The Impact on Canada of the Rise of the Chinese Economy: Good, Bad or Indifferent?

Don Drummond and Kyle Clemens

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Abstract
From humble beginnings less than twenty years ago, the economic relationship between Canada and the Chinese has flourished so that China is now Canada’s second most important trading partner after the United States. The Chinese demand for Canada’s exports, in particular in the natural resource sectors, has been a clear win for Canada, especially during the recent Great Recession where demand from other countries dropped sharply. But other aspects of the relationship have led to suggestions of costs. Canada’s large trade deficit with China at least looks superficially as a drag on the Canadian economy. It has been suggested the greater exposure to a low cost producer has displaced Canadian production and jobs and lowered wages. We find that each argument for costs to the relationship ignores important factors. On balance we conclude the relationship has been good for Canada, and it could be even better in the future.

1. Introduction
Nearly twenty years ago Canada had a very limited economic relationship with China. In 1997, China accounted for only 0.7 per cent of Canada’s exports and 1.9 per cent of imports, with bilateral trade totalling $8.7 billion. Trade with China grew rapidly in the late 1990s but really began to flourish from 2003. From 2003 to 2013 exports to Canada grew at an average annual growth rate of approximately 17 per cent. China’s share of Canada’s total exports rose from 1 to 4 per cent. The growth rate of imports, at approximately 11 per cent per year, was nearly as impressive. This growth brought China’s share in Canada’s imports to 11 per cent from 4 per cent a decade ago. China is now Canada’s second most important export and import market and bilateral trade has reached approximately $78 billion, or almost 10 times the level of 1997. Only trade with the U.S., at an approximate 76 and 52 per cent export and import share respectively, is more impressive. Trade in services has been growing rapidly but volumes remain small relative to the exchanges on the merchandise side. In 2013, China accounted for nearly 3 per cent of Canada’s services exports and 2 per cent of services imports.

With imports roughly 2 times the level of exports, Canada has had a chronic trade deficit with China. In 2013 this deficit was $32 billion. Canada’s balance of trade resulted in a deficit of $7.2 billion in 2013, indicating China is arguably the largest ‘net-source’ of deficit within Canada’s balance of trade. The focus of this paper is on trade, but we note the rapid growth in foreign direct investment (FDI) between the two countries, albeit to still quite low levels.

The recently bolstered economic relationship has an easily identifiable economic benefit to Canada – increased demand for Canadian exports. However, such demand is fairly concentrated in certain natural resources and as a consequence the benefit is unevenly distributed across sectors and regions of Canada. Few goods are exported beyond some notable natural resources and as noted above, trade in services remains quite small. Benefits of the increased exports particularly shone during the Great Recession of 2009-10 and

1 Khondaker, 2007, Statistics Canada Table 380-0027, Canada’s State of Trade, 2013, and Government of Canada (2014a)
2 Ibid.
3 Ibid.
4 Government of Canada (2014a)
5 Ibid.
in the recovery period, as demand from China for Canada’s resources remained strong whereas demand from most other countries faltered. Against the unambiguously positive impact on the Canadian economy through exports, suggestions have been made of costs to Canada from the growing relationship to the rapidly growing Chinese economy. Among the alleged costs are:

- The $32 billion trade deficit with China is a drag on the Canadian economy;
- Chinese demand pushed up commodity prices which in turn caused an appreciation of the Canadian dollar, hurting the competitiveness of other trading sectors such as manufacturing (a phenomenon known as “Dutch Disease”);
- The growing satisfaction of Canadian demand with imports from low cost China has displaced Canadian production and jobs; and
- The low cost of Chinese imports, supported by the low level of wages in that economy, has depressed Canadian wages.

In this paper we will discuss such depicted costs, and uncover the elements that are frequently overlooked in such arguments that mitigate any alleged costs.

In its simplest form, the suggestion that the closer economic relationship with China is depressing Canadian wages is based on the observation that wages are much lower in China. But there are many components of the relative competitiveness positions of two countries. For example, a country could be competitive with another despite having wages 10 times higher if productivity were also 10 times higher. As well, the exchange rate between the two countries affects competitiveness. In this paper we analyze the relative wage rates adjusted for productivity and the exchange rate. In this section we first look at competitiveness between the United States and China because the U.S. has in good part restored its competitiveness position with China through productivity increases and a depreciation of the U.S. dollar against the Chinese currency. Costs are higher in Canada than in both the U.S. and China because productivity growth has been weaker here, until recently the Canadian dollar was quite strong and Canadian wages have not declined to compensate.

In general, a fair bit of the analysis in this paper relies upon studies done on the impact of the rise of the Chinese economy on the U.S. economy. That is simply because there is much more literature on the U.S. than the Canadian case. We must often then make inferences about how the U.S. findings might apply to Canada.

Looking forward, we discuss where this relationship will go and how might it resoundingly benefit Canada. We comprehensively survey the Canada-China economic relationship, assessing both the benefits and costs, and what this means for Canada in the years ahead. The emergence of China as an economic force is good for Canada, and it could be even better. Some of that will depend upon actions from China; much of it rests in the hands of Canadians.

2. Trade Relationship
Twenty years ago the Canada-China economic relationship was virtually non-existent. Bilateral trade totalled $8.7 billion, Canadian exports to China were less than one per cent of Canada’s total exports, and Chinese imports accounted for less than two per cent of all imported goods to Canada. The relationship began to change in the 1990s, and it was not until the early 2000s that we saw the relationship really begin to flourish. From 2003 to 2013 the bilateral trading relationship nearly tripled, resulting in China becoming Canada’s second most important trading partner, second only to the United States. Canada’s bilateral trade with China has maintained the momentum as of late, increasing by nearly 12 per cent from 2011 to 2013, now totalling
nearly $78 billion. This included growth in Canadian merchandise exports to China of 21.9 per cent, which conversely outpaced Canada’s merchandise imports, growing at a rate of 9.4 per cent over the same period. Notwithstanding these achieved gains in exports to China, Canada’s trade deficit with China is now more than $32 billion, and has been stable for the past couple of years. Despite slow global growth, Canadian exporters have increased business with Chinese firms.

China isn’t the only economy to boom over the past decade or so. Many other emerging economies could be said to have emerged. Initially there were common references to the BRICs. But even that has since been expanded to numerous countries in the Asia-Pacific. Figure 2.1 shows the increases in bilateral merchandise trade with Canada’s top 15 merchandise trading partners. With the risk of slighting the remarkable transformation of other economies and their growing importance to Canada, we choose to focus on China because the trade volumes are so much larger than the other emerging economies and their relationship with Canada has grown at a faster rate. For instance, between 2008 and 2013, Canada’s bilateral merchandise trade with China has increased faster than any other country in the world. More impressive, is that China’s annual bilateral merchandise trade with Canada is worth $41.1 billion more than Canada’s third most important merchandise trading partner, and second fastest growing partner - Mexico.

Figure 2.18
Canada’s Bilateral Merchandise Trade: Customs Basis, Including Re-Exports: 2008-2013
(Millions of Canadian Dollars)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>China, P. Rep.</td>
<td>Developing</td>
<td>53,096.0</td>
<td>50,812.3</td>
<td>57,756.4</td>
<td>64,998.3</td>
<td>70,086.7</td>
<td>73,235.7</td>
<td>8%</td>
<td>7%</td>
</tr>
<tr>
<td>Mexico</td>
<td>Developing</td>
<td>23,760.0</td>
<td>21,339.2</td>
<td>27,119.5</td>
<td>30,038.0</td>
<td>30,905.2</td>
<td>32,111.8</td>
<td>3%</td>
<td>7%</td>
</tr>
<tr>
<td>India</td>
<td>Developing</td>
<td>4,655.1</td>
<td>4,142.2</td>
<td>4,840.2</td>
<td>5,162.5</td>
<td>5,217.2</td>
<td>5,777.1</td>
<td>1%</td>
<td>5%</td>
</tr>
<tr>
<td>Brazil</td>
<td>Developing</td>
<td>5,265.3</td>
<td>4,177.0</td>
<td>5,844.9</td>
<td>6,731.0</td>
<td>6,573.4</td>
<td>6,983.8</td>
<td>1%</td>
<td>5%</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Developing</td>
<td>5,329.7</td>
<td>4,457.2</td>
<td>5,264.6</td>
<td>6,045.6</td>
<td>6,219.4</td>
<td>1%</td>
<td>4%</td>
<td>12%</td>
</tr>
<tr>
<td>Switzerland</td>
<td>Developed</td>
<td>4,445.4</td>
<td>4,633.5</td>
<td>4,479.2</td>
<td>4,303.4</td>
<td>4,430.1</td>
<td>5,725.1</td>
<td>1%</td>
<td>6%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Developed</td>
<td>5,875.6</td>
<td>6,268.4</td>
<td>4,934.6</td>
<td>7,707.4</td>
<td>8,107.2</td>
<td>6,946.4</td>
<td>1%</td>
<td>6%</td>
</tr>
<tr>
<td>Korea, South</td>
<td>Developed</td>
<td>9,049.4</td>
<td>9,460.1</td>
<td>9,876.8</td>
<td>11,760.1</td>
<td>10,887.0</td>
<td>10,658.3</td>
<td>1%</td>
<td>3%</td>
</tr>
<tr>
<td>Germany</td>
<td>Developed</td>
<td>17,197.6</td>
<td>14,556.6</td>
<td>15,272.4</td>
<td>16,764.2</td>
<td>17,873.4</td>
<td>18,877.9</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Italy</td>
<td>Developed</td>
<td>7,447.2</td>
<td>6,224.1</td>
<td>6,578.2</td>
<td>7,075.4</td>
<td>6,933.4</td>
<td>7,782.1</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>United States</td>
<td>Developed</td>
<td>602,725.8</td>
<td>456,890.4</td>
<td>501,992.7</td>
<td>550,399.7</td>
<td>572,971.3</td>
<td>605,850.3</td>
<td>64%</td>
<td>1%</td>
</tr>
<tr>
<td>Japan</td>
<td>Developed</td>
<td>26,376.3</td>
<td>20,668.2</td>
<td>22,642.1</td>
<td>23,727.1</td>
<td>25,380.8</td>
<td>24,964.9</td>
<td>3%</td>
<td>-1%</td>
</tr>
<tr>
<td>France</td>
<td>Developed</td>
<td>9,292.2</td>
<td>8,307.0</td>
<td>7,783.5</td>
<td>8,033.2</td>
<td>8,169.0</td>
<td>8,528.9</td>
<td>1%</td>
<td>-1%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Developed</td>
<td>25,551.1</td>
<td>21,443.8</td>
<td>27,081.8</td>
<td>29,121.5</td>
<td>27,299.7</td>
<td>22,390.0</td>
<td>2%</td>
<td>-1%</td>
</tr>
<tr>
<td>Norway</td>
<td>Developed</td>
<td>9,038.9</td>
<td>5,334.8</td>
<td>5,374.4</td>
<td>7,136.0</td>
<td>6,067.9</td>
<td>5,828.7</td>
<td>1%</td>
<td>-5%</td>
</tr>
</tbody>
</table>

A similar trend is evident in Canada’s bilateral services trade. Figure 2.2 shows the increases in bilateral services trade with Canada’s top 15 services trading partners. China trades the largest volume of services amongst all developing countries with Canada, with an impressive five-year growth rate of 62 per cent, only surpassed by Singapore at 71 per cent.

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6 Canada’s State of Trade, 2013
7 Government of Canada (2014a)
8 Ibid.
China is by far Canada’s fastest growing trading partner when considering both merchandise and services trade. However, bilateral growth only tells the story in aggregate. The dynamics and subsequent growth concerning exports and imports provide a necessary lens for examining the Canada-China relationship. Figures 2.3 and 2.4 depict the growth patterns for both Canadian exports and imports within merchandise and services trade, illustrating the trade balances between the two nations.

As of 2013, Canada’s annual merchandise exports were less than half of merchandise imports from China. Thus, generating a substantial merchandise trade imbalance of more than $32 billion. Despite the imbalance, Canadian exporters are making up ground, as merchandise exports to China grew by nearly 96 per cent, in contrast to imports from China, which only grew 24 per cent between 2008 and 2013.

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9 Government of Canada (2014a)  
10 Ibid.
The Canada-China services trade relationship is more balanced than that of merchandise. Canada’s services exports to China grew by 92 per cent since 2008, compared to imports growing at 38 per cent. As a result, Canada witnessed a trade surplus in services of $202 million, which is on pace to expand further. Together, bilateral trade with China reached nearly $78 billion in 2013, with total exports valued at $22.8 billion, and total imports totalling $54.8 billion, resulting in a trade deficit of $32 billion. Notwithstanding the significant trade imbalance Canada faces in its relationship with China, clear gains have been made in exports, which more than doubled between 2008 and 2013 resulting in significant economic growth. However, such gains have been in only a few notable natural resources, of which we will review in further detail.

**Exports to China**

Canada’s top export to China is ores, slag and ash, and subsequently China is Canada’s largest buyers of such materials, importing nearly one third of Canada’s global ore exports. Ores, slag and ash are commonly used in the manufacturing process to produce machinery, mechanical and electrical equipment. Given China’s status as the world’s manufacturer, China’s desire to secure primary inputs is not surprising. China also heavily relies upon Canada for natural resources for electricity generation. Naturally Canada’s exports of mineral fuels and oil to China increased by 59 per cent between 2011 and 2012 - coal being the largest component of this category. A more recent trend is China’s desire to secure oilseeds from Canada, which is now Canada’s third largest export to China, increasing 66 per cent from 2011 to 2012 alone. Oilseeds are a natural resource produced within the agriculture sector, and are crushed into extract oil, predominately used in food and animal feed industries. Nearly all of Canada’s major exports to China are natural resources or raw materials, and have experienced unambiguous growth over the latter half of the decade.

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11 Government of Canada, 2014a
12 Canada’s State of Trade, 2013
13 Ibid.
Figure 2.5 lists Canada’s top seven exports to China, and are nearly all resource-based inputs to fuel China’s manufacturing and energy needs. Such exports have provided a significant economic benefit to Canadians, and have been instrumental in the export gains that Canada has achieved since the Canada-China relationship began to flourish. However, despite the clear gains of export growth in natural resources, some scholars and policy-makers have been troubled about the economic consequences of resource-based growth exacerbating elements of ‘Dutch Disease.’

*Dutch Disease*
Canada’s significant proportion of resource-based exports and declining manufacturing has raised concerns as to whether Canada is experiencing symptoms of ‘Dutch Disease’. ‘Dutch Disease’ can be depicted as the demand for resources augmenting the exchange rate beyond the competitive position for other industries, intensifying crowding-out. Such a proposition has been subject to political debate, often pinning Alberta’s economic welfare against that of Ontario’s.15

There are two influential views in international economics concerning the application of ‘Dutch Disease’. The first argues that an export boom in commodities leads to an income and substitution effect, resulting in a declining manufacturing sector as a result of changes in relative prices and the reallocation of resources to commodity exporting sectors.16 The competing view suggests that sectoral productivity growth is liable for the decline in manufacturing employment – not the commodity boom. Both views note the relative change in prices and income as the focal economic drivers leading to the change in manufacturing employment.17

Recent evidence suggests that the decline of the manufacturing sector in Ontario is not a result of export-led growth in Canada’s natural resources and subsequently the ‘petro dollar’, rather the decline is result of long-term structural changes within Ontario’s economy.18 In fact, Canada’s manufacturing jobs have been disappearing since the end of World War II, whereby employment fell dramatically before the rapid development and growth of the oil sands. This trend in declining manufacturing employment has been ongoing across most OECD countries, including the United States.19

14 Gauthier, 2013
15 Broadway et al., 2013
16 Iscan, 2014
17 Ibid.
18 Krzepkowski and Mitz, 2013
19 Ibid.
Coulombe (2013) has coined what he calls the real problem the ‘Canadian disease’, whereby Canada’s substantial reliance on trade with the United States coupled with the depreciation of the U.S. dollar has deteriorated Canadian manufacturer’s competitiveness. For instance, between 2002 and 2008, Coulombe (2013) contests that the contraction in employment witnessed was a natural phenomenon caused by attrition, as lay-off rates were comparable to prior periods, while hiring rates fell. Arguing that nearly two-thirds of all employment losses in trade exposed manufacturers related to exchange rate fluctuations between 2002 and 2008 could be solely attributed to the ‘Canadian disease’. Alleged negative side effects of a resource boom are contingent upon a significant proportion of production being diverted from manufacturing to the production of natural resources, creating inefficiencies and slowing productivity growth in the long-run. However, there is no evidence to suggest this has occurred in Canada.

Commodity booms are sensitive to terms of trade, and inherently generate unequal benefits geographically. In the short and medium-term the net effect of the current resource boom in the west is a benefit to all Canadians. Canadian firms rely considerably on imported inputs in the manufacturing process and a higher dollar would make it more expensive for foreigners to purchase Canadian goods. In contrast, when the dollar rises – whether it is under the auspices of the ‘petro dollar’, or another cause – it is offset by the savings Canadian firms receive from cheaper imported inputs, lowering production costs and effectively creating an opportunity for Canadian manufacturers to enhance productivity. Resource rich provinces export growth in resources and the effects of the ‘petro dollar’ have effectively lifted the rest of Canada through increased import activity. A higher Canadian dollar, even under the auspices of the ‘petro dollar’ phenomenon, provides a significant boost to Canadian firm’s competitiveness in the manufacturing sector, with the net-effect mitigating any alleged costs.

**Imports from China**

Chinese imports provide cheaper goods for Canadian consumers and affordable inputs for Canadian businesses. Such high import intensity from China has provided a real boost in Canadian household’s purchasing power, and a platform for Canadian businesses to affordably boost their productivity. In recent years, Canadian imports from China have significantly changed in composition. While, China has had the reputation of producing low cost consumer goods, such as apparel, shoes and toys, much of this production is now occurring in other Asian countries.

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20 Canada’s State of Trade, 2013
21 Gordon, 2013
22 Coulombe, 2013
23 Broadway et al., 2013
24 Coulombe, 2013
25 Naim and Tombe, 2013
26 Ibid.
Over the past decade, China has been making a push to elevate their position in global-value-chains, producing goods that require higher-order skilled inputs. Conversely, Canada has been increasingly importing a greater share of electronics and machinery and equipment from China - evidence of China’s movement upwards on the value-added curve. The most intensely imported good to the Canadian market is now electrical machinery, consisting predominantly of cellular phones and wireless devices, which account for more than 25 per cent of all imports or approximately $13 billion annually.²⁸

Also significant, is the increase in imports of machinery and equipment, accounting for nearly 20 per cent of all Canadian imports from China.²⁹ Together, electronics and machinery and equipment account for more than half of all Canadian imports from China, and on an annual basis are worth the equivalent to the total of Canada’s merchandise exports to China.³⁰ While, China has certainly shifted production up the value-added curve, China still produces low-skill goods, such as toys, sports equipment, apparel and plastics. However, within the Canada-China relationship, such goods have become increasingly less relevant. Of the higher value-added goods that Canada imports from China, many are immediately ready for deployment in the Canadian retail market, such as computers and wireless devices. Such imports benefit Canada through lower prices for consumers resulting in gains to consumer welfare, and a subsequent boost to Canadian household income. Machinery and equipment imports provide significant benefits to Canadian business, as they are largely intermediate inputs in which Canadian firms substantially rely upon to lower production costs, effectively affording them an opportunity to enhance productivity.

Figure 2.8 depicts the trade balance relationship between China and Canada by sector. The relationship can be adequately described as one in which Canada exports natural resources and raw materials to China, and whereby Canada receives assembled and manufactured products in return. Machinery and equipment consume the largest share of Canada’s imports, while accounting for a negligible share of exports, resulting in the largest sectoral trade imbalance within the relationship. Moreover, despite the small relative volume, Canada yields a trade surplus in the agriculture and food sector, as well as metals, mines and energy.

²⁷ Gauthier, 2013 *All data used was from Statistics Canada Spring 2013
²⁸ Canada’s State of Trade, 2013
²⁹ Ibid.
³⁰ Ibid.
³¹ Ibid.
Regional Relationship

The trade relationship with China varies significantly by region, providing a unique perspective of the overarching Canada-China relationship. Due to data limitations and the significant contribution to the trading relationship, we chose to focus the regional dimension solely on merchandise trade.

*Figure 2.9*  

**2013 Provincial Merchandise Trade with China**

(Millions of Canadian Dollars)

<table>
<thead>
<tr>
<th>Province</th>
<th>Exports</th>
<th>Imports</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newfoundland and Labrador</td>
<td>1,466.3</td>
<td>*</td>
<td>1,466.3</td>
</tr>
<tr>
<td>Prince Edward Island</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>199.0</td>
<td>262.6</td>
<td>-63.5</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>121.7</td>
<td>*</td>
<td>121.7</td>
</tr>
<tr>
<td>Québec</td>
<td>2,609.1</td>
<td>8,368.8</td>
<td>-5,759.7</td>
</tr>
<tr>
<td>Ontario</td>
<td>2,311.7</td>
<td>29,799.6</td>
<td>-27,487.9</td>
</tr>
<tr>
<td>Manitoba</td>
<td>1,037.9</td>
<td>849.8</td>
<td>188.0</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>2,656.6</td>
<td>245.5</td>
<td>2,411.1</td>
</tr>
<tr>
<td>Alberta</td>
<td>3,348.6</td>
<td>2,790.3</td>
<td>558.2</td>
</tr>
<tr>
<td>British Columbia</td>
<td>6,686.6</td>
<td>10,233.8</td>
<td>-3,547.2</td>
</tr>
<tr>
<td>Nunavut</td>
<td>1.8</td>
<td>*</td>
<td>1.8</td>
</tr>
<tr>
<td>Northwest Territories</td>
<td>26.9</td>
<td>0.01</td>
<td>26.9</td>
</tr>
<tr>
<td>Yukon</td>
<td>20.5</td>
<td>*</td>
<td>20.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20,486.68</strong></td>
<td><strong>52,550.40</strong></td>
<td><strong>-32,063.7</strong></td>
</tr>
</tbody>
</table>

As depicted in figure 2.9, the Canada-China trading relationship is regional in nature – with exports flourishing in the west and import intensities surging in the east. Nova Scotia, Quebec, Ontario and British Columbia all witnessed a merchandise trade deficit with China in 2013. Ontario yields the greatest merchandise trade deficit amongst all Canadian provinces and territories, totalling nearly $27.5 billion in 2013, representing 85 per cent of Canada’s merchandise trade deficit with China in the same year. Quebec witnessed the second highest merchandise deficit in 2013, totalling approximately $5.8 billion, significantly lower than Ontario’s. Both Ontario and Quebec import a significant proportion of Canada’s machinery and equipment from China, while exporting limited merchandise to China. Because the Canada-China trading relationship is largely one in which Canada exports raw materials and resources to China, and imports intermediate inputs for industry and consumer goods, it is hardly surprising to see such regional variations. Meanwhile, British Columbia witnessed a deficit of approximately $3.5 billion in 2013, despite being Canada’s largest volume exporter of merchandise to China. The geographical relationship is telling, and provides a compelling rationale for Canadian provinces such as Ontario, British Columbia and Quebec to take advantage

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32 Government of Canada (2014a)  
33 * Data not available
of low cost inputs and high import intensities from China to propel their cost-competiveness for export gains in international markets.

Exports
Since 2010, British Columbia has remained Canada’s provincial and territorial leader in the export of merchandise to China. Alberta has followed close behind, as both provinces top export sector is mineral fuels and oils. British Columbia not only exports the largest merchandise volume in dollars to China, but also exports a significant proportion of their total merchandise exports to the Chinese market. Nunavut, Yukon and Newfoundland and Labrador also export a significant proportion of their merchandise exports to China, however are quite insignificant relative to their overall trade volumes in dollar terms.

Figure 2.10

<table>
<thead>
<tr>
<th>Region</th>
<th>Merchandise Exports to China by Region 2010-2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.C.</td>
<td>$8,000.0</td>
</tr>
<tr>
<td>Alberta</td>
<td>$6,000.0</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>$4,000.0</td>
</tr>
<tr>
<td>Manitoba</td>
<td>$2,000.0</td>
</tr>
<tr>
<td>Ontario</td>
<td>$1,000.0</td>
</tr>
<tr>
<td>Quebec</td>
<td>$1,000.0</td>
</tr>
<tr>
<td>N.B. &amp; Labrador</td>
<td>$1,000.0</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>$1,000.0</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>$1,000.0</td>
</tr>
<tr>
<td>Yukon</td>
<td>$1,000.0</td>
</tr>
<tr>
<td>Northwest Territories</td>
<td>$1,000.0</td>
</tr>
<tr>
<td>Nunavut</td>
<td>$1,000.0</td>
</tr>
</tbody>
</table>

Imports
Ontario is by far the largest volume importer of Chinese merchandise, and imports continue to grow. The top imports coming into Ontario from China are motor vehicles and parts, followed by machinery, and electrical machinery and equipment. A similar import trend is evident in British Columbia, the second largest Canadian importer of Chinese merchandise.

Figure 2.11

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34 Government of Canada (2014a)
Conclusion

The Canada-China relationship has most certainly flourished over the past decade. We have reviewed the importance of the trading relationship from an aggregate perspective, reviewing bilateral trade growth in both merchandise and services. We have found that China is by far Canada’s fastest growing trading partner in both merchandise and services, and with the exception of the United States, is Canada’s most important partner in terms of merchandise trade volume. Further, we have assessed the dynamics of Canada’s resource-based export growth, the alleged costs under the auspices of ‘Dutch Disease’, and mitigated such costs by revealing the actual benefits that a commodity boom provides to all regions of Canada in the form of increased import intensities of low cost inputs. Moreover, we reviewed the Canada-China relationship in terms of imports, finding that more than half of all imports from China are electronics and machinery and equipment, yielding significant benefits to both Canadian consumers and business. Finally, we found that the Canada-China trade relationship varies substantially by region, providing a pivotal lens when assessing the overarching Canada-China economic relationship.

3. Consumer Welfare

The significant rise in the last decade of Chinese imports has lowered prices for consumer goods and intermediate inputs for Canadian business. As a result, Chinese imports have given a real boost to Canadian household’s purchasing power and provided a platform for Canadian businesses to affordably boost their productivity. Despite the apparent gains of Canada’s high import intensity of Chinese goods, it is alleged that the displacement of Canadian jobs and production are potential costs incurred within this relationship. We

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35 Government of Canada (2014a)
will discuss the perceptible benefits of enhanced consumer welfare, low-inflation, and low cost inputs for industry, as well as the alleged costs - which are often not as clear as depicted.

**Consumer Welfare**

As we have previously discussed, the increasing intensity of Chinese imports into the Canadian market has resounding benefits to Canadians. The most intensely imported good to the Canadian market is electrical machinery, consisting primarily of cellular phones and wireless devices, accounting for more than 25 per cent of all Chinese imports and valued at approximately $13 billion annually. Many of these products are imported for consumer-use, entering the Canadian market ready for retail deployment. Canada imports such a high volume of these goods due to the low cost and competitive advantage China possesses in assembling and manufacturing such products.

Trade liberalization has unequivocally increased competition and – from a standard economic theory standpoint, assuming competitive markets – incentivized firms to lower the prices of their products to maintain market share. This, in turn increases consumer welfare for Canadian consumers through lower prices, resulting in consumers retaining a larger share of household income. While there is limited data collected on the aggregate effects on the larger Canadian economy, Britton and Mark (2006) have documented such impacts in the United States, estimating that from 2001 to 2010 US prices were reduced by 0.8 percent as a result of increased trade with China. The estimated aggregate effect on the US economy would be equivalent to an increase of approximately $1,000 USD per household in real disposable income annually.36 Undoubtedly increased trade with China has lowered prices and this has the partial impact of raising households' disposable income. However, it is only prudent to note that if increased trade with China also lowers wages, then the depression of wages would be a mitigating factor in per capita real disposable income gains. While the dynamics of the US economy and their trade relationship with China is admittedly different than that of Canada’s, such findings provide insight concerning the impact on real disposable income, and the benefits such trade and investment with China may have on the Canadian economy. Nonetheless, trade with China and the resulting low cost inputs and imports have more benefits than simply increasing competition and lowering prices for specific products with high import intensities. The aggregate effect would not be accurately depicted without assessing the impact on inflation, which provides a supplementary macro-level perspective of the benefits to be realized that contribute to enhanced consumer welfare in the Canada-China relationship.

**Inflation**

It is no coincidence that trade liberalization and the expedient nature of globalization, through increased competition, higher productivity growth and the low cost of goods and services has occurred at the same time inflation has remained relatively low for most industrialized economies. Globalization has contributed to a reduction in sensitivity of inflation to domestic capacity constraints in industrialized economies over the past twenty years.37 This is most notable through the effects of lower import prices on labour market wages, which in sectors such as manufacturing have remained relatively stagnant.38 While the ‘direct’ consequence of inflation by way of import prices has been relatively small in advanced economies, a surge in unutilized capacity coupled with a reduction of import prices have had significant effects on inflation of more than one

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36 Britton and Mark, 2006
37 IMF, 2006
38 Britton and Mark, 2006
per cent over the course of one or two years. Most notable examples of this occurring are the 1997-98 Asian financial crises, the 2001-02 global downturn, and the infamous ‘Great Recession’.40

Industry sectors that have become more exposed to increased competition have witnessed the largest relative price declines in the twenty-first century. Productivity growth in conjunction with relative price declines has reduced relative price changes, with added emphasis in the advanced manufacturing and services sectors.41 While price increases in the manufacturing sector have been less than those in the services sector, dramatic declines in inflation within select service sectors since the turn of the century have been even more apparent.42 Together, equally contributing to the decline in overall producer price inflation.43

Imports from low cost countries, such as China, not only contribute to lower domestic inflation through the direct effect of accounting, but also through an indirect effect. The indirect effect is best summarized as when low cost imports pressure domestic firms to lower their prices.44 The size of the indirect effect is relative to the intensity of international competition. Therefore, trade liberalization and global economic integration have altered the intensity of lag time of inflation to cyclical output fluctuations.45 Thereby, domestic inflation has become less sensitive to domestic slack and more in tune to global slack, as the majority of prices for goods and services are being determined by international supply and demand.46

In a study specifically assessing China’s impact of international prices due to their significant volume of low cost exports to Canada, Kamin et al. (2006) found that between 1993 and 2006, Chinese exports lowered Canadian import inflation by 0.20 percentage points annually.47 Now consider the significant surge in import intensity within Canada, particularly higher-value goods from China since 2003. Assuming a 2 per cent annually inflation rate, and a conservative discount of 0.20 percentage points resulting from Chinese imports, the Canada-China relationship alone has reduced inflationary growth by 10 per cent annually. The benefits to Canadian household income and consumer welfare are prodigious.

In summary, there are a number of channels through which the Canada-China relationship affects inflation:48

1. Cheap imports from China reduce the overall price level for domestic consumption (i.e. wireless devices and computers);
2. Substitution effect of cheaper imports for domestically produced goods and services;
3. Pressure is pushed down on wages in sectors that are most exposed to competition with China. The threat of outsourcing has aided in keeping wages low;
4. A globalized economy reduces capacity constraints, in turn reducing the sensitivity of inflation domestically; and
5. Increased competition - firms that are not as efficient will go out of business, increasing productivity and decreasing prices.

The high import intensity of Chinese imports has given a real boost to Canadian household's purchasing power. We have demonstrated that consumer welfare has in fact increased due to lower prices and inflation. Yet, the discussion thus far has not addressed the resounding benefits Canadian firms receive through low cost intermediate inputs.

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39 IMF, 2006
40 Ibid.
41 Ibid.
42 Ibid.
43 Ibid. 
44 OECD, 2008
45 Ibid.
46 Ibid.
47 Kamin et al., 2006
48 Fitoussi, 2007
Low Cost Intermediate Inputs for Industry

Trade liberalization, most notably post the world-war period, has promoted consistent growth in offshoring materials and service inputs. Canadian industries have since relied upon purchasing increasing shares of inputs from overseas to improve productivity, improve efficiencies and increase profitability. For instance, between 1961 and 2003 alone, material inputs have doubled and service inputs have tripled as shares of imported products.49 This is a result of both trade liberalization and Canada’s desire for low cost intermediate inputs to enhance productivity. While in the past most offshoring occurred with our neighbours to the south, we have demonstrated that there has been an increasing shift in intensity of imports derived from China. Offshoring is conducive to the shift to higher value-added outputs of Canadian industries, which is one way in which firms seek to enhance output and productivity.

While high-wage countries remain the major source of both imported intermediates and the destination for a significant proportion of Canadian exports, trade with low-wage countries, notably China has been dominating Canada’s recent trading position.50 This trend is largely in response to firms adjusting supply chains to enhance productivity. Canadian manufacturing firms are consistently being vertically integrated in global value chains, of which they import intermediates to produce goods that are then exported at a later date.51 Evidence suggests that firms that withdraw from global-value-chains by dismissing imports from low-wage countries, such as China in turn erode their own cost-competitiveness and suffer substantial losses in productivity.52 Canada’s growing imports from China have supplied a new source of low-priced goods to Canadian firms investing in machinery and equipment.53 While Canadian manufacturing firms have relied increasingly on globally assembled intermediate components for both domestic and export production,54 the onus remains on these firms to translate lower cost inputs into enhanced productivity. Trade with lower cost countries are not restricted only to material goods and manufacturing products, service firms in Canada rely on such low cost inputs to enhanced productivity as well.55 In fact, service offshoring has been found to be significantly related to an increase in the value-added of intermediate industrial inputs, and high-technology capital.56

Moreover, evidence put forth by Britton and Mark (2006) found that in the United States, output per worker throughout the American economy increased by 0.3 per cent per year between 2005 and 2010.57 This increase in output is solely attributable to enhanced manufacturing productivity resulting from increased trade with China. Such productivity growth is a consequence of two basic effects on the economy:58

1) Increased competition, causing the less productive firms to go out of business or increase their output and productivity to compete with China. In either case, the average productivity of industry will improve.

2) Lower prices, firms that import inputs from China will benefit from lower costs.

Canadian businesses have received unambiguous benefits from the enhanced Canada-China relationship. Low cost inputs have provided business an affordable opportunity to enhance their productivity, improving their competitiveness in international markets, ultimately paving the way for augmented export growth. While the

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49 Baldwin and Yan, 2014
50 Ibid.
51 Ibid.
52 Ibid.
53 Ibid.
54 Goldfarb, 2004
55 Wernerheim, 2012
56 Baldwin and Yan, 2014
57 Britton and Mark, 2006
58 Britton and Mark, 2006
benefits have been quite clear, it has been alleged that the Canada-China relationship has led to job displacement and a loss of production. We will now review such alleged costs.

*Displaced Jobs*

Over the past twenty years, the enhanced Canada-China relationship has opened Canadian markets to a superior cost-competitive market, allegedly resulting in the loss of Canadian jobs and production. In general, the effects of job displacement and the shift of production overseas, due to increasing international competition are highly concentrated at the local level, and short-term in nature. Despite the allegations of widespread economic distress, short-term job displacement resulting from a loss of production actually has a minimal macroeconomic impact. Such alleged costs, frequently used in political rhetoric disguised as a less palpable form of protectionism, cannot solely mitigate the unambiguous benefits that Canadians have gained through the flourishing Canada-China relationship.

Surveying the literature, some of the most pessimistic estimates - particularly American - suggest job losses of more than 220,000 annually, as a result of international competition. While the number alone appears staggering, upon closer examination the net impact is negligible. Of the approximate 150 million jobs in the American economy, the estimated job loss figure accounts for less than 0.2 percent of the American labour force. Even more telling, Bhagwati et al. (2004) reviewed the U.S. Department of Labor’s database that surveys companies that lay off at least 50 workers to explain their reasoning. The findings revealed that a mere 2 per cent of the layoffs reported between 1999 and 2004 were either from competitive pressures and import intensity, or moving their firms operations overseas. While such evidence only highlights the United States experience, Canadian scholars have echoed their American counterparts’ suggesting that there is no evidence that offshoring actually has any long-term effect on employment in Canadian industries.

The OECD published a report on a multinational study assessing the potential impact of offshoring on employment. The study found that 19.5 per cent of jobs in Canada have the potential to be affected by offshoring activities. Figure 3.1 shows the job categories that have the highest probability of being displaced as a result of offshoring. The study also indicated that the most significant effect of international competition is by way of depressed wages. The report claims that only a small fraction of the ‘affected jobs’ are to be displaced permanently. The OECD report is quick to highlight that there may be limits to the supply of qualified workers in low cost countries, and such nations and their workforce are not insusceptible to the law of supply and demand.
So what is the cause of such alleged costs and political rhetoric? Well, in the short-run outsourcing may cause job displacement within firms or sectors, prompting unwarranted reactions, and political pandemonium. Any form of job displacement or production loss, whether it is short-term in nature or part of economic restructuring does not look favourably upon those in political office. However, beyond the short-term electoral cycle, the reallocation of resources can in fact promote the creation of other jobs, jobs that generate more value. This occurs when low cost, low-skilled workers overseas conduct an activity that demands high-skilled inputs from countries like Canada, which in turn employ higher value-added activities in Canada. For example, in a study of 84 Canadian manufacturing industries over the time period of 1981-1996, the impact of information communication technology (ICT) and international outsourcing on the relative demand for skilled workers in Canada was examined. It was found that both ICT and international outsourcing significantly increased the use of high-skilled/non-production personnel within the manufacturing sector in Canada.

When one is to assess the alleged cost of job displacement and loss of production due to the Canada-China relationship, one must consider the effects over both the medium and long-term, which is often a very difficult ‘ask’ for decision-makers. Any loss of employment should be assessed against marginal employment created from international competition within Canada, as Canada also possesses its own competitive advantages. The theoretical mistake commonly made is misinterpreting absolute and comparative advantage, suggesting that all jobs in manufacturing and services will be outsourced to countries with low labour costs. Suffice to say, an increased economic relationship with China does not mean there is necessarily a direct displacement of Canadian jobs. There are most certainly short-term, locally concentrated structural adjustments that may occur as a result of international competition and trade liberalization, but such costs are quickly mitigated through new demand for higher-value added employment. This new demand may or may not be within the same locale where the adjustment initially took place, nor may it be feasible to put those who were laid-off back to work in the new higher-value added jobs. However, that is more of a public policy concern rather than an economic cost, as the aggregate economic benefits are allocated across the entire economy through new demand for higher-value added goods and services.

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65 Ibid.
66 Bhagwati et al., 2004
67 Yan, 2005
68 Bhagwati et al., 2004
69 Ibid.
70 Bhagwati et al., 2004
Conclusion
In this section we have reviewed the potential benefits and costs to the Canadian economy from Canada’s increased trade with China and international competition. Specifically we discussed consumer welfare, both in terms of lower costs for goods and services, as well as inflation. Gains to real disposable income are evident, however must be considered in conjunction with downward pressures on relative wages as a result of increased import intensities. In addition, we touched on low cost inputs for industry, and the potential opportunities the Canada-China relationship may afford Canadian businesses vis-à-vis productivity growth. Finally we discussed the alleged costs of job displacement and production loss, concluding that short-term structural adjustments may pose policy concerns, but from an economic perspective such adjustments are simply a reallocation of resources, prompting higher-value added employment to take its place. In conclusion, the benefits to the Canadian economy through consumer welfare and low cost inputs for business resoundingly outweigh the alleged costs in the Canada-China relationship.

4. Foreign and Canadian Direct Investment

Foreign direct investment (FDI) and Canadian direct investment abroad (CDIA) are both relatively new, but fast growing aspects of the Canada-China relationship. In this section we will discuss both FDI and CDIA, highlighting the underlying motives for both nations in developing the small, yet flourishing investment relationship. We will also discuss the often-overlooked benefits FDI provides the Canadian economy in the form of enhanced productivity and competitiveness, as well as the most significant barriers for both FDI and CDIA, and what this will mean for the Canada-China relationship in the future.

The Relationship
The FDI relationship between Canada and China remains small relative to Canada’s traditional foreign investors such as the United States, Netherlands, United Kingdom, and Luxembourg. While the United States remains Canada’s top investor, their share of Canadian FDI has significantly dropped from 63 percent in 2003 to 51 percent in 2013.71 Conversely, China’s FDI in Canada has grown from 0.06 percent to 2.6 percent over the same period. Even more impressive, is that China is now Canada’s eighth largest foreign investor, and investment has grown at an average annual rate of 110 per cent since 2003, compared to just 4 per cent from the United States.72 Based upon the rapid growth in Chinese FDI investment into Canada, China is set to become Canada’s third largest investor by 2015.73 The FDI outflow relationship, CDIA, is also a new, but fast growing aspect of the relationship. The United States remains Canada’s top destination for investment abroad, currently accounting for 41 per cent of all CDIA.74 Meanwhile, Canada’s direct investment to China is only 0.6 per cent of all CDIA, but has grown at an average rate of 21 per cent since 2003, compared to only 7 per cent to the United States.75 Canada’s investment abroad chiefly consist of investments in the finance and insurance sector, accounting for approximately 44 per cent of all added investment stock in 2013.76 As in much of the Canada-China relationship, Canada witnessed an investment imbalance of approximately $11.8 billion in 2013, a result of FDI growing nearly four-times as fast as CDIA.

71 Government of Canada, 2014a
72 Ibid.
73 Conference Board of Canada, 2012
74 Government of Canada, 2014a
75 Ibid.
76 Canada’s State of Trade, 2014
Foreign Direct Investment

To date, the Chinese FDI relationship in Canada largely serves China’s demand for energy and raw materials, predominately targeting Canada’s energy and natural resources sectors.\(^\text{77}\) Despite Canada’s abundance of natural resources, and China’s increasing demand for such commodities, China’s FDI in Canada was only $16.7 billion in 2013. This relationship has experienced extraordinary growth, and without mistakenly undermining the positive momentum, it is unclear whether this component of the relationship has reached its full potential.

China is currently the world’s largest foreign investor, and since 2002 has pursued the development and expansion of foreign-assets under the patronages of the ‘Go Global’ policy.\(^\text{78}\) The objective of the policy is principally to acquire natural resources that are in high-demand and under-supplied in China, ultimately stimulating and promoting Chinese exports.\(^\text{79}\) In practice, the ‘Go Global Policy’ provides financial institutions and firms the incentive to propose and finance investments abroad.\(^\text{80}\)

Figure 4.2

Drivers for Chinese Investments in Canada: Intentions 2010-13

<table>
<thead>
<tr>
<th>Drivers</th>
<th>Percentage of Respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make Use of &quot;Going Global&quot; Policy Initiatives</td>
<td>45.2%</td>
</tr>
<tr>
<td>Acquire Technology or Managerial Expertise</td>
<td>32.1%</td>
</tr>
<tr>
<td>Acquire Brands</td>
<td>26.2%</td>
</tr>
<tr>
<td>Avoid Chinese Market Saturation</td>
<td>21.4%</td>
</tr>
<tr>
<td>Take Advantage of Canadian Incentives</td>
<td>20.2%</td>
</tr>
<tr>
<td>Avoid Trade Barriers</td>
<td>17.9%</td>
</tr>
<tr>
<td>Lower Production Costs</td>
<td>16.7%</td>
</tr>
<tr>
<td>Provide Raw Materials for Domestic Market</td>
<td>13.1%</td>
</tr>
</tbody>
</table>

Sources: Conference Board of Canada, 2012, Asia Pacific Foundation, and China Council for Promotion of International Trade

\(^{77}\) Zhang and Chen, 2011

\(^{78}\) Conference Board of Canada, 2012

\(^{79}\) Ibid.

\(^{80}\) Ibid.
Figure 4.2 highlights the resounding success of the initiative in the Canadian context, in a survey of 84 respondents conducted by the Asia Pacific Foundation. The results reveal motivations of Chinese investors for 2010-2013, and their subsequent investment plans in Canada. It was found that nearly half of all respondents invested in Canada to utilize the ‘Go Global Policy’. Just as China has set in place incentives via policy to promote FDI abroad to quench their thirst for raw materials and natural resources, current federal leadership in Canada is now promoting FDI in sectors which specifically service Chinese demand.\(^8\) The reluctance of the United States to grant approval for the Keystone XL pipeline has reinvigorated Canada’s urgency of achieving such policies.\(^8\) The complementarity of both Canada’s and China’s interests are unmistakable, and leads one to question whether the inflow of FDI into Canada from China has the potential to play a much more significant role in the Canada-China relationship. Despite this perceived alignment of economic policy objectives, there is one substantial barrier to Chinese investment in Canada, which ultimately deters foreign investment and increases transaction costs.

**Investment Canada Act**

From the Chinese investor’s perspective, the most significant barrier to investment in Canada has been the *Investment Canada Act, 1985* which requires federal review of all foreign investments.\(^8\) One of the most contentious aspects of the review is the determination of whether the investment is a ‘net benefit’ to Canada. The review panel composed of political leaders primarily considers the effect of a proposed investment on the level of economic activity, employment; the degree and significance of participation by Canadians in the Canadian business; and the compatibility of the investment with national industrial, economic and cultural policies.\(^8\) For all intents and purposes, the *Canada Investment Act* serves an important role in protecting Canada’s economic and social interests. However, the fact that many firms from China are state-owned enterprises tends to politicize Chinese investment proposals. The prominence of Chinese state-owned enterprises as significant foreign investors began in the 1990s. At this time China consolidated state-owned enterprises leading to the establishment of firms such as State Grid, Sinopec Group and China National Petroleum Corporation, which are now among the world’s largest corporations.\(^8\) Chinese firms are well aware of the *Investment Canada Act*, and the subsequent review process, which from an economic standpoint deter investment and ultimately increase transaction costs. Such deterrents were the cause for the Minmetals, a Chinese state-owned metals and mining corporation to withdraw from acquiring a Canadian aluminum firm Noranda Inc., after highly-politicized objections from the Canadian government in 2004.\(^8\)

Despite such deterrence, Chinese state-owned enterprises still propose investments in Canada. To be clear, not all state-owned enterprises have had their proposals rejected due to their politically sensitive governance structure, each investment is considered on a case-by-case basis, and at times, in a less-than transparent manner considering the ‘net benefit’ to Canadians. For example, in 2013, the Canadian government approved a highly politicized investment proposal worth $19 billion, where CNOOC – a Chinese state-owned investment holding firm who specializes in offshore crude oil and gas exploration and production – acquired Nexen - a Canadian oil and gas firm. However, the federal government declared that this acquisition was the last deal they would approve of a state-owned enterprise taking majority stakes in the Canadian oil sands.\(^8\) As a result, Chinese firms typical only apply for – and take - minority positions in Canadian firms to avoid high-profile political discussion of state-owned enterprises controlling resource

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\(^8\) Ibid

\(^8\) Ibid

\(^8\) Conference Board of Canada, 2012

\(^8\) Investment Canada Act, 1985

\(^8\) Conference Board of Canada, 2012

\(^8\) Ibid.

From the Canadian perspective, there are fears of the unknown, and a communist regime indirectly taking majority stakes in Canada’s natural resources certainly raises flags for both members of parliament and the Canadian public. Decision-makers need to carefully balance political distrust with ensuring that the Canadian economy realizes the full potential of Chinese FDI.

FDI, Competiveness and Wages
In balancing political distrust with ensuring that Canada realizes the full economic potential of Chinese investments, often overlooked is the impact of FDI on Canadian competitiveness and wages. It is unambiguous that enhanced investment from China will raise capital and potentially create jobs. However, benefits of FDI, such as the impact on industrial productivity and wages often go unnoticed. For instance, FDI firms operating below or above a Canadian firm in the supply chain as suppliers or customers are found to substantially benefit Canadian-owned firms.\(^9\) This is due in part to the fact that foreign-owned firms are found to be substantially more productive than their domestically owned counterparts.\(^8\) In fact, Canadian owned plants are far more prone to failure as a result of competition with FDI competitors in the same industry, serving the same market.\(^8\) Without mistakenly making a sweeping statement that all foreign firms are more competitive than their Canadian counterparts, foreign firms typically have greater exposure to international markets and supply chains, thereby enhancing their competitiveness. This in turn, prompts unrealized benefits to Canadian firms by urging them to rely upon productivity growth to ensure they remain competitive, which is often an overlooked intangible benefit. Foreign firms do not only provide upward pressure on Canadian firm’s competitiveness, but they also have been found to actually pay higher wages than their Canadian counterparts in the manufacturing sector. For instance, foreign-owned plants pay on average a wage rate that is approximately 30 percent higher than domestically owned plants. Once you take into account wage effects related to firm characteristics such as capital and firm size, the wage effect is reduced 19 per cent, but is significant across all industries and regions of Canada.\(^\)\(^9\) As a result, foreign firms and investments provide significant benefits to the Canadian economy, through well-documented growth in capital and job creation, as well as the often-overlooked benefits of firm competitiveness and enhanced wage rates.

Canadian Direct Investment Abroad
Canada’s direct investment abroad to China is a relatively small and undocumented component of the Canada-China relationship. However, since 2003 CDIA has begun to play an increasingly important role in the Canada-China relationship, and has the potential to play an even larger role in the foreseeable future. In 2013, CDIA to China totaled $4.9 billion, constituting only 0.6 per cent of all Canadian investment abroad. Despite the relative size of investment, CDIA to China has been growing at an impressive average annual rate of 21 per cent since 2003. Canada’s investment abroad chiefly consist of investments in the finance and insurance sector, accounting for approximately 44 per cent of all added investment stock in 2013.\(^\)\(^9\) Despite Canada’s notable strength in financial foreign investments, total CDIA to China remains quite small, and arguably has not reached its potential in both theory and practice. However, this is largely reflective of the stringent regulations the Chinese authorities pose on foreign firms and investors entering the financial services sector.

China’s World Trade Organizations GATS schedule and commitments provide a snapshot of some of the barriers to financial market access in China. For instance, for a Canadian financial institution to engage

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\(^8\) Conference Board of Canada. 2012  
\(^9\) Wang, 2010  
\(^8\) Breau and Brown, 2011  
\(^8\) Ibid.  
\(^8\) Ibid.  
\(^9\) State of Trade, 2014
in local currency businesses, China requires the firm to have three years of business operation in China, with profits for two consecutive years for licensure. This coupled with a geographic phase-in requirement, and not only until the Canadian financial institution has been practicing in China for five years will the firm be able to provide its services to all regions of the country. Moreover, a Canadian financial institution may become a member of all Chinese stock exchanges, however will only be permitted to establish joint ventures with a foreign investment ceiling of 33 per cent to conduct domestic securities and investment fund management business upon accession. Within three years of accession, this ceiling will be increased to 49 per cent, however foreign ownership cannot exceed one-third if the firm is to engage in underwriting shares, government and corporate debts and launching new funds. Suffice to say, that barriers for entry in the financial services sector are substantial, and unsurprisingly were of most concern to foreign banks in China in a 2012 survey conducted by Price Waterhouse Coopers.

In the 2012 survey of foreign banks in China, two of which were Canadian, it was found that the most difficult aspect of the Chinese banking industry was to no surprise the regulatory environment. Foreign banks continue to be concerned by the limitations of foreign ownership and the restrictions placed on introducing innovative financial products. The banks surveyed expressed that the most important issues concerning Chinese regulation and their business was the approval for foreign banks to underwrite bonds, and obtain access to the local currency derivatives market. Products which surveyed banks identified as the most affected by the regulatory constraints were derivatives, currency and interest rate swaps, securitization, commodity hedging, and the distribution of mutual funds. Together, these products account for a significant proportion of financial service revenues. Amongst Canada’s most prominent CDIA sectors, financial services is by far the largest, and arguably faces the most extensive barriers to entry in the Chinese market.

The overall dynamics of CDIA in China are relatively unclear, but this aspect of the Canada-China relationship does provide an opportunity for Canadians to participate directly in the growth of China, and help establish economic linkages, which could present multiple benefits to the Canadian economy in the long-run. As Canada’s foreign investments into China increase, stronger linkages will be formed potentially resulting in greater FDI funnelled back into Canada accompanied by enhanced trade. This process will undoubtedly take time, but as CDIA into China is growing at an average annual rate of 21 per cent, Canada must seize and build upon the momentum.

Looking Forward
In September 2014, Canada and China signed the Canadian-Chinese Foreign Investment Protection Agreement (FIPA), which provides further evidence of the growing importance to both nations of the investment component of the relationship. In general, FIPA’s promote and subsequently protect foreign investments by setting out legal rights and obligations of countries whom are signatory. The signing of the Canadian-Chinese FIPA is expected to benefit Canadian investors in China through stronger property rights and enforcement mechanisms, which has been a pressing concern deterring Canadian investment. In turn, the FIPA allows Chinese firms to receive compensation for legislation by any level of government that impedes Chinese investments; of particular note is environmental legislation hindering resource development. This does negate the relevance of the Investment Canada Act, nor does it liberalize financial service regulations in China, but it does provide a significant step in the right direction to enhance the Canada-China investment relationship. As is typical with any international treaty, there are many skeptics and proponents. The legislative nuances of the agreement are out of the scope of this paper; however from an economic perspective we expect that this agreement will act as a catalyst for both FDI and CDIA for years to come.

94 World Trade Organisation, 2014
95 Price Waterhouse Coopers, 2012
96 Ibid.
97 Government of Canada, 2014b
5. Impact on Competitiveness and Wages

Throughout the last decade, a lot has been said about China’s low wages and labour costs as an explanation for their extraordinary export growth, and superior cost-competitiveness relative to both developed and developing countries. However, low wages and labour costs are only one part of at least three components of assessing a nation’s competitiveness. The second factor is productivity; how much is produced per unit of labour. For instance, wages could be 1/10 the Canadian level in China, but if China’s productivity were also 1/10 then China would not possess a competitive advantage. The third factor is the exchange rate. If the Yuan appreciated, as one might expect ceteris paribus given China’s large trade surplus, including with Canada, then such appreciation would erode China’s competitive advantage. Any analysis of competitiveness needs to account for productivity and exchange rate adjusted-wages. In this section we will review each of the three components, wages, productivity and fluctuations in the exchange rate relative to the manufacturing sector; and then discuss what impact they have on Canada-Chinese competitiveness when combined.

Wages in China

In the former half of the decade, there was a surge of manufacturers and foreign business rushing to take advantage of China’s low-labour costs, utilizing China as a platform for exports to the rest of the world. As of late, there has been a significant shift, where as many as three-quarters of U.S. firms operating in South China are now producing goods and services to particularly serve the Chinese market.\(^{98}\) In 2000, factory wages in China averaged a mere 52 cents per hour (USD), equivalent to a diminutive 3 per cent of what a comparable U.S. factory would pay its employees. However, since that time, Chinese factories have been plagued with rising labour costs. Between 2000 and 2005, wage rates in China grew at an average annual rate of 10 per cent, and accelerated between 2005 and 2010 to reach an average annual growth rate of 19 per cent. Wages are projected to further increase at a rate of 17 per cent per year through 2015.\(^{99}\) Of the possible contributing factors accelerating China’s wage growth, workers’ demanding better compensation is the most palpable explanation. For instance, Foxconn International has doubled their wage rates in Shenzhen, China in response to multiple reported worker suicides, and a series of other factories have gone on strike, increasing wages in some cases up to 47 percent.\(^{100}\) Even the state itself has contributed to the rising labour costs, as minimum wage has risen by more than 20 percent in many regions across China, and as high as 30 percent in the province of Sichuan since 2010.\(^{101}\) There is no evidence to suggest that this trend is slowing, in fact, to the contrary wage rate increases may very well accelerate in the years to come. This trend is largely a result of Chinese labour organizations obtaining significantly more political capital, and a stronger ‘voice’ in demanding higher wages and better compensation in negotiations with foreign companies.\(^{102}\) This movement is largely supported by the government, as the state - in addition to the above-mentioned minimum wage increases- has recently enacted new labour laws that provide enhanced rights to workers, including severance pay.\(^{103}\) As Chinese workers are demanding better compensation for their work, labour costs are rising, narrowing the wage gap and eroding the Chinese cost-advantage with the rest of the world.\(^{104}\)

\(^{98}\) American Chamber of Commerce in South China, 2014
\(^{99}\) Sirkin et al., 2011
\(^{100}\) Ibid.
\(^{101}\) Ibid.
\(^{102}\) Ibid.
\(^{103}\) Ibid.
\(^{104}\) Ibid.
Exchange Rate Adjusted-Wages
Changes in the value of currency can determine whether a country’s exports are relatively more expensive or cheaper in the international market. Throughout the past decade China has enjoyed the benefits of having a relatively inexpensive currency when compared to the greenback. For instance, one Chinese Yuan could buy approximately $0.12 USD in January of 2005. Since this time, the Yuan has appreciated by approximately 33 per cent, and is now trading at $0.16 USD, largely a result of China’s large trade surplus and new exchange rate regime. As a result, China’s real cost-competitiveness decreased with the appreciation of Yuan, and coupled with rising wages, exchange rate-adjusted wages have risen even further. While the Yuan may still seem relatively inexpensive at 0.16 USD, a 33 per cent appreciation substantially alters any cost equation, and has unmistakably exacerbated the rise in Chinese wages and the erosion of China’s cost-competitiveness.

Rise in Chinese Exchange Rate-Adjusted Wages

Chinese Productivity
Despite the rapid rise in wages across China, some believe that Chinese productivity will exceed the growth in wages, maintaining their superior cost-competitiveness. As discussed above, the projected wage rate increase in China is 17 per cent per year. To maintain or increase their cost-competitiveness, Chinese productivity would need to increase by 17 per cent per year or greater. However, China’s output per worker has on average increased by 10 per cent per year consistently throughout the last decade. The Boston Consulting Group (2011) projects that this figure will hold steady at 8.5 per cent through 2015. Assuming wage rates are increasing at 17 per cent annually, and productivity growth holds steady at 8.5 per cent per year, then we can assert that China’s output per worker is increasing at only half the pace of the growth in wages. This in turn, signals an erosion of China’s cost-competitiveness, with a subsequent rise in productivity-adjusted wages. To provide any meaningful assertions concerning competitiveness, the impact of productivity-adjusted wages needs to be assessed relative to other exporting nations. For illustrative and analogous purposes we choose to use the United States as a comparable state.

105 Sirkin et al., 2014
106 Sirkin et al., 2011
107 Ibid.
108 Ibid.
Since 2005, the gap between China’s productivity-adjusted wages and those of the United States has been consistently eroding. In 2005, China’s wages were 23 times cheaper than the average American worker. However, real output per worker in the United States was approximately 5.6 times greater than that of China’s. Once productivity is factored in, China’s seeming advantage of providing labour for 1/23 the cost of the American worker, significantly diminished but remained, as productivity-adjusted wages in China were nearly 1/5 of those in the United States.109

**China’s Eroding Productivity-adjusted Wages**

Incorporating productivity-adjusted wages still boasted China a considerable cost-advantage in 2005. However, China’s productivity-adjusted cost-advantage relative to the United States was only 3.2 times cheaper in 2010 and is projected to be only 2.3 times less expensive by 2015. When considering other variables such as the cost of energy and the ease of doing business, China’s cost-advantage to the United States is expected to erode even further to only 4 per cent.111 This erosion of China’s cost-competitive position is largely a result of wages increasing faster than productivity, while American productivity-adjusted wages are increasing at a slower rate.

**Canadian Wages and Competitiveness**

In contrast to China, Canada is not known for its superior cost-competitiveness, nor is Canadian competitiveness the grounds for the impressive growth in Canadian exports over the past decade. Nonetheless, Canada’s cost-competitiveness is imperative to understanding both the Canada-China relationship, and how Canada may resoundingly benefit from the relationship in the future.

According to recent analysis of the top 25 exporting nations in the world, conducted by the Boston Consulting Group,112 Canada’s ranks 17th in manufacturing cost-competitiveness, substantially trailing both China and the United States. The analysis considers the cost of labour, energy and accounts for other variables such as the ease of conducting business. Wages and productivity unsurprisingly are by far the largest contributors to the Boston Consulting Group’s manufacturing cost-competitiveness index. Canada was found

109 Sirkin et al., 2011
110 Ibid.
111 Sirkin et al., 2014
112 Sirkin et al., 2014
to be only 19 per cent more expensive than China,\textsuperscript{113} which can largely be explained by China’s rising wages and slowing productivity growth. Despite the inherent similarities between Canada and the United States, Canada’s manufacturing sector was found to be 15 per cent more expensive.\textsuperscript{114} Since the release of the report in August 2014, the Canadian dollar has depreciated by 3.6 per cent against the Yuan and 3 per cent against the USD. As such, we expect Canada’s manufacturing sector cost competitiveness to be adjusted to be at most 15.4 per cent and 12 per cent more expensive relative to China and the United States respectively. For illustrative purposes, we will compare Canada’s cost-competitiveness with that of the United States, to provide an analogous understanding of competitiveness and wages in the Canada-China relationship.

**Manufacturing Cost-Competitiveness Index: Top 25 Export Nations 2014\textsuperscript{115}**

![Manufacturing Cost-Competitiveness Index: Top 25 Export Nations 2014](image)

**Exchange-Rate Adjusted Wages in Canada**
Canada’s manufacturing wages have been relatively stagnant over the last decade. In fact, between 2006 and 2012 Canadian manufacturing wage rates on average increased by just over 2 per cent annually offset in real terms by average annual inflation. The stagnation of manufacturing wage rates in Canada is consistent with Canada’s increasing import intensity of manufactured goods from low cost countries - notably China - resulting in an increasing supply of qualified workers, perpetuating downward pressures on wages within the manufacturing sector.\textsuperscript{116} Autor et al. (2013), confirm that the increased US import intensity of Chinese manufactured goods has also led to substantial declines in wages in the United States.\textsuperscript{117} As such, American manufacturing wage growth rates mirrored Canada’s between 2006 and 2012, also increasing at an average annual rate of 2 per cent.

\textsuperscript{113} Ibid.
\textsuperscript{114} Ibid.
\textsuperscript{115} Ibid.
\textsuperscript{116} Ibid.
\textsuperscript{117} Autor et al., 2013
\textsuperscript{118} Ibid.
Canada-US Average Hourly Manufacturing Wage Rates NAICS 31-33: 2006-2012

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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</thead>
<tbody>
<tr>
<td>Canada Wage Rate (CDN$)</td>
<td>20.50</td>
<td>21.59</td>
<td>21.96</td>
<td>20.85</td>
<td>21.88</td>
<td>22.57</td>
<td>23.22</td>
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<tr>
<td>Canadian Wage Rate (USD$)</td>
<td>18.04</td>
<td>20.08</td>
<td>20.64</td>
<td>18.14</td>
<td>21.22</td>
<td>22.80</td>
<td>23.22</td>
</tr>
<tr>
<td>US Wage Rate ($)</td>
<td>20.96</td>
<td>21.5</td>
<td>22.15</td>
<td>23.05</td>
<td>23.33</td>
<td>23.70</td>
<td>23.92</td>
</tr>
<tr>
<td>Difference (USD$)</td>
<td>-2.92</td>
<td>-1.42</td>
<td>-1.51</td>
<td>-4.91</td>
<td>-2.11</td>
<td>-0.90</td>
<td>-0.70</td>
</tr>
<tr>
<td>Difference in Canadian/US Wage Rate (USD as a %)</td>
<td>-7.18%</td>
<td>-6.60%</td>
<td>-6.82%</td>
<td>-21.30%</td>
<td>-9.04%</td>
<td>-3.80%</td>
<td>-2.93%</td>
</tr>
<tr>
<td>Average Annual CDN Exchange/USD ($)</td>
<td>0.88</td>
<td>0.93</td>
<td>0.94</td>
<td>0.87</td>
<td>0.97</td>
<td>1.01</td>
<td>1.00</td>
</tr>
</tbody>
</table>


However, between 2006 and 2012, the Canadian exchange rate appreciated by nearly 14 per cent, or on average 2.3 per cent annually. Once Canadian manufacturing wages are adjusted for the exchange rate, wages actually increased annually on average by 4.7 per cent over the period, more than double the appreciation of US manufacturing wages. While Canadian manufacturing exchange-rate adjusted wages have grown at a faster rate than those in the United States, largely as a result of an appreciating Canadian dollar, in absolute terms they were 8 per cent less expensive than their American counterparts over the period. Given that the United States was found to be 15 per cent more cost-competitive than Canada, and energy costs and the ease of doing business in both countries are comparable, ceteris paribus, labour productivity is unequivocally the underlying factor perpetuating the United States’ manufacturing cost-competitive advantage over Canada.

Canadian Productivity

Despite relatively comparable exchange rate adjusted-wages, the variation of Canadian and American manufacturing cost-competitiveness can be explained by the variation in labour productivity growth. Due to data limitations, we provide a snapshot of both Canada and the United States’ manufacturing labour productivity between 2000 and 2008. Labour productivity is based on gross output, measured as real gross output per hours worked – consistent with previous comparisons of both China and the United States. Between 2000 and 2008, U.S. manufacturing labour productivity grew on average by 2.6 per cent per year, while Canadian labour productivity averaged an annual growth rate of just 1 per cent. When considering change over the entire eight-year period, the United States manufacturing labour productivity grew by 13.3 per cent, compared to only 4 per cent in Canada’s manufacturing sector, more than tripling Canada’s manufacturing labour productivity growth.

Canadian and the United States Manufacturing Labour Productivity 2000-2008

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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Labour productivity</td>
<td>99.3</td>
<td>98.0</td>
<td>100.0</td>
<td>101.2</td>
<td>102.3</td>
<td>105.1</td>
<td>107.4</td>
<td>109.1</td>
<td>107.1</td>
<td>103.3</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>Year-over-year Change (%)</td>
<td>-1.3%</td>
<td>2.0%</td>
<td>1.2%</td>
<td>1.1%</td>
<td>2.7%</td>
<td>2.2%</td>
<td>1.6%</td>
<td>-1.8%</td>
<td>1.0%</td>
<td>4.0%</td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>Labour productivity</td>
<td>95.1</td>
<td>95.3</td>
<td>100.0</td>
<td>105.2</td>
<td>109.5</td>
<td>114.4</td>
<td>115.7</td>
<td>117.5</td>
<td>117.0</td>
<td>107.8</td>
<td>12.7</td>
</tr>
<tr>
<td></td>
<td>Year-over Year Change (%)</td>
<td>0.2%</td>
<td>4.9%</td>
<td>5.2%</td>
<td>4.1%</td>
<td>4.5%</td>
<td>1.2%</td>
<td>1.6%</td>
<td>-0.5%</td>
<td>2.6%</td>
<td>13.3%</td>
<td></td>
</tr>
</tbody>
</table>


The labour productivity growth rate gap in the manufacturing sector between the United States and Canada is on average 2 percentage points per year, and was as low as 4 percentage points over the period. While the two
economies are highly integrated, following similar aggregate trends, there is a distinct gap between Canadian and American labour productivity within the manufacturing sector.

Despite Canada’s manufacturing sectors lacklustre labour productivity growth, Canada remains only 19 per cent more expensive than China. As China’s productivity adjusted-wages continue to rise and their subsequent cost-competitiveness continues to erode, Canada is in a position to make up ground if labour productivity can grow at a more respectable rate. The onus however, is largely on Canadian firms to improve labour productivity. However, Canada’s cost-competitiveness equation is largely affected by fluctuations in the Canadian dollar, which is without a doubt closely tied to the price of commodities. Since January of 2013, the Canadian dollar has depreciated by 13.5 per cent against the greenback, largely in response to China’s reduced appetite for raw materials and the resulting decline in oil prices. As a result, in the short-run this improves the competitiveness of Canadian business, providing more slack and opportunity for Canadian firms to improve labour productivity. However, in the long run it could be detrimental as the lower exchange rate removes pressure to become more productive, raising the price of imported machinery and equipment potentially compromising Canadian firms ability to increase capital.

**Conclusion**

Throughout the last decade, a lot has been said about China’s low wages and labour costs as an explanation for their extraordinary export growth, and superior cost-competitiveness relative to both developed and developing countries. As we have discussed, wages are only one part of at least three components of the competitiveness discussion. Productivity and the relative value of China’s exchange rate are essential components of any analysis of competitiveness. When combined, it is clear that China’s cost-competitiveness is eroding, particularly relative to the United States. Wage rates have been on the rise, productivity growth is not growing fast enough to compensate, and a significant appreciation of the Yuan relative the USD is exacerbating the effects. In turn, Canadian manufacturing wages have been relatively stagnant as of late, even when considering fluctuations in the Canadian exchange rate. However, for Canadian firms, labour productivity remains the defining factor for Canadian competitiveness. With lacklustre growth in the past, it will require Canadian manufacturing firms to substantially improve their labour productivity to offset Canada’s substantial manufacturing trade imbalance within the Canada-China relationship to become more competitive in international markets.
6. Role of Exchange Rates

Exchange rates have a significant role to play in Canada-China economic relationship. Holding everything constant, one might expect a large competitive advantage in one country to be reflected in an appreciation of their exchange rate. As such, a significant depreciation in the Canadian exchange rate relative to both the Yuan and the U.S. dollar would be anticipated. However, Canada has recently experienced a period of the ‘petro dollar’ where the Canadian dollar rose well above parity with the USD despite a significant productivity gap between Canada and both China and the United States. Fluctuations over the past decade with the Canadian dollar relative to the USD have had little to do with the Yuan. Meanwhile the United States has repeatedly labelled China as a currency manipulator, despite Chinese authorities transitioning to a managed floating exchange rate regime in 2005. Because both the Yuan and the Canadian dollar are typically measured against the USD, we will first discuss the China-US exchange relationship, followed by a comparison of Canadian dollar relative to the USD. This will provide the groundwork for a concrete comparison of Yuan relative to the Canadian dollar and the resulting implications in the Canada-China relationship.

Chinese Foreign Exchange Policy

Prior to 2005 the Yuan had been pegged to the US dollar at $0.12 per Yuan. In July of 2005, the Peoples Republic Bank of China announced as a new managed floating exchange rate regime based on a basket of currencies, allowing movement of up to +/- 0.3 per cent within a given day. This announcement came with a subsequent revaluation of Yuan with a 2 per cent rise relative to the USD. The major currencies within the basket were the US dollar, the Yen, the Korean Won and the Euro due to their economic importance to China's current account. However, the weights within their new currency basket were never made public. The daily band would later be expanded to +/- 0.5 in May 2007, in response to criticism concerning the slow 6 per cent appreciation of the Yuan since the regime change. One year later, in July 2008 the Peoples Republic Bank of China would peg the Yuan back to the USD to dampen the blow to Chinese exporters of the ‘global financial crisis’, which flat lined the currency until the managed floating exchange rate regime would be re-introduced in June 2010. In March 2014, the Peoples Bank of China increased the daily floating band of the Yuan against the USD from +/- 1 per cent to +/- 2 per cent in an effort to enhance flexibility in the Yuan’s exchange rate on a bilateral basis and ensure the market plays its role. From the introduction of the managed floating regime in July 2005 to present, the Yuan has appreciated 33 per cent against the USD, and is now trading at just over $0.16 USD per Yuan.

118 Frankel, 2008
119 Ibid.
120 Ibid.
121 Ibid.
123 Ibid.
China-US
The United States has historically depicted China as a currency manipulator, claiming China has been deliberately trying to keep their currency down despite enormous trade surpluses. However, it was only in May 2012, that the U.S. declared China was no longer a currency manipulator pursuant in the U.S. Trade and Competitiveness Act of 1988 semi-annual report presented to U.S. congress.\textsuperscript{126} Prior allegations included China resisting strong market pressures for currency appreciation, thus exhibiting substantial undervaluation.\textsuperscript{127} The U.S. argued that China’s large foreign reserve accumulation of $384.2 billion\textsuperscript{128} in 2011 had elongated the misalignment of China’s real effective exchange rate (REER).\textsuperscript{129} China’s substantial foreign reserve and current account surplus, coupled with rising productivity drew considerable criticism from the United States. However, to date the Yuan has appreciated quite a bit.\textsuperscript{130} Despite the U.S. withdrawing the ‘currency manipulator’ label from China, the Americans maintain that China’s Yuan has not reached its equilibrium value, insisting that China must refrain from intervention within the trading band and allow the Yuan to adjust through market forces.\textsuperscript{131} The U.S. proclaims that the Yuan has room to appreciate even further based upon a few fundamental factors. First, China’s current account surplus net FDI was $370 billion in 2013, equivalent to 4 per cent of China’s GDP.\textsuperscript{132} Second, while China’s current account surplus has been declining, it is only a result of enhanced growth in domestic investment, and is unlikely to be sustained.\textsuperscript{133} Finally, China has maintained high relative productivity growth (beyond growth rates of its trading partners), suggesting that appreciation in the Yuan is necessary to prevent the exchange rate from becoming undervalued.\textsuperscript{134} As a result, the U.S. maintains that the Yuan exchange rate remains undervalued. In fact, the IMF’s ‘2014 Article IV Consultation – Report for the People’s Republic of China’ released in July 2014 stipulates that the Yuan is

\textsuperscript{125} http://www.xe.com/currencycharts/?from=USD&to=CNY&view=10Y
\textsuperscript{126} U.S. Treasury Department, 2011
\textsuperscript{127} U.S. Treasury Department, 2012
\textsuperscript{128} Ibid.
\textsuperscript{129} U.S. Treasury Department, 2011
\textsuperscript{130} Deflating by costs as opposed to only assessing the nominal exchange rate
\textsuperscript{131} Ibid.
\textsuperscript{132} Ibid.
\textsuperscript{133} Ibid.
\textsuperscript{134} Ibid.
undervalued by approximately 5-10 per cent.\footnote{135} In addition to the abovementioned factors, both the U.S. and IMF argue that China’s foreign exchange reserves at the end of June 2014 of nearly $4 trillion are beyond reserve adequacy.\footnote{136} Despite the U.S. insistence that the Yuan is undervalued, China persistently denies such allegations and argues that the Yuan is actually close to equilibrium.\footnote{137} Further asserting that unconventional monetary policy in developed countries has been hindering Chinese progress to reform to a fully market-driven exchange rate.\footnote{138} China expects their current account surplus to remain unchanged or decline in the medium and long-run, as they expect their services deficit to grow, and merchandise surpluses to plateau or grow modestly.\footnote{139} Moreover, China has reiterated their commitment to evade regular currency interventions.\footnote{140} As a result, one can expect to see an increasing appreciation of the Chinese Yuan in the medium and long-term beyond the already significant 33 per cent appreciation that has taken place since the establishment of the managed floating regime in 2005.

Canada-US

Both Canada and the United States maintain a floating exchange rate regime, thus both currencies fluctuate with the market. Fluctuations in the Canadian dollar are largely unrelated to fluctuations in the Yuan. However, there are number of factors that influence the Canadian dollar’s value relative to the USD, including both domestic and external factors.\footnote{141}

Concerning domestic factors, relative economic growth, interest and inflation rate differentials and the current account balance are most palpable driving forces in such fluctuations.\footnote{142} Naturally a stronger Canadian economy increases the demand for the Canadian dollar, which conversely increases the Canadian dollar’s value on the international market.\footnote{143} Interest rates also play an important role in so far as that when the Canadian interest rates are higher than those in the United States, Canada becomes a more attractive place for investment increasing the net-flow of money into the Canadian economy.\footnote{144} As a result, the net-flow of money creates upward pressures on the Canadian dollar - and vice-versa. Inflation is also an important factor, as a higher inflation rate in Canada relative to the United States erodes purchasing power, whereby erosion in purchasing power would be reflected in a decline of the Canadian dollar.\footnote{145} In contrast, if the inflation rate in Canada were higher than that of the United States, the opposite effect would occur, whereby the erosion of purchasing power in Canada would be seen as unattractive. This would result in capital fleeing to the United States, offset by a reduction in the current account balance.\footnote{146} The current account balance is essential because it measures net-flow of money for a given country. For instance, if Canada or the United States were to have a current account surplus, then they would be selling more than they are buying, resulting in a net flow of money.\footnote{147} As a result, a Canadian current account surplus would indicate that there is an increased demand for the currency, increasing the value of the Canadian dollar.\footnote{148} However, both Canada and the United States currently maintain a current account deficit.\footnote{149}
In terms of external factors, world commodity prices are the most relevant in the Canadian context. Given that Canada is a large producer and net exporter of raw materials and resources, the Canadian dollar is correlated with the strength of global commodity prices, most notably crude oil.\textsuperscript{150} As such, when oil prices rise, resource-based industries in Canada are inherently more profitable, making the Canadian economy stronger.\textsuperscript{151} This in turn attracts more investment and provides upward pressures on the Canadian dollar.\textsuperscript{152} For example, between 2004 and 2014, fluctuations in the rate of change in West Texas Intermediate (WTI) crude oil prices explained 56 per cent of the variation in the Canadian dollar relative to the American dollar.

![Canadian Dollar (USD) and WTI Crude Rate of Change (%)
2004-2014](image)

Sources: Bank of Canada (2014) and http://www.indexmundi.com/commodities/?commodity=crude-oil-west-texas-intermediate&months=120

Canada and the United States are two highly integrated economies, and with the price of oil and other commodities largely pegged to the USD, such fluctuations provide strong indications of subsequent movements in the Canadian-US exchange. Since January of 2013, the Canadian dollar has depreciated by 13.5 per cent against the greenback, largely in response to China’s reduced appetite for raw materials and the resulting decline in oil prices.

\textit{Canada-China}

Beyond China’s demand for natural resources, the Canadian dollar and the Yuan do not directly inflict fluctuations in one another. In fact, between 2004 and 2014, 96 per cent of the variation in the Canadian-Yuan relationship can be explained by variations in the Canada-USD exchange rate relationship. For example, the Yuan has appreciated by 33 per cent against the USD since 2005, over the same period the Yuan only appreciated by 21.5 per cent against the Canadian dollar. Such a variance is a result of the Yuan slowly appreciating against the USD over the past 10 years, while the Canadian dollar has experienced significant spouts of relative appreciation against the USD, and until just recently a significant depreciation. As a result, the Canadian-Yuan exchange rate relationship is relative to fluctuations with the USD.

\textsuperscript{150} Holden, 2007
\textsuperscript{151} Ibid.
\textsuperscript{152} Ibid.
Yuan Trading Hub
On November 8, 2014 it was announced that Canada and China have signed an agreement for the establishment of a Yuan trading hub to be located in Canada. The establishment of a hub provides authorization from the Peoples Bank of China to allow direct exchanges between the Canadian dollar and the Yuan. To date, for Canadians to buy the Yuan, the Canadian currency must first be converted to USD, and then converted again to the Yuan. The ability for Canadian business to make a direct conversion to Yuan is estimated to save Canadian firms approximately $6.2 billion over the next 10 years. The hub would allow exchange settlements and clearing, while ensuring adequate liquidity to undertake large transactions at stable prices. What is more impressive is that Canada will be the only country in the Americas to host a Yuan trading hub, unmistakably providing Canadian business with a competitive advantage.

The establishment of the Yuan hub is expected to expand the use of the Yuan in Canada, creating lower transaction costs, enhancing exports and providing Canadian firms with discounts on imports from Chinese firms. In a study by HSBC, it was found that 55 per cent of Chinese firms would provide discounts up to 5 per cent with trading partners to use the Yuan in transactions. Canadian capital markets also stand to benefit, as firms will have the ability to diversify business, raise funds, and purchase Chinese securities. Moreover, Canada’s financial sector is expected to obtain a significant competitive advantage by offering a range of Yuan products, consequently generating more revenues and business by connecting investment flows from Canada to China. In fact, the Canadian Chamber of Commerce estimates that over the next ten years, Canada could generate an additional $21-$31 billion in exports and receive potential discounts for importers totalling $2.8 billion.

Impact on Competitiveness
Given China’s large current account surplus, it is somewhat surprising that the Yuan has not appreciated relative to the Canadian dollar at quicker rate. Of course in Canada’s case, one of the issues is that for a number of years the Canadian dollar was quite strong against the U.S. dollar. Indirectly China played a role in this as the Canadian dollar strength was in part due to relatively strong commodity prices. Commodity prices have since pulled-back and consequently the Canadian dollar has declined too.

While the significant increase in the Canadian currency relative the US dollar over the past decade has damaged Canadian firm’s international competitiveness, it has not caused a notable flight of Canadian firms offshore. That said, currency appreciation does in fact increase the likelihood of manufacturing plants going out of business, while depreciation of the Canadian currency increases the likelihood of endurance. However, the effect of the exchange rate is not uniform across all industries, as manufactures that are already less productive face a significant risk of failure through any appreciation of the Canadian currency. As one might expect, there are significantly different effects of real exchange rates, depending on whether a firm is an exporter or not, and whether the plant is domestically or foreign owned. Both exporters and foreign-owned plants are much more exposed to failure due to the appreciation of real exchange rates when compared to

153 Canadian Chamber of Commerce, 2014
154 Ibid.
155 Ibid.
156 Ibid.
157 Ibid.
158 Ibid.
159 Ibid.
160 Ibid.
161 Ibid.
162 Martin, 2006
163 Baldwin and Yan, 2010a
164 Ibid.
domestically-owned and non-export based manufacturers. In fact, Baldwin and Yan (2010) found a real appreciation of the Canadian dollar relative the United States dollar of only one percentage point increases the probability of a manufacturing plants failure by 0.3 percent.

While domestically owned firms who only serve domestic markets may be more risk averse to international currency markets, exporting firms gain significantly more in productivity growth from Canadian currency depreciation than non-exporting firms. In fact, between 1984 and 2006, real exchange rates explain nearly the entire shift in productivity growth gaps between firms in Canada that export and those that do not.

**Conclusion**

Exchange rates have a significant role to play in Canada-China economic relationship. We have found that fluctuations over the past decade with the Canadian dollar relative to the USD have had little to do with the Yuan. However, explain nearly all of the variation between the Yuan and the Canadian Dollar, as both the Yuan and the Canadian dollar are intricately linked to the USD. This is in part due to the fact that crude oil prices are valued in USD – one of Canada’s primary exports - and a disproportionate share of Canada’s trade is with the United States. Moreover, Canada has recently experienced a period of the ‘petro dollar’ where the Canadian dollar rose well above parity with the U.S. dollar despite a significant productivity gap between Canada and both China and the United States. However, since January of 2013, the Canadian dollar has depreciated by 13.5 per cent against the greenback, largely in response to China’s reduced appetite for raw materials and the resulting decline in oil prices. As a result, in the short-run this improves the competitiveness of Canadian business, providing more slack and opportunity for Canadian firms to improve labour productivity. However, in the long-run it could be detrimental as the lower exchange rate removes pressure to become more productive, raising the price of imported machinery and equipment potentially compromising Canadian firms ability to compete both with China and the rest of the world.

### 7. Concluding Thoughts

Post the Great Recession China along with a number of other emerging economies switched from export-led growth to domestic led growth to maintain economic expansion despite stagnating demand. China expanded credit domestically to prop-up the Chinese economy, resulting in a significant increase of total debt to GDP. This increase in leverage has maintained economic growth in China, but a highly leveraged economy with slowing economic growth provides ample future risks. Since 2008, Chinese total debt has increased by 72 per cent of GDP, equivalent to 14 per cent per year. Such credit expansion has resulted in the overall leverage of the Chinese economy to nearly 220 per cent of GDP, almost twice the average leverage of other emerging markets.

As a result, China will be facing risks in the servicing of their expanded debt in a number of sectors in the future. Further exacerbating the risks, the recent credit expansion was lent to risky borrowers, such as local governments with insubstantial revenues and other sectors within the Chinese economy which are

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165 Ibid.
166 Ibid.
167 Baldwin and Yan, 2010b
168 Ibid.
169 Buttiglione et al., 2014
170 Ibid.
171 Ibid.
172 Ibid.
plagued with excess capacity. To make matters worse, credit has been granted by a growing proportion of lenders who fall under the auspices of shadow banking.\(^{173}\)

Simply put, the current situation in China is unsustainable. The Chinese government is likely to start deleveraging, resulting in a depreciation of both inflation and the Yuan.\(^{174}\) Speeding up the deleveraging process while minimizing negative effects on prosperity, requires the identification of poor loans quickly, acceptance of resulting losses, allowing insolvent banks to fail, and ensuring solvent banks with low capital levels are supported to achieve sustainable capital requirements.\(^{175}\) This will come at a cost to both the Chinese and Canadian economies, as a reduction in credit will result in slower economic growth, thus weaker export demand for Canadian resources.\(^{176}\)

Still, the Chinese economy is now so large it will inevitably continue to have a major impact on the Canadian economy. But the Chinese demand for Canadian exports would undoubtedly be helped if the Chinese economy continued to grow rapidly. In recent years China’s economic growth has slowed from a double-digit pace to around 7½ per cent. As is usual in the forecasting world, there are varying views on China’s economic prospects.

One of the more sobering views comes from Lawrence Summers and Lant Pritchett, ‘Asiaphoria Meets Regression to the Mean’. They note that history shows a prominent pattern of economic growth rates “regressing to the mean”. That is, after a period of relatively strong growth, countries see their economic expansion drop back to rates more typical of history and of other countries. In this case, the authors suggest at some point China’s growth rate will likely slow to around 2 per cent per annum, a rate more in line with expected global economic growth. This is not a forecast per se. They do not provide a precise timeline on when such a slowdown might occur or what might cause it. It is simply an observation based upon history.

China’s spectacular growth run over the past two decades has already bucked much of the historical record. So perhaps China can continue to defer any “regression to the mean”. Eventually its labour force will decline due to the very low birth rate. So growth will become entirely dependent upon productivity. But output per capita in China is currently only about one-third that of the U.S. It might be expected that China would continue to experience strong productivity growth until more of that gap is closed. And growth will continue to be propelled for some time from urbanization. Urbanization in China is still below the level of most other countries. With incomes about three times higher in urban than rural areas, the continuing movement of people into the cities will drive growth for many more years.

Most forecasts feature future Chinese growth rates lower than in the recent past, but still quite strong. For example, the Conference Board of Canada projects Chinese output growth of 4 per cent per annum 2014-19.\(^{177}\) Another, and more long-term view, comes from the World Bank which projects 5 per cent annual output growth from 2026 to 2030.\(^{178}\) That growth would consist of a 0.5 per cent annual decline in the labour force and 5.5 per cent growth in labour force productivity.

For our purposes we can consider the general tendency of expectations to be continued strong growth in the Chinese economy, but at a less spectacular, but also more sustainable, pace than in the recent past. This growth will benefit the demand for Canadian exports, and on the import side continue to provide low cost inputs for Canadian firms to affordably boost their productivity while increasing consumer welfare. But as we have highlighted it is not clear whether the Canada-China relationship has reached its full potential in either theory or practice. Canada has the opportunity do more to proactively gain from its relationship with China.

\(^{173}\) Ibid

\(^{174}\) Ibid

\(^{175}\) Bouis et al., 2013

\(^{176}\) Buttiglione et al., 2014

\(^{177}\) Hoffman and Polk, 2014

\(^{178}\) World Bank, 2013
In closing, we suggest that it is an imperative for Canada to broaden and diversify exports, with emphasis on the agricultural sector, and consider broadening service exports to China. In July 2010, China granted Canada the ‘Approved Destination Status’, allowing the Canadian Tourism Commission to market directly to Chinese consumers. This along with the recent signing of the Foreign Investment Protection Agreement (FIPA), and the establishment of a Canadian Yuan trading hub, leads us to expect growth in FDI which will likely act as catalyst for further services trade, particularly finance, legal, architecture and the like. Such sectors should yield ample opportunity for growth and a broadening of the Canada-China services trade. China’s growing middle class should provide a large and growing market for Canadian exporters and trade in services. However, productivity remains the defining factor of Canadian competitiveness. With lacklustre growth in the past, Canadian firms need to substantially improve their productivity to take advantage of the low cost intermediate inputs afforded by the Canada-China relationship. With a growing Chinese economy transitioning to domestic-led growth and consumption, it is imperative for Canada to improve productivity to tap into this growing market as a cost-competitive international exporter. We see more foreign direct investment as being key to the future, but just as important is that Canadian firms think about serving Chinese demand as opposed to just producing in China for export elsewhere.

The emergence of China as an economic force is good for Canada, and it could be even better. Some of that will depend upon actions from China; much of it rests in the hands of Canadians.
References


