

E-BRIEF

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The Canada-Korea Free Trade Agreement: What it Means for Canada

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- Canada's first free trade agreement in the Asia-Pacific region, the Canada-Korea Free Trade Agreement (CKFTA), came into force early this year after nine years of negotiations. What does it mean for Canada? This E-Brief uses a trade analysis model that captures linkages across economic sectors as well as the impact of trade measures to answer the question.
- The CKFTA will likely generate about \$2.1 billion in additional Canadian household income, measured in 2014 Canadian dollars, by 2035.
- The corresponding increase in Canada's GDP in value terms will be about \$3.1 billion and in real terms 0.05 percent, driven primarily by expansion of two-way goods trade.
- The CKFTA will spur some modest job increases about 6,300 for unskilled workers and 2,200 for skilled workers.
- The sensitive sectors that held up the deal for years autos and beef are also among the sectors where the most important gains are expected for Korea and Canada, respectively. In both cases, however, a good portion of the trade gains are made at the expense of third countries.

The Canada-Korea Free Trade Agreement (CKFTA), which entered into force on January 1, 2015, is Canada's first full-fledged trade agreement with an Asian economy. To our knowledge, no

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formal analysis of the CKFTA based on the actual negotiated deal has been published, beyond the initial round of summaries from the legal community.¹

The Canada-Korea deal should be seen in a wider context of pressure on major economies not to lose competitive advantage to their peers. Since Korea's conclusion of an agreement with the European Union (KOREU) in 2009, the free trade agreement dominoes have been falling into place between major economies. The United States was galvanized into action by the KOREU and reached its own agreement with Korea (KORUS) in weeks. Australia moved by signing with Korea, (KAFTA), then signed a Japan-Australia economic partnership agreement and a China-Australia free trade agreement in short order. The major economies clearly sense a threat to their position in major markets by the conclusion of deals between their competitors.

Two other developments helped set the stage for the deal. First, the Canadian auto sector, which had been in a severe slump following the recession of 2008-2009, had rebounded, arguably as far as probable given the structural production shifts in the North American auto market towards Mexico and the United States (Nye 2014). Second, a dispute with Korea over beef, which Canada had brought to the WTO, was settled with an agreement announced on 19 June 2012. This re-opened the Korean market for Canadian beef under conditions similar to those applying to US beef.

The impact of the CKFTA will come from its market access commitments; in the "rules" area dealing with everything from product standards to electronic commerce and intellectual property, the agreement follows a standard template of subject matter covered in modern trade agreements and breaks no new ground. But even just establishing rules for the conduct of bilateral commerce that are broadly similar to those in the US and Australian agreements with Korea is important — in a world of globally integrated production systems being a more difficult place to do business than competitors can translate into not doing business at all.

Canada and Korea Compared²

The CKFTA links two of the largest economies in the world. Korea ranked 10th globally in terms of gross domestic product (GDP) in 2014 – with its economy measured at market exchange rates – or about 80 percent the size of 8th-ranked Canada.³ The Korean economy is larger than Canada's when compared using purchasing power parity exchange rates, which take into account the relative cost of goods and services in each country's domestic market. Table 1 contains summary information on the Canadian and Korean economies.

Korea is a highly trade-dependent economy and becoming more so rapidly, with two-way trade in goods and services equivalent to 110 percent of GDP, up from around 82 percent prior to the global crisis of 2008-09. Canada is somewhat less trade dependent by this measure, with a two-way trade share of GDP at about 62 percent, down from about 67 percent prior to the global crisis (OECD 2014).

See, e.g., Goldman and Murray (2014) for Bennett Jones; Kanargelidis et al. (2014) for Blakes; Chang (2014) for Blaney McMurtry; and Sosnow (2014) for Fasken Martineau.

² All macroeconomic statistics cited in this section are from the IMF's World Economic Outlook Database (October 2014), except as otherwise indicated.

³ This ranking treats the European Union as a single market. Canada and Korea fall to 11th and 13th respectively if EU member states are ranked individually.

Table 1: Canada and Korea: Summary Statistics, 2014 Estimates						
	Korea	Canada				
GDP at market prices (\$C billions)	1,586	1,962				
GDP at purchasing power parity (\$C billions)	1,958	1,727				
Population (millions)	50.44	35.47				
Per-capita GDP at market prices	31,440	55,330				
Per-capita GDP at purchasing power parity	38,820	48,702				
Source: International Monetary Fund (IMF) (October 2014).						

Foreign direct investment is less important relative to the size of the Korean economy than it is for the Canadian economy, however. The stock of inward foreign direct investment (FDI) in Korea in 2013 amounted to \$167 billion or 13.7 percent of GDP; the stock of outward investment totaled only \$42 billion or 3.2 percent of GDP. The comparable figures for Canada were inward investment of \$645 billion, or 35.3 percent of GDP, and outward investment of \$732 billion, or 40.1 percent of GDP (UNCTAD 2014).

In 2013, Korea imported US\$4.7 billion from Canada, while Canada imported US\$7.1 billion from Korea, resulting in a bilateral trade deficit of US\$2.4 billion, in part reflecting higher Korean customs duties — the average of Korea's tariff lines is about 13.3 percent versus 4.3 percent for Canada. Three-quarters of Canada's imports from Korea were in vehicles, electronic equipment, and machinery and equipment. Korea's imports from Canada were more diversified, with mineral fuels the single largest category, but with significant contributions from a range of manufactured goods, ores and metals, forest products, agriculture and agri-foods, fertilizer, and the fishery (Table 2).

Canadian-Korea bilateral trade in services has exhibited no significant trend, but with a noticeable dip in 2009 during the global economic and financial crisis. Neither country ranks especially high in the other's global market considerations.

Overall Results

We project the impacts of the CKFTA for Canada and Korea, respectively, over the period 2015 through 2035 (see Table 4).

Economic Welfare: We find the CKFTA has small but positive impacts on both Canada and Korea in terms of economic welfare (which takes into account changes stemming from the agreement in both the quantity of output and in prices) and real GDP (a measure of the impact on the quantity of output only). The gains for these indicators are comparable for both economies in percentage terms, but Canada gains somewhat more in dollar terms due to its higher starting levels on both indicators. In percentage terms, GDP is 0.05 percent higher in real

Table 2: Canada-Korea Merchandise Trade Trends, 2006-2013, \$C millions									
	2006	2007	2008	2009	2010	2011	2012	2013	
Korea Imports from Canada									
Total, all products	3,505	3,478	4,664	4,015	4,481	6,533	5,244	4,855	
Mineral fuels	596	652	1,346	1,125	1,403	2,520	1,919	1,639	
Machinery, Electronic, Optical, & Vehicles	477	479	493	668	647	434	594	744	
Ores, Metal & Metal Products	728	762	828	650	761	757	738	726	
Agriculture and Agri-food	367	355	437	363	467	1,007	538	417	
Wood, Pulp & Paper Products	436	464	511	317	382	367	336	305	
Fertilizers	92	103	310	199	199	239	216	210	
Fish and Seafood	54	53	45	45	49	62	58	76	
Canada Imports from Ko	rea								
All products	5,765	5,360	5,999	5,924	6,149	6,596	6,377	7,337	
Vehicles	1,650	1,670	1,725	1,921	2,002	1,954	2,563	2,786	
Electronic equipment	1,418	1,507	1,862	1,739	1,567	1,465	927	1,820	
Machinery & equipment	1,152	809	838	819	843	1,192	1,082	1,009	
Source: International Trade Centre (2014), Trade Map.									

Table 3: Canada-Korea Services Trade Trends, 2006-2013, \$C millions										
	2006	2007	2008	2009	2010	2011	2012	2013	Rank in 2013	percent of Total
Canadian Exports	765	818	768	718	766	737	770	797	15	0.92
Canadian Imports	372	414	436	390	375	389	351	353	24	0.32
Source: International Trade Centre (2014), Trade Map.										

Box 1: Quantitative Analysis

To simulate the CKFTA, we use a dynamic version of a model, the Global Trade Analysis Project (GTAP) model, which captures the complex linkages across economic sectors at the national levels as well as the impact of a range of trade measures. We modified the model to represent foreign-owned firms in each services sector to capture services trade conducted through foreign affiliates. Online <u>Appendix 1</u> provides a non-technical summary of the quantitative framework.

To evaluate the CKFTA using this model, we project the global economy to 2035, drawing on available long-term macroeconomic projections. This "baseline" scenario describes the world as it would have been *without* the CKFTA. We then reduce tariffs between Canada and Korea according to the phase-in schedules in the agreement, and allow for the reduction of non-tariff barriers to goods trade, cross-border services trade and FDI flows.

In the simulations, we take into account the reality that not all trade transactions take advantage of the lower tariffs, because the latter are only available to firms that can demonstrate compliance with rules of origin (ROOs). ROOs under the CKFTA determine whether a product contains sufficient Canadian and Korean inputs to be eligible for the lower tariffs. The cost of complying with these rules, or even just of documenting compliance, is an important factor in terms of shaping the structural impacts of a trade agreement, since ROOs compliance affects primarily more complex manufactured products. Thus, some trade between Canada and Korea will likely remain subject to customs duties, even for items for which it would be possible to pay no duty under the agreement.

This study innovates in terms of how it quantifies the trade-liberalizing effect of the negotiated text on trade in services. We map the agreement's negotiated measures into changes to Canada's and Korea's Services Trade Restrictiveness Indexes (STRIs). Since changes in the STRIs can be linked to changes in trade through econometric techniques, this approach provides a much sharper evaluation of the impact of a trade agreement on services trade than is possible under alternative existing methods of estimating the liberalizing impact of a trade agreement.

terms when the full effects of the Agreement have been realized; Korea's gain in real GDP is slightly larger at 0.06 percent.

Two-Way Trade: The boost to two-way trade and investment is substantially greater than to consumption, implying both a more open and competitive economy. Bilateral trade expands by \$4.4 billion, or 22 percent, with Canada realizing a bilateral export gain of about \$2.2 billion, an increase of 26 percent over the baseline, and Korea about \$2.1 billion, or 19 percent over the baseline.⁴

Short-run impacts are small but build over time, reflecting not only the gradual phasing in of tariff cuts, but also the gradual response of investment to changed conditions.

⁴ Overall trade balances decline for both countries as higher incomes also result in higher imports from other trade partners.

Table 4: CKFTA Impacts, Macroeconomic Indicators (percent change unless otherwise indicated)						
	2015	2025	2035			
Canada						
GDP Change (\$C millions at 2014 prices)	576	2,191	3,107			
GDP volume	0.006	0.034	0.050			
Household income (\$C millions at 2014 prices)	209	1,155	2,061			
Economic Welfare	0.012	0.048	0.066			
Total Exports	0.021	0.075	0.102			
Total Imports	0.053	0.147	0.180			
Trade balance (\$C millions at 2014 prices)	-90	-200	-189			
Unskilled labour	0.009	0.035	0.047			
Unskilled labour (jobs)	1,171	4,563	6,303			
Skilled labour	0.007	0.027	0.037			
Skilled labour (jobs)	360	1,462	2,165			
Terms of Trade	0.015	0.039	0.052			
СРІ	0.019	0.051	0.052			
Korea	,					
GDP Change (\$C millions)	444	1,338	2,252			
GDP volume	0.01	0.041	0.06			
Household income (\$C millions)	227	1,175	2,002			
Economic Welfare	0.015	0.049	0.065			
Total Exports	0.017	0.074	0.096			
Total Imports	0.041	0.117	0.135			
Trade balance (\$C millions)	-95	-267	-371			
Unskilled labour	0.014	0.044	0.053			
Skilled labour	0.013	0.042	0.052			
Terms of Trade	0.009	0.014	0.009			
СРІ	0.009	-0.005	-0.008			

Source: Calculations by the authors. The underlying model data are in constant 2007 USD. The value data presented here are converted to 2014 CAD. The conversion ratio of 1.219694 is calculated as the change in the US GDP deflator between 2007 and 2014, as per the IMF World Economic Outlook database (October 2014), multiplied by the Canada/US annual average exchange rate for 2014 from the same database.

Source of GDP Impacts: In Figure 1, we show the separate impact on Canadian GDP of each of the five major features of liberalization under the CKFTA. For each year shown, a cluster of bars shows the cumulative percentage gain in GDP flowing from the CKFTA up to that year. The first bar shows the percentage gain due to tariff reductions. The second bar shows that this gain is reduced when we take account the under-utilization of lower tariffs due to costly rules of origin requirements, discussed in Box 1. Bar 3 shows that the net gain increases once non-tariff-barrier (NTB) reductions on goods are taken into account. The net gain rises still further when we account for reduction of NTBs in cross-border services trade — which the fourth bar does for each year. Finally, the fifth bar in each year, which shows the total gain in GDP stemming from all the liberalization features of the CKFTA up to that year, shows that there is only a very small net gain from additional FDI liberalization.

Our model provides insight into the impact of liberalization on trade through the commercial presence of one country's firms in another's territory. While the model does not represent each separate country as a foreign investor and, accordingly, it is not possible to precisely allocate foreign affiliate sales (FAS) in Korea to Canadian affiliates, we may interpret the change in FAS in Korea as the impact deriving from changes in Canadian investment. Likewise, we may interpret the change in FAS in Canada as deriving from changes in Korean investment. Our results indicate that the gain in foreign affiliate sales dominates the gains in cross-border trade. Accordingly, accounting for this mode of liberalization provides a much more complete picture of the impact of the CKFTA on Canada's overall services trade.

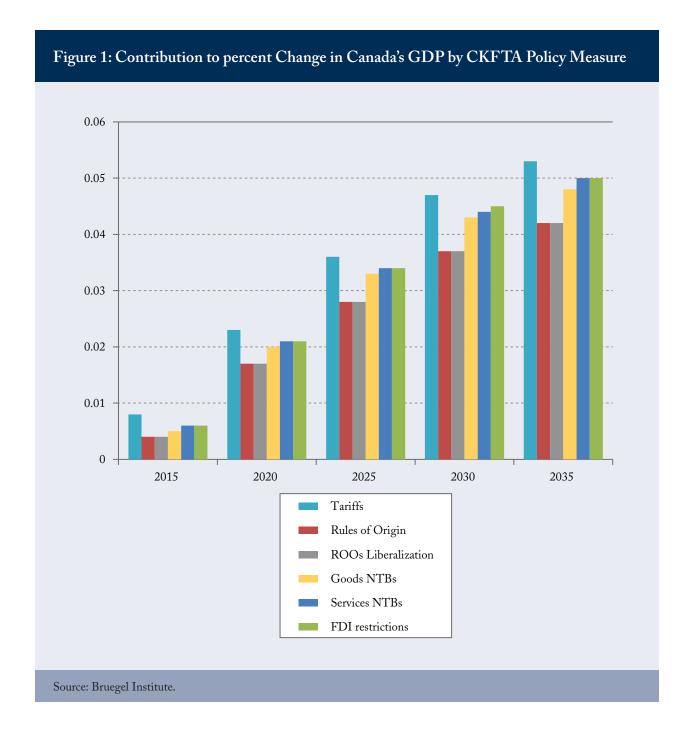
The Impacts on Specific Sectors

In terms of sector-specific impacts, the CKFTA expands Canadian agricultural output, especially beef and pork production, and boosts non-traded services (which are services produced and consumed domestically) through income effects. The deal, however, means more competition for Canada's heavy industry and manufacturing sectors (for complete sectoral details, see online <u>Appendix 2</u>).

While the Canadian automotive sector is negatively impacted, the predicted output decline (about \$C 114 million or about -0.05 percent) is small compared to the close to \$1.2 billion expansion of Korean auto exports to Canada. Korea's gains are largely at the expense of third countries' imports into Canada; the impact on Canada's automotive sector is also softened by the overall Canadian income gains from the deal, which spur overall demand. Evaluating the deal from a multinational firm perspective, however, Korean firms gain at the expense of US and Japanese firms.

For Korea, the deal expands auto sector and transportation equipment exports in particular, followed by machinery and equipment and chemicals. In terms of production gains, the biggest gainers after the automotive sector are non-traded services, while the beef sector and food products more generally experience relatively modest declines. These production declines are small compared to the inroads in the Korean market made by Canada, since these inroads come in good measure at the expense of third countries.

Indeed, overall, the impact of the CKFTA on third parties is negative, reflecting the effects of trade diversion. Notably, due to the CKFTA, not all of the bilateral export gains anticipated by the United States and Australia from their agreements with Korea will in fact be realized. By the same token, insofar as the CKFTA is implemented contemporaneously with the US and Australian deals, in large measure these diverted gains will not be experienced by Canadian exporters — rather they stand as an "absence of loss" compared to a situation where Australia and the United States would have expanded preferential access at Canada's expense.



This effect illustrates the pressures underlying the "domino theory" of FTAs: once major countries enter into FTAs, there is pressure on other trading partners to cut their own deals to mitigate competitive losses in those markets (Baldwin 1995; Ciuriak 2010).

Other Issues Affecting Canada-Korea Trade

Circumstances appear to be relatively propitious for Canada to improve on its bilateral trade performance since Korea's macroeconomic fundamentals are supporting a gradual rise in the exchange value of the Korean

Table 5: CKFTA Services Trade Impacts – Canada and Korea Cross-Border Bilateral Services
Imports and Foreign Affiliate Sales (FAS) in the Services Sectors, Change over Baseline

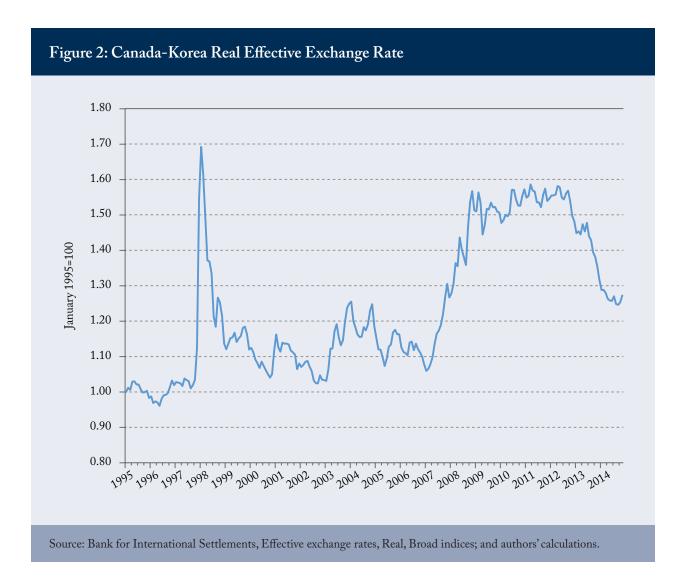
\$C Mi	illions at 201	4 price	Percent Change				
2006	2007	2008	2009	2010	2011		
Canadian Imports from Korea							
22	26	31	1.93	1.94	2.01		
36	167	233	0	0.04	0.06		
58	194	265					
Korean Imports from Canada							
31	41	52	3.87	3.93	3.95		
13	85	121	0.01	0.12	0.13		
44	126	173					
	2006 22 36 58 31 13	2006 2007 22 26 36 167 58 194 31 41 13 85	22 26 31 36 167 233 58 194 265 31 41 52 13 85 121	2006 2007 2008 2009 22 26 31 1.93 36 167 233 0 58 194 265 31 41 52 3.87 13 85 121 0.01	2006 2007 2008 2009 2010 22 26 31 1.93 1.94 36 167 233 0 0.04 58 194 265 0 0.04 31 41 52 3.87 3.93 13 85 121 0.01 0.12		

Source: Calculations by the authors.

currency — the won — which has already unwound some of the persistent undervaluation, noted by the IMF (2014b), that followed its depreciation in the aftermath of the global financial crisis of 2008-09. Meanwhile, the Canadian dollar's recent correction has brought its market exchange rate more in line with purchasing power parity. These developments have brought the real effective exchange rate of the Canadian dollar back closer to its historical average vis-à-vis the won (Figure 2). However, Canada should carefully monitor any renewed attempt by the Bank of Korea to keep the won artificially low.

In addition, while Korea's flurry of FTAs⁵ provides all the appearance of aggressive liberalization, Korea has been the target of complaints in the context of its agreement with the United States of applying heightened scrutiny to claims for preferential treatment in the form of demands for documentation and on-site visits to supply chain suppliers to assess compliance with rules of origin. While Korea's requirements are understood as within the bounds of the US deal, US firms have complained that the Korean zeal in enforcing the agreement amounts to "excessive" documentation requirements. Other measures contested by US exporters include environmental standards, consumer protection regulations, and the equivalency of standards.

Besides the KORUS, KAFTA, and CKFTA, Korea is also participating in the Regional Comprehensive Economic Partnership (RCEP) negotiations with ASEAN, China, India, Japan, Australia, and New Zealand. A key component of the RCEP is the China-Japan-Korea (CJK) negotiations. In May 2012, the CJK participants signed a trilateral Investment Agreement, an important step towards completing a CJK FTA and the larger RCEP Agreement. Korea and China also reported completing the substance of a trade agreement in November 2014. Korea formally expressed its interest in membership in the Trans-Pacific Partnership (TPP) agreement in November 2013 (Schott and Cimino 2014) and stated its goal to be the linchpin between the TPP and the RCEP (Myoung et al. 2014). Finally, Korea is negotiating with Mexico to round out its NAFTA trifecta.



Furthermore, we note that while it is governments that cut trade deals, it is companies that trade. The Korean economy features complex corporate connections through the *chaebol* system, which are groups of formally independent firms linked to a controlling family. Korea's top 10 *chaebol* account for 80 percent of its GDP, with the Samsung Group alone accounting for 28 percent (Lee 2013). Governments can sign formal treaties but business must penetrate these webs of corporate and personal relationships. Social capital remains important in Korean business (Witt 2013). Accordingly, for Canada to derive the benefits that the CKFTA promises on paper, relationships will have to be cultivated, business-to-business as well as government-to-government.

In short, Canadians should be aware that it is one thing to negotiate a deal but another thing to ensure that the initialed texts translate into measurable trade impacts.

Conclusion

Overall, we find that the CKFTA will likely have a small but positive impact on Canada.⁶ In terms of the structural impacts, the CKFTA tends to reinforce existing patterns of comparative advantage between Canada and Korea: for Canada, the agricultural sector gains and, for Korea, the industrial sector gains. In both economies, the major output gains otherwise come in non-traded services sectors, driven by the deal's income effects.⁷

In considering these findings, the reader should bear in mind two important considerations. First, these simulations attempt to show the economic value of undertakings that Canada and Korea have made — all else being equal. All else will not of course be equal.

Second, the numbers make no claim to precision. The model – however complex it may be – is a great simplification of reality. The numbers do, however, serve to identify the likely dimensions of the ballpark in which the CKFTA will play itself out and so help to anchor public discourse in quantitative reality.

At the same time, as we noted, the extent to which the expected benefits of the KORUS have materialized remains under intense scrutiny in the United States. This and other factors mentioned above suggest careful monitoring of the extent to which Canadian producers do in fact benefit from the improved access to the Korean market that the CKFTA promises.

Note, however, that "gravity" modeling, which seeks to identify the impact of implemented free trade agreements on trade flows – separately from that of other key factors that influence trade such as distance – typically shows a much greater positive impact on trade than ex-ante modelling, such as is reported here. See for example Ciuriak (2014).

⁷ This study does not factor in the impact of the intellectual property (IP) chapter. Korea is a major market for online activity and conceivably this is an area where Canadian technology providers might have attractive markets. However, the IP policies of both Canada and Korea are not driven by the CKFTA.

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