



Investment creation and diversion effects of the ASEAN–China free trade agreement

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ABSTRACT

The ASEAN–China free trade agreement went into effect January 1, 2010 and became the world's third largest FTA by trade volume after the European Economic Area and the North American Free Trade Agreement. This paper focuses on highlighting the impacts of the reduction of barriers to trade on investment in a dynamic general computable equilibrium framework. We present and compare two alternative views/models of investment which yield different investment creation and diversion effects. As a first step, we adapt the dynamic GTAP model to take account of bilateral ownership of investment. Two versions of the model are considered. The first version is an example of applied models of investment demand, while the second is a model of investment supply. The two versions are based on different assumptions in their determination of cross-border investment. We simulate the implementation of ACFTA and we focus on the welfare impacts of investment creation and diversion.

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1. Background

At the ASEAN–China summit in November 2001, China proposed the establishment of a free trade area with ASEAN countries.¹ The agreement (ACFTA) was signed in November 2002 and the free trade area came into effect on 1 January 2010.

ACFTA became the world's third largest free trade area in volume after the European Union and the North American Free Trade Area. China and ASEAN had a combined GDP of \$6.6 trillion, population of 1.9 billion and total trade of \$4.3 trillion in 2008. Although before the 1990's there was no official relationship between China and ASEAN as a block, between 1995–2008 bilateral trade between China and ASEAN increased more than tenfold. By 2009, China was ASEAN's second largest trading partner (with 11.6% of total trade), while ASEAN was China's fourth largest (10.1% of total trade).² In addition, ASEAN is a key investor in China, FDI flows reached \$5.46 billion, while FDI flows from China to ASEAN amounted to \$1.4 billion in 2008.

ACFTA is expected to deepen regional integration and to have significant impacts on intra-regional trade and investment. On the one hand, ASEAN will benefit from China's economic growth and investment potential through access to an expanding and diversified market. On the other hand, the increased access to the natural resource and raw material intensive economies of ASEAN countries will benefit China. As a drawback, ASEAN manufacturers are expected to face

higher competition from cheaper Chinese exports on both domestic and international markets.

There are few studies that quantify the economic impacts of ACFTA. [1] used the comparative static GTAP model and estimated that ACFTA will increase real GDP of ASEAN and China by 0.9% and 0.3%, respectively. The same study found that exports from China to ASEAN will increase by 55.1%, while exports from ASEAN to China will expand by 48% as a result of the ACFTA. [32] modify the comparative static GTAP model to include explicit modeling of transnational supply chains and export processing zones in China. They found that CAFTA leads to an increase of welfare of \$1.3 billion and \$2.9 billion for China and ASEAN, respectively. [17] quantify the impacts of the free trade area of the Asia-Pacific (among which the ASEAN–China FTA) is one using a suite of CGE models such as APG-cubed (a dynamic global model), the comparative static GTAP model and CERD (a static model for China). They found that China's benefits increases along with the increase in the coverage of the free trade areas.

With the exception of [17] all of these studies are limited to capturing the comparative static effects of the removal of barriers to trade. An important drawback of comparative static analysis is that it neglects dynamic effects. Indeed, the effect of trade policies are not immediate and a number of effects are linked with capital accumulation over time [4]. In the context of ACFTA it becomes important to take into consideration dynamic effects especially given that the removal of tariffs will be implemented gradually over the course of 10 years.

The objectives of this paper are twofold.

First, we aim to highlight investment creation and diversion effects of the FTA between China and ASEAN in a dynamic general equilibrium framework. The concepts of investment creation and diversion first defined by [19] evolved in parallel with those of trade

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¹ Association of Southeast Asian Nations that include Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam.

² Source: ASEAN Trade Statistics Database and Ministry of Commerce of China.

creation and diversion [33]. Later [3] described investment creation as the incentives to increase investment within the integrating region and investment diversion as the negative effects on investment outside the region. More specifically, discriminatory liberalization lowers the price of capital goods and shift production to countries signatory of the free trade agreement. The rental price of capital increases as industries expand. Investment in these countries increases as a response to higher rates of return. We expect to observe significant investment creation and diversion effects as a results of this FTA due to the fact that China and ASEAN are important recipients and origins of global capital flows. Investment creation and diversion as used in this paper follows that of [3].

Second, we present and compare two alternative views/models of investment which yield different investment creation and diversion effects. As a first step, we adapt the standard dynamic GTAP model (hereafter referred to as GDyn) to take account of bilateral ownership of investment. Two versions of the model are considered. The first version is an example of applied models of investment demand, while the second is a model of investment supply. The two versions are based on different assumptions in their determination of cross-border investment. We simulate the implementation of ACFTA and we focus on the welfare impacts of investment creation and diversion.

2. ASEAN–China economic relations

Despite the fact that China shares a common border with three (Laos, Myanmar and Viet Nam) of the ten ASEAN member countries, before the 1990's there was no official relation between China and ASEAN as a group. Economic relations were boosted starting with the signing of the ASEAN–China Framework Agreement of Comprehensive Economic Cooperation in November 2002 with the target of creating ACFTA in 2010. The Framework Agreement resulted in successive agreements covering different areas of economic integration: Agreement on Trade in Goods (November 2004), Agreement on Trade in Services (January 2007) and the Agreement on Investment (August 2009).

As of January 1, 2010 ACFTA came into effect. Under this framework, China and six ASEAN countries (Brunei, Indonesia, Malaysia, Philippines, Thailand and Singapore) eliminate tariffs on 7000 product categories covering 90% of traded goods. The other four ASEAN nations (Cambodia, Myanmar, Laos and Viet Nam) are expected to join by 2015.

In 2008, ASEAN–China merchandise trade totalled \$175.38 billion, 13.15 times the value of that in 1995 (\$13.32 billion). ASEAN's exports to China grew from \$6.2 billion in 1995 to \$85.55 billion in 2008, while imports from China increased from \$7.12 billion in 1995 to \$89.83 billion in 2008 (see Fig. 1). By 2009, China was ASEAN's second largest trading partner (with 11.6% of total trade), while ASEAN was China's fourth largest (10.1% of total trade).³

The composition of ASEAN–China trade is concentrated in key manufacturing sectors. Thus, ASEAN's top 5 export commodities to China in 2008 included sound and television equipment (HS⁴ 85), nuclear reactors and machinery (HS 84), mineral fuels and oils (HS 27), rubber (HS 40) and animal or vegetable fats (HS 15) covering 67.5% of total exports to China. On the other hand, the top 5 import commodities from China were sound and television equipment (HS 85), nuclear reactors and machinery (HS 84), iron and steel (HS 72), mineral fuels and oils (HS 27) and articles of iron and steel (HS 73) covering 66.1% of total imports from China. We note that the structure ASEAN's imports from China and that of exports to China is very similar given that of 3 of the top 5 commodity categories traded are identical.

³ Source: ASEAN Trade Statistics Database and Ministry of Commerce of China.

⁴ Harmonized Commodity Description and Coding System.

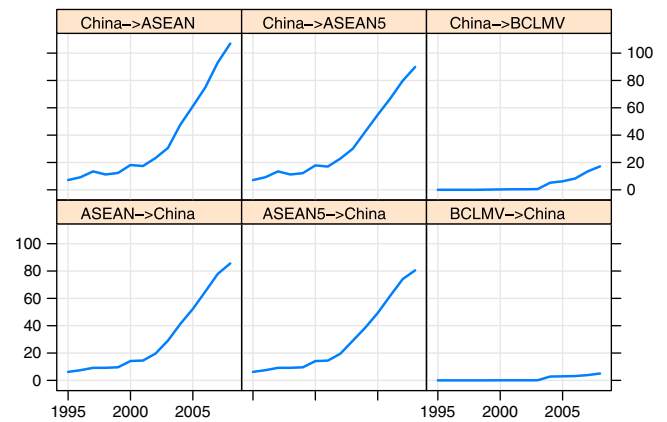


Fig. 1. ASEAN–China trade flows, 1995–2008 (\$bil).

Source: ASEAN Statistical Yearbook 2008. BCLMV refers to Brunei, Cambodia, Laos, Myanmar and Viet Nam.

Along with trade, bilateral investment between ASEAN and China has gradually expanded since the signing of the Framework Agreement, although it constitutes only a modest share of the two regions' total FDI inflows. In 2008, FDI flows from China to ASEAN countries totalled \$1.49 billion – a more than eight-fold increase from 0.16 billion in 1995. Chinese FDI accounted for only 2% of total ASEAN FDI (see Fig. 2). On the other hand, ASEAN is a net investor in China with FDI flows totaling to \$5.46 billion in 2008 (5% of total FDI inflows to China).

Table 1 details the evolution of bilateral FDI flows between China and ASEAN countries. We find that in 2004 the main destinations of Chinese FDI to ASEAN were Indonesia (\$0.29 billion), Singapore (\$0.21 billion) and Myanmar (\$0.1 billion). On the other hand, among ASEAN countries Singapore was by far the most significant foreign direct investor in China (\$2 billion) in 2004, followed by Malaysia (\$0.35 billion) and Thailand (\$0.17 billion).

3. Modelling framework

Traditionally, trade policy analysis has been at the core of the classic CGE exercise, but with the growing importance of cross-border investment flows applied general equilibrium models are increasingly focusing on adopting mechanisms for modeling international investment, in general, and FDI, in particular. Incorporating international capital mobility in CGE requires explicit tracking of capital stocks, ownership and wealth and the corresponding welfare effects of these.

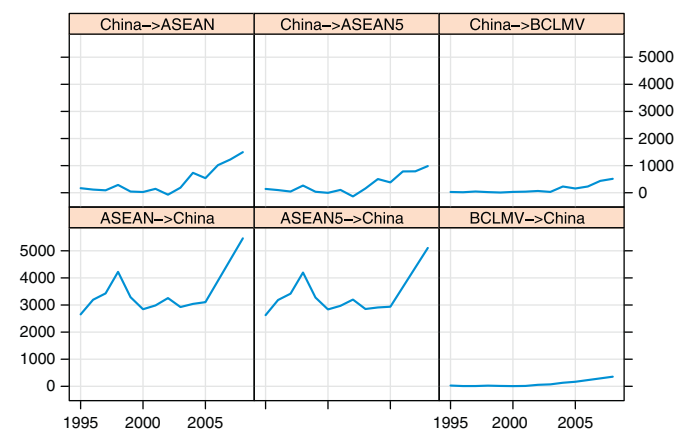


Fig. 2. ASEAN–China FDI flows, 1995–2008 (\$mil).

Source: ASEAN Statistical Yearbook 2008. BCLMV refers to Brunei, Cambodia, Laos, Myanmar and Viet Nam.

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