellaneous manufactured products, and motor vehicles and parts. Among the three aspects of an FTA, the removal of border protection on merchandise trade is expected to deliver the largest gains in output for TAS, while services trade liberalisation is expected to deliver the largest gains in output for NT.

The gains from the removal of border protection on merchandise trade for ACT are relatively small. The ACT economy is dominated by the production of public administration and dwelling services; both of which are little affected by the removal of border protection on merchandise trade. The gains in output for the ACT mainly come from the other two aspects of an FTA - investment facilitation and services trade liberalisation.

### ***Employment impact***

In our modelling, we assume that in the long-run (2015) national employment is determined by demographic factors that are unlikely to be affected by the implementation of an FTA. Thus we assume that the removal of border protection on merchandise trade has no long-run effects on national employment. It follows that the States/Territories with the largest expansions in output tend to draw labour from other States/Territories. The movements of labour between States/Territories as a result of an Australia-China FTA, however, would be expected to be small.

### **6. Concluding comments**

The three aspects of trade and investment liberalisation in an Australia-China FTA would have a positive impact on the output of all Australian States and Territories.

## References

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Table R.1

**Full liberalization in 2006: Impact on State and Territory output**

**Deviation from baseline 2015**

|           | Removal of border protection on merchandise trade |              | Investment facilitation |              | Services trade liberalisation |              | All three simulations |              |
|-----------|---|--------------|-------------------------|--------------|-------------------------------|--------------|-----------------------|--------------|
|           | %   | US\$ million | %                       | US\$ million | %                             | US\$ million | %                     | US\$ million |
| NSW       | 0.06  | 185          | 0.11                    | 307          | 0.15                          | 438          | 0.32                  | 930          |
| VIC       | 0.06  | 117          | 0.11                    | 208          | 0.15                          | 293          | 0.32                  | 619          |
| QLD       | 0.11  | 153          | 0.10                    | 142          | 0.14                          | 197          | 0.36                  | 491          |
| SA        | 0.09  | 50           | 0.11                    | 59           | 0.15                          | 82           | 0.34                  | 191          |
| WA        | 0.34  | 283          | 0.12                    | 98           | 0.14                          | 122          | 0.60                  | 503          |
| TAS       | 0.22  | 37           | 0.11                    | 18           | 0.15                          | 25           | 0.47                  | 80           |
| NT        | 0.10  | 10           | 0.11                    | 11           | 0.15                          | 15           | 0.36                  | 36           |
| ACT       | 0.03  | 6            | 0.10                    | 18           | 0.16                          | 28           | 0.29                  | 53           |
| Australia | 0.12  | 944          | 0.11                    | 864          | 0.15                          | 1199         | 0.37                  | 3007         |

Sources: Policy simulation.

Note: State and Territory output in this table is measured by value added. The changes in the level of State and Territory output may not add to changes in total GDP in Australia as GDP also includes indirect taxes.