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Global Production Insights

Canada in the Global Economy – A New Perspective

Prepared by the Statistics Canada

Summary

This document will provide information on a number of innovative statistical products developed by Statistics Canada. The Canadian economy is open for business to the rest of the world, and if the proper tools to examine that changing role would not have been developed, developing appropriate policy that leads to a strong and stable Canadian economy would have not been possible. It is no longer enough to simply report what is traded and where it goes or comes from. Policy makers want to know who is trading, what Canada's value added is in the global value chain, how exposed we are to global financial markets and what the foreign direct investment outcome is. Over the last three years, innovative data products were developed to help telling the story of Canada's changing role in the global economy. This document highlights some of the latest insight Canadian policy makers have been able to glean from these new products.

I. Background

1. Changes in technology, trade agreements, multi-national organizational structures and government policy have significantly altered the way firms operate. Firms are now operating from a global rather than domestic perspective. Statistical frameworks, which measure national income and trade, are being updated to better capture the increasingly global activities and international inter-connectedness of firms, governments and individuals.

2. Canada is a relatively small open economy and over the last 90 years Statistics Canada has developed and disseminated a rich set of data measuring Canada's transactions with the rest of the world. While these data have served policy makers, academics and citizens well, they are losing their relevance in the globally interconnected world that firms and individuals find themselves. Until recently these statistics did not tell the full story of Canada's role in the global economy. Over the last few years Statistics Canada has developed several innovative data products that help tell the story of Canada's changing role in the global economy.

3. Why is this important? Roughly a third of Canada's gross domestic product is related to international trade in goods and services. Over 12% of all Canadian jobs are linked to foreign direct investment in Canada. Non-residents hold over 1 trillion dollars in Canadian government and corporate bonds. The Canadian economy is open for business to the rest of the world and if we do not have the proper tools to examine that changing role we cannot develop appropriate policy that leads to a strong and stable Canadian economy.

4. It is no longer enough to simply report what we trade and where it goes or where it comes from. Policy makers want to know who is trading, what is Canada's value added in the global value chain, how exposed are we to global financial markets and what is the outcome of foreign direct investment – both inside and outside of Canada? Simply, Canadians are no longer satisfied with the what and where but are asking Statistics Canada about the who and the why. Over the last three years Statistics Canada has developed a number of innovative statistical products that provide a new perspective on Canada in a global economy.

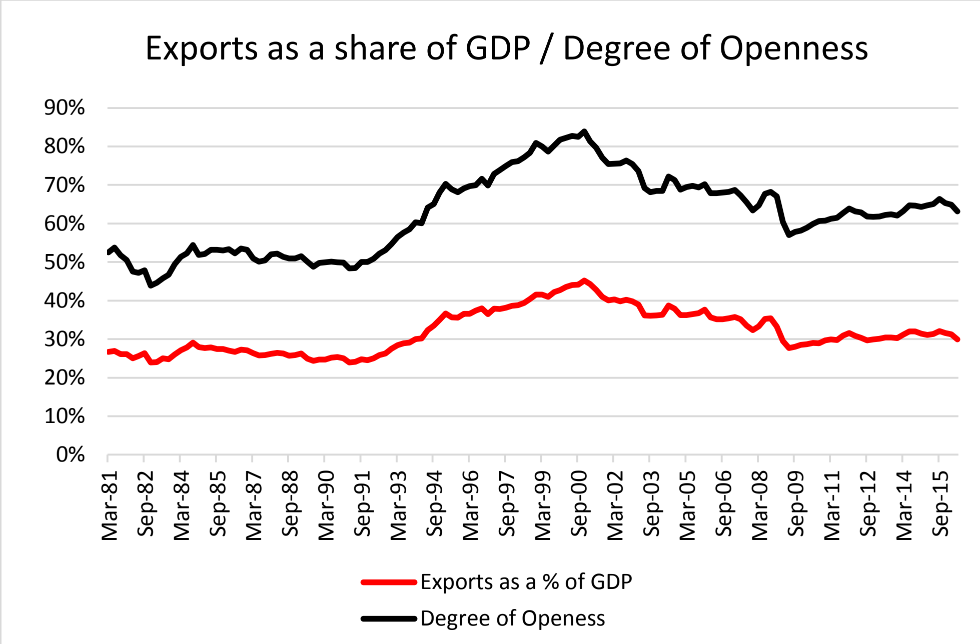
5. This paper outlines four new innovative products that Statistics Canada has developed and released over the last three years. These new products provide a new perspective on Canada in the global economy and address a number of key questions that policy makers and Canadians have been posing since the Global Financial Crisis:

- What does the emergence of global value chains mean for the Canadian economy?
- How many firms in Canada export and what are their characteristics?
- What is the impact of Foreign Direct investment in terms of Canadian jobs and trade?
- How exposed is Canada to global financial markets?

II. How does the emergence of global value chains demand a new way of looking at Canadian international trade?

6. If we look back 30 to 40 years, before the wide-spread emergence of global value chains, a Canadian manufacturer would generally source most their inputs from Canadian suppliers. The materials were sourced in Canada, goods were assembled in Canada and exported abroad. A significant share of the value-added associated with Canadian exports originated in Canada. Indicators such as exports to GDP provided a good indication of

export's contribution to the Canadian economy. In December 2000 the export to GDP ratio reached 45.2% and the degree of openness (exports plus imports divided by GDP) peaked at 83.9%.

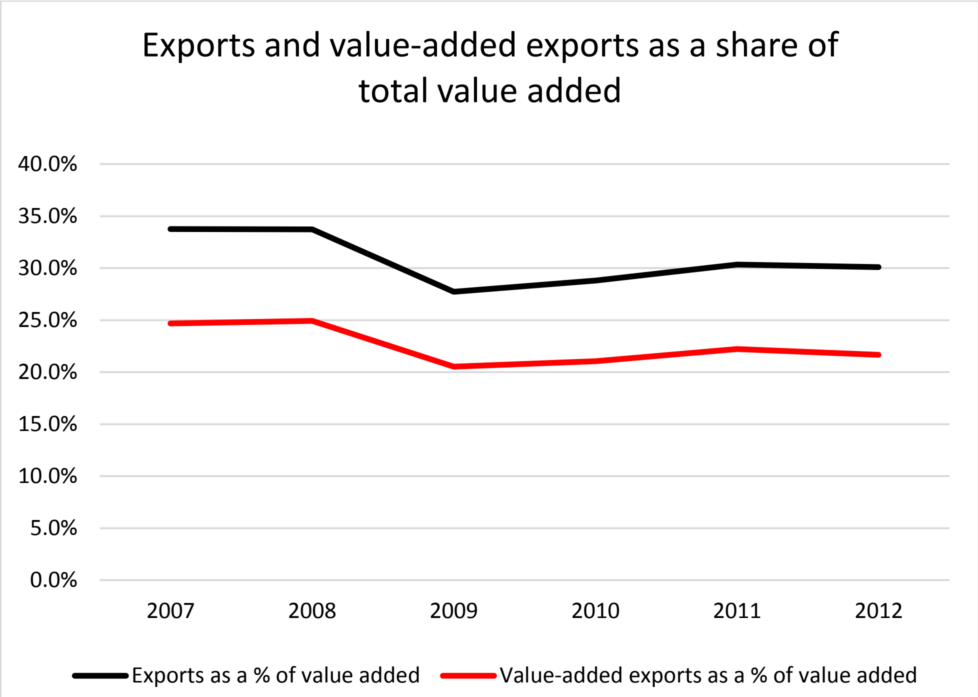


7. The world we live in today is not the world of 30-40 years ago. Consider the following example of a large Canadian manufacturing firm that exports $600 million dollars of goods each year. Assume that in order to produce these goods the firm had to import $200 million dollars of parts from Mexico and China. What is the Canadian value-added associated with the $600 million dollars of exports?

8. In order to measure the Canadian value-added we need to subtract the value of Mexico and China content embedded in the Canadian exports. The value-added exports for Canada are therefore the $600 million-dollar shipment less the $200 million dollars of Mexico and Chinese imports, or $400 million dollars of value added exports.

9. Today it is more probable that the Canadian firm is part of a global value chain which receives inputs from abroad (sometimes from an affiliated company, sometimes not), assembles the good and sells the final product in Canada or abroad. This changes our perspective on international trade. Today we speak about trade in value-added in addition to trade in goods and services.

10. Statistics Canada now releases estimates of value added exports. The value-added approach provides a clearer picture of the contribution of exports to total economic activity. In 2012, value-added exports were a little over 21% of gross domestic product. This was around 10 percentage points less than exports as a share of GDP if the imported content is not removed.



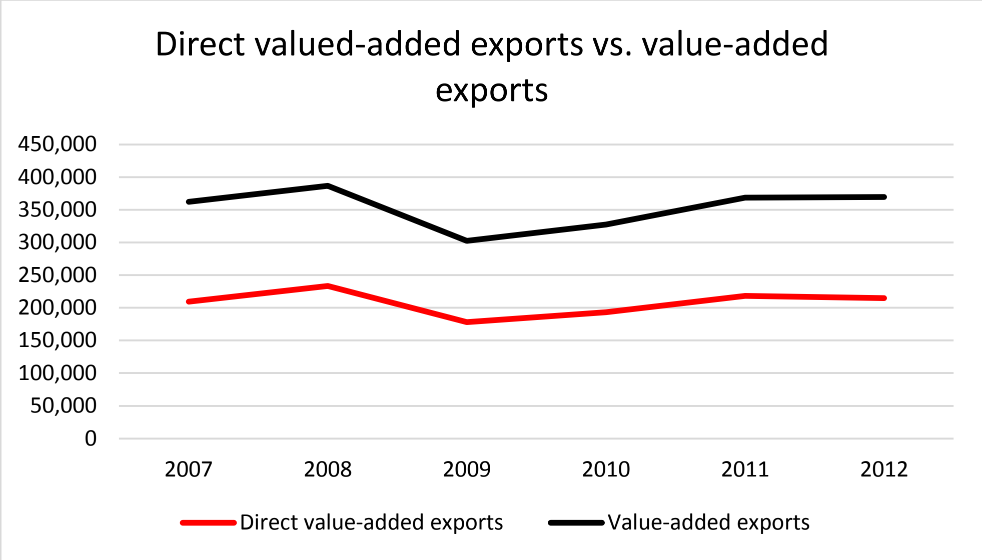
11. Our newly-released value-added export estimates also let us look at value-added exports on a geographic basis. The 2008 recession had a far larger impact on Canada's exports and value-added exports with the United States than it did with all other countries. In 2012 the level of Canada's value-added exports with the US was still below the level recorded in 2008. Canada's value-added exports with all non-US countries was slightly above the pre-recession levels. Over the last number of years Canada has been making a concerted effort to open up trade channels with non-US countries and that this may have helped boost the value-added exports with the non-US countries.

12. We know that there were structural changes in the automotive global value chains in 2008-2009 and these data help us understand the impact on the Canadian economy.

13. Value added exports are constructed using Canada's Input-Output Tables. The Input-Output tables are a powerful analytical product that Statistics Canada releases on an annual basis. The Input-Output tables shows the linkages between the various industries operating in the Canadian economy.

14. A question we are often asked is what is the service sector's contribution to Canadian exports? There are a couple of ways to look at this. First, a service firm can export their services directly. This is relatively straightforward to understand and measure.

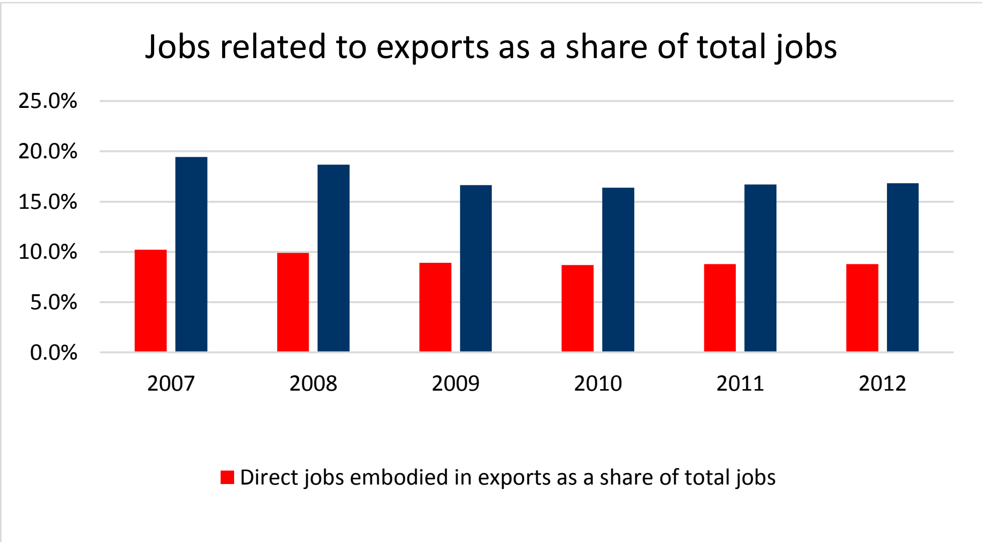
15. But what about the case where a service industry in British Columbia supplies engineering services to an Ontario manufacturer that in turn exports their goods abroad? Doesn't the British Columbia firm have an indirect contribution to Canadian exports? Since the input-output tables capture these intra-industry linkages we are able to measure both direct value-added exports and indirect value added exports. For example, in 2012 the direct value-added exports was just over 214 billion while total value-added exports (the direct and indirect) was $370 billion. These types of measures are critical if we want to understand the downstream impact of changes in trade policy and trade agreements.



16. So what is the services sector's contribution to Canadian value-added exports? In 2012, the value-added exports from services as a share of total value-added exports accounted for roughly 44% of total value-added exports, or $164 billion.

17. And what about jobs? For most Canadians this value added information is only relevant if we can tie it back to jobs. Employment-related information is embedded in the Canadian Input-Output tables. For example, our Input-Output models can tell us how many jobs will be created from a large infrastructure project such as the building of a bridge or large building.

18. Since the estimates of value-added exports are constructed from the Canadian Input-Output tables, we are able to estimate the number of jobs related to exports. These jobs can be broken down by industry and split between direct jobs and indirect jobs. In 2012, 8.8% of Canadian jobs could be directly attributed to Canadian exports. This number increases to nearly 17% when we include the indirect jobs. The number of Canadian jobs directly or indirectly related to exports has been decreasing since 2007. In 2007, roughly one in five jobs were directly or indirectly related to exports. By 2012 this had fallen to one in six.



III. Who Trades

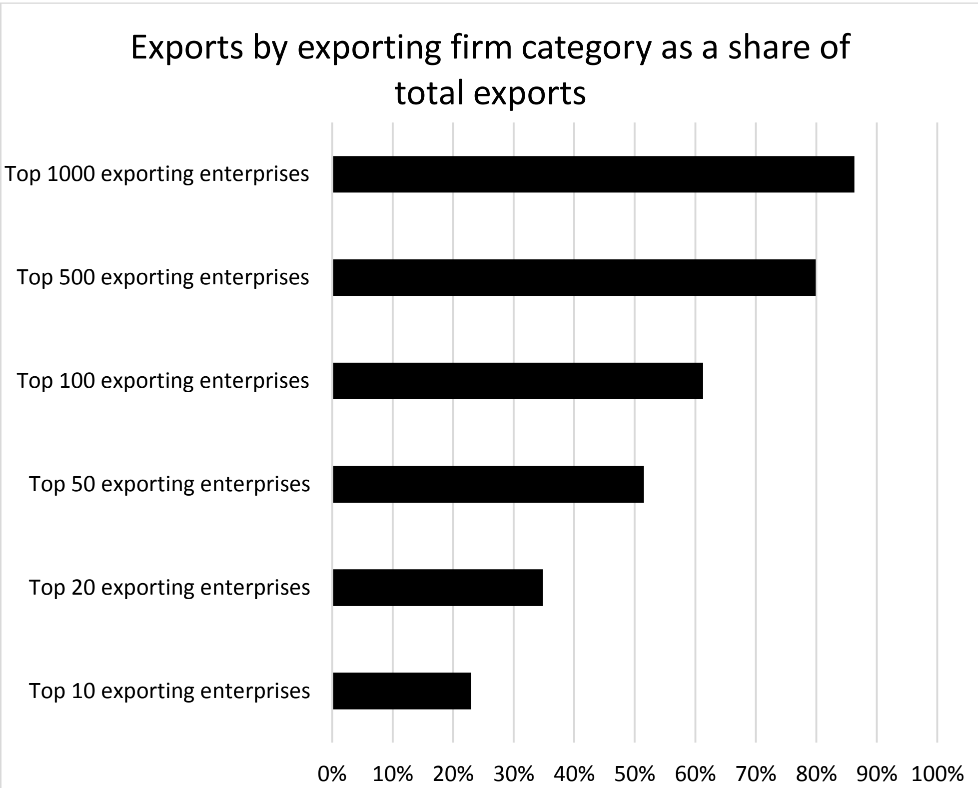
19. An understanding of Canada's exporting community is critical for governments. Increasing our access to foreign markets is important for Canada's economic future – we rely on Canadian firms to access these markets – but we know very little about them – at least until recently.

20. Statistics Canada has a long history of providing Canadians with very detailed information on the products we export and import. We can tell you the value of engines, airplanes, trains, books, clothing we import and export in great detail.

21. While the 'what' we import and export is and remains an important dimension that we need to measure, there is more and more interest in who is importing and exporting. Quite simply our economic prosperity is tied to trade. The more firms that export the greater the market for our goods and services. Until recently we knew very little about Canada's exporting community.

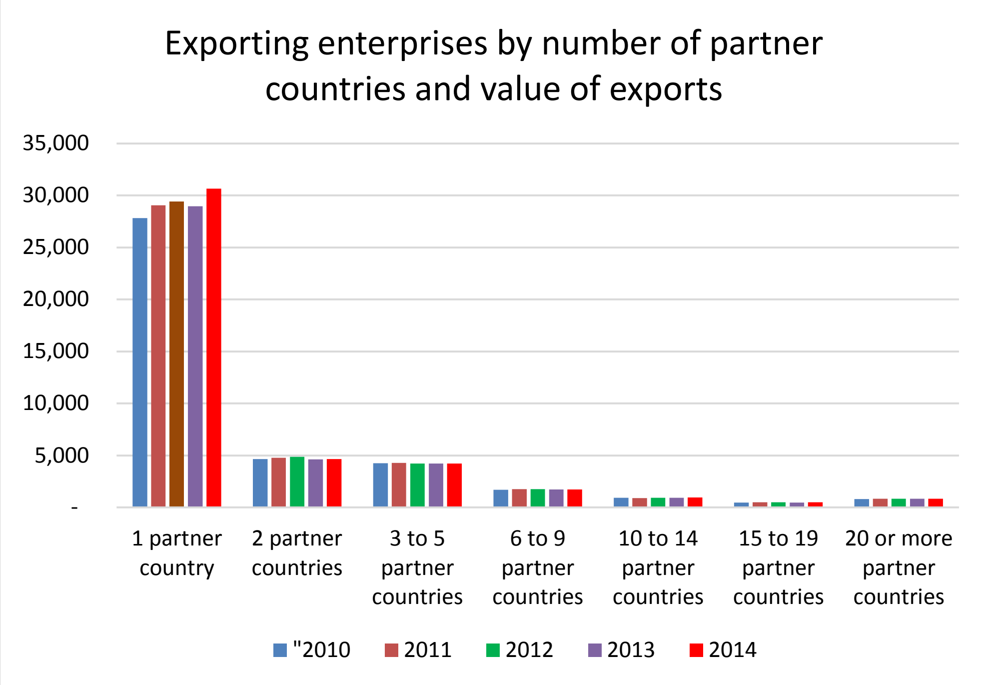
22. Statistics Canada now releases estimates that provide a comprehensive picture of the Canadian exporting community. This new product looks at the who exports alongside the what and where we export.

23. In 2014 there were 43,530 exporters in Canada but the majority of the value of exports was concentrated among a small number of large enterprises. The top 10 exporting enterprises account for 23% of total domestic exports in 2014. The top 100 exporting enterprises account for 61% of total exports.



24. The majority of Canadian exporters only export to one partner country. Of the total 43,530 exporters in 2014, 30,649 only exported to one country and of those the vast majority only exported to the United States. The number of exporters has been increasing

since 2010. Most of the increase represents exporters that export to one partner country. There were 10% more exporters exporting to a single country in 2014 than there were in 2010 and there were 5% more exporters exporting to 20 or more partner countries in 2014 than there were in 2011.

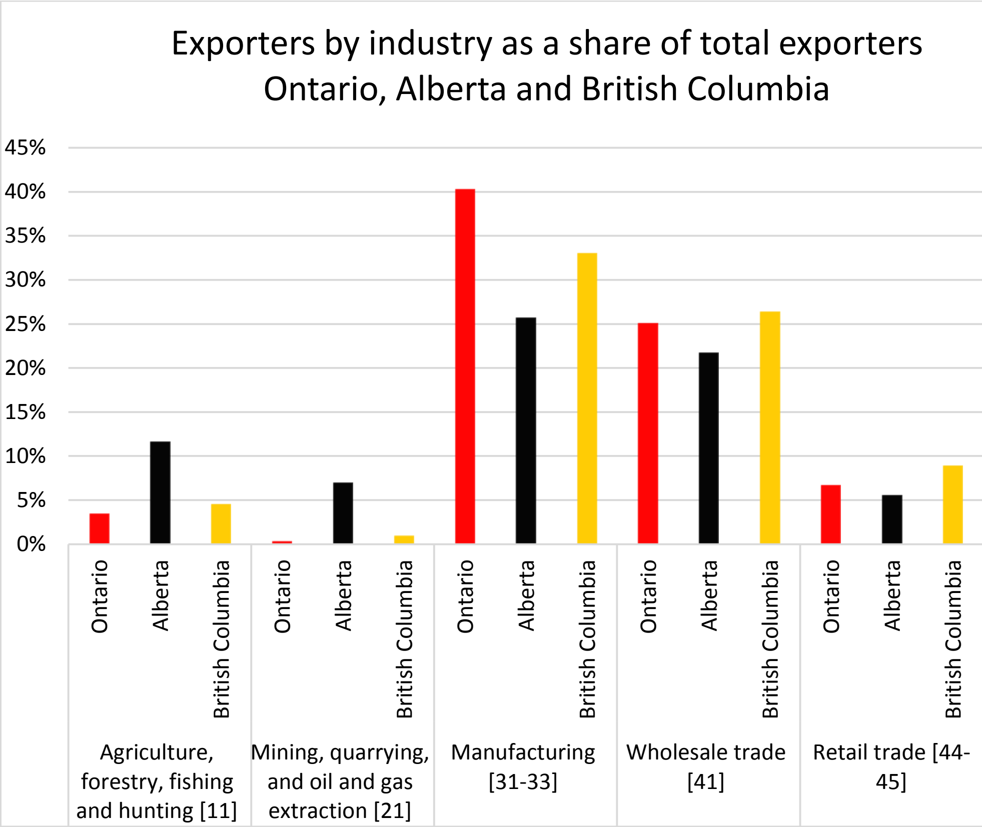


25. Not surprisingly, a greater share of large exporters exported goods in each region than did small and medium-sized exporters. What is surprising is the low share of both large and small and medium-size exporters that exported to Mexico. Less than 10% of the small and medium sized exporters exported to Mexico, Africa and the Middle East and Oceania and Antarctica. Almost all large enterprises exported to the United States.

26. Does size matter? In the case of exporters it appears to be very important. The larger the enterprise the more likely they were to have multiple trading partners. Over 70% of small and medium-size enterprises exported to only one partner country in 2014 – in most cases the United States. Over half of all large enterprises had more than one trading partner, with 10% of large enterprises exporting to 20 or more partner countries.

27. What about geography? How many exporters reside in British Columbia, Ontario, Alberta, Quebec? In what industries, do they operate? – how concentrated are they? Exporters by industry are more concentrated in Ontario than in Alberta and British Columbia.

28. In 2014, the majority of exporters in Ontario were concentrated in the manufacturing industry. Exporters in Alberta were more evenly distributed across industries with significant shares in the agriculture industries, manufacturing, mining and wholesale industries.



IV. Foreign Investment

29. Over the last 100 years there has been on-going debate in Canada about the benefits of foreign direct investment on the Canadian economy. Is it good or bad? Statistics Canada's new foreign affiliate statistics data products help answer these questions.

30. Statistics Canada has been publishing estimates of Canada's foreign direct investment abroad and foreign direct investment in Canada since 1926. The traditional view to measuring foreign direct investment was to measure the origin and level of foreign investment.

31. Today, more and more people want to better understand the outcomes associated with foreign investment – outcomes with respect to jobs, trade and financial stability. This has given rise to a set of new and expanded products released by Statistics Canada over the last few years referred to as foreign affiliate statistics.

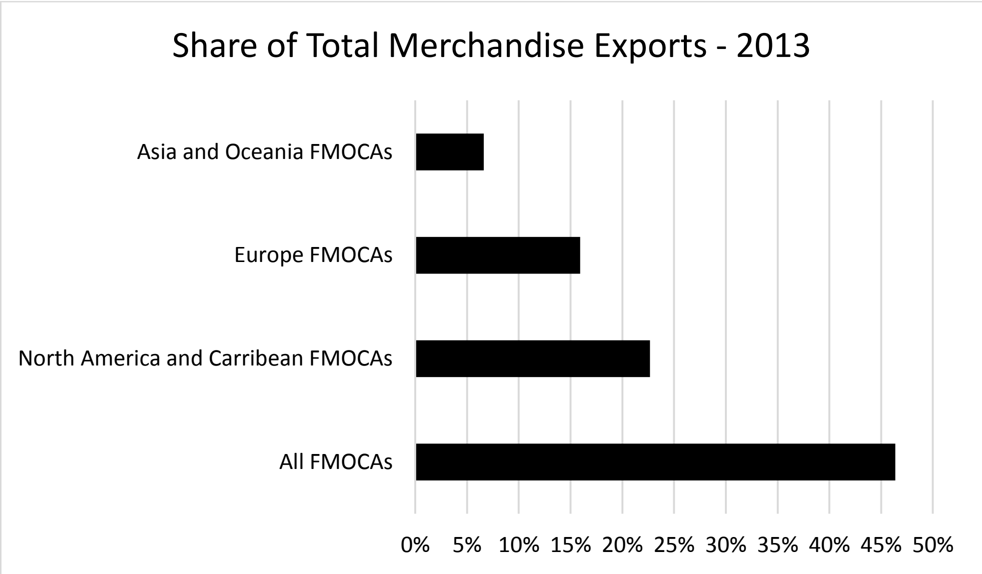
32. This is probably best explained with a few examples. Assume that a US multinational enterprise establishes a manufacturing plant in Canada and assume that the US enterprise invests $100 million dollars in its Canadian subsidiaries to establish the plant.

33. In the past, the principal statistics reported by Statistics Canada was the $100 million-dollar investment. While this is an important measure it does not tell us anything about the outcome of the investment.

34. Moreover – debate would take place as to whether this was good or bad. Questions such as how many people are employed at this plant, what is the revenue of the plant, do the produced goods remain in Canada or are they shipped back to the United States? Does

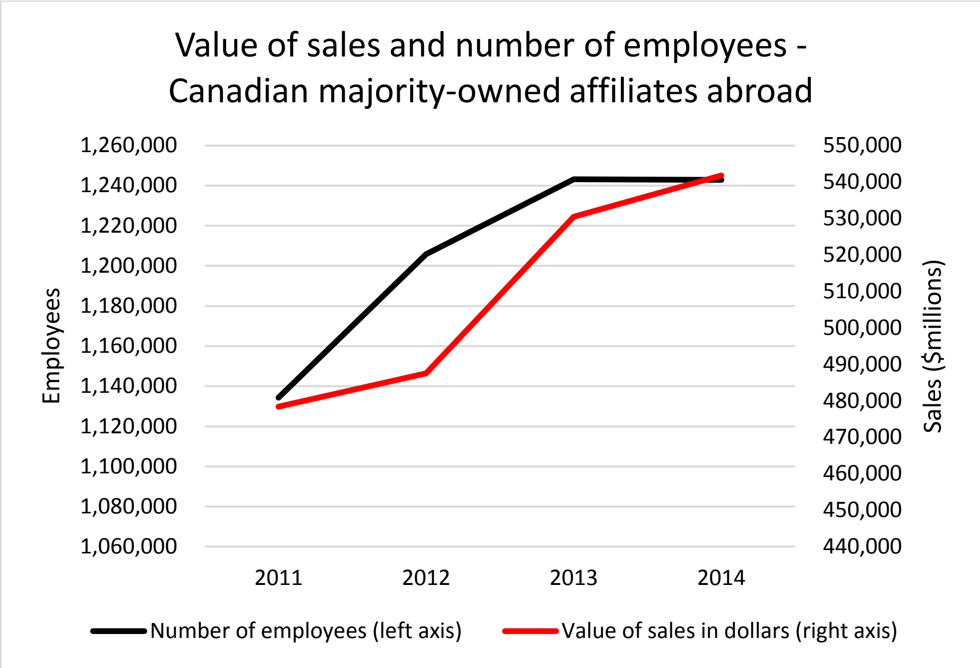
the plant undertake any research and development activities? Does the plant source its goods locally or from abroad? In the past – all these questions went unanswered. All these questions are extremely important and if we could answer them it would help us understand the outcome or impact of the $100 million investment. Statistics Canada's foreign affiliate statistics data products help answer these questions.

35. Foreign majority-owned affiliates operating in Canada account for over 45% of total Canadian merchandise exports. North American and Caribbean affiliates account for over 20% of merchandise exports. This share has been stable over the last 4 years. The share of total employment of European and Asia and Oceania majority-owned affiliates operating in Canada has been increasing since 2010. The share of employment of United States majority-owned affiliates operating in Canada has been decreasing. Of the Canadians employed by FMOCAs the vast majority are employed by United States majority-owned affiliates operating in Canada. In fact, over 1.6 million Canadians are employed by foreign majority owned Canadian affiliates – this represents over 12% of all Canadian jobs.



36. If we only examine the activities of foreign majority-owned affiliates operating in Canada we are only examining one side of the story. Statistics Canada examines the role of foreign affiliates from two perspectives. The first as noted above is from an inward perspective. The second is by examining the activities of Canadian majority-owned affiliates abroad. Assume that a Canadian multinational invests in France. Knowing the level of investment is not enough. Questions such as the number of people employed at this Canadian affiliate in France, or the financial stability of the affiliate or whether the affiliate exports goods and services back to Canada are equally important. The answer to these types of questions is captured in Statistics Canada's Canadian majority-owned affiliate's abroad data product.

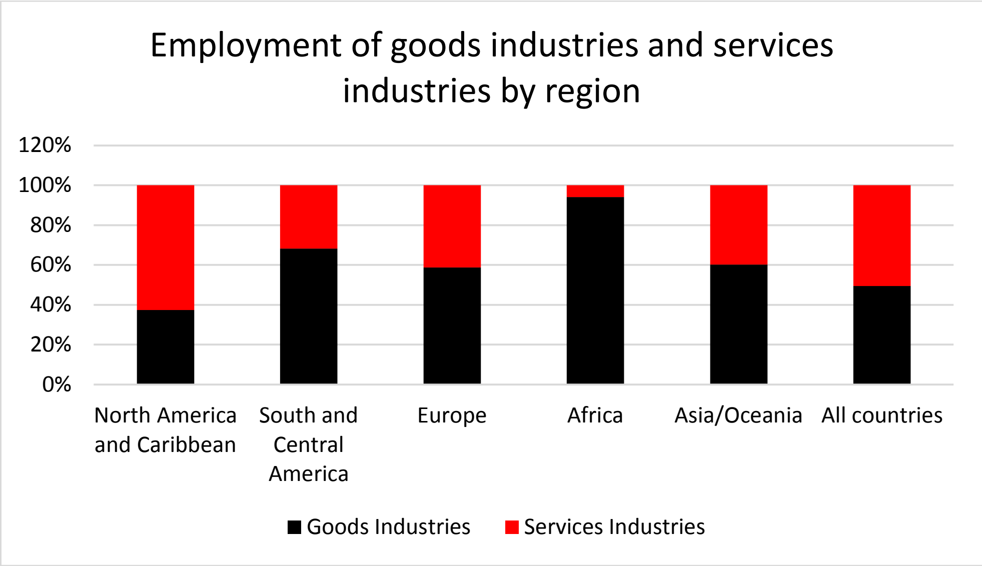
37. Both sales and employment of Canadian majority-owned affiliates operating abroad have increased since 2011. Over half of the sales and employment abroad of Canadian majority-owned affiliates is accounted for by affiliates operating in the US. Their share of sales is larger than their share of employment.



38. We live in a global economy; we are more internationally interconnected today than at any point in our history. With this increased interconnection comes increased risk. We generally view this risk through financial markets and financial institutions. Another way to view this risk is through affiliates. If a Canadian multinational invests abroad and the affiliates takes on large liabilities, the exposure to risk from holding those liabilities are in a way ‘transferred’ back to the ultimate country.

39. Two years ago, Statistics Canada enhanced the data related to the financial performance of Canadian majority-owned affiliates abroad. These estimates were produced to help policy makers better understand the risk associated with Canadian multinational direct investments abroad. The net worth of Canadian majority-owned affiliates operating abroad was approximately $740 billion. Canadian majority-owned affiliates operating abroad had over 2 trillion in liabilities. These liabilities are the ultimate responsibility of Canadian investors. Most the sales of Canadian majority-owned affiliates operating abroad originate in the manufacturing sector although its share is declining with the growth occurring in the service sector.

40. And what about jobs? The majority of employment of Canadian majority-owned affiliates operating in the United States is in the services sector. In all other regions, the majority of employment is attributable to enterprises in the goods industries. In total, there were 1.24 million individuals employed at Canadian majority-owned foreign affiliates in 2014. To put this in perspectives this is the same number of people employed in the education sector in Canada and just above the number of people employed in the accommodation and foods services sector. The average annual growth in employment at Canadian majority-owned foreign affiliates between 2011 and 2014 was 3.1%. In comparison the annual employment growth in Canada was 1.1%.



V. International Financial Exposure

41. Statistics Canada has been publishing Canada's Balance of Payments since the 1920s. Canada and the international community at large understand the importance of measuring cross border transactions. In layman's terms this represents the difference between what we spend with non-residents and what we receive from non-residents. This difference is either in surplus (when we receive more than we spend) or deficit (when we spend more than we receive). Canada has been running a current account deficit since 2009. Prior to 2009 Canada had a current account surplus for 10 consecutive years.

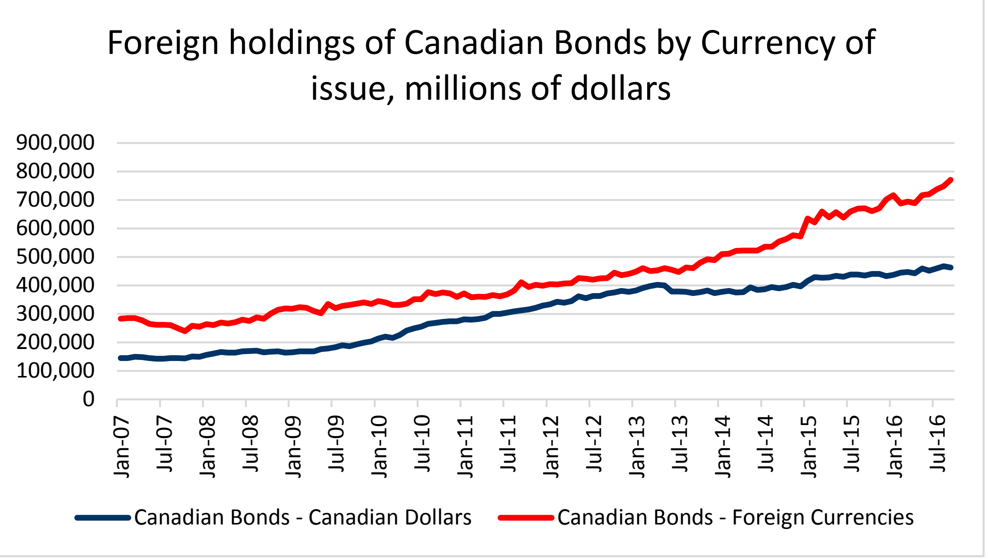
42. The current account deficit has been growing in 2015 and 2016 – mainly due to a decline in the surplus with the US and a widening of the deficit with all other countries. If we would look at this from a commodity perspective we would see that the large decline in our energy exports (mainly as a result of falling energy prices) has had a substantial impact on Canada's goods balance throughout 2015 and into 2016.

43. One would think that with a persistent balance of payments deficit and the corresponding need to borrow funds from abroad, Canada's international balance sheet known as the international investment position would be getting worse. In fact, the opposite is true and we find ourselves with a little bit of an international accounting quandary. We borrow money each quarter from non-residents in order to finance purchases from non-residents and yet the value of the assets we hold with non-residents is growing faster than the value of liabilities held by non-residents with Canada. What explains this quandary?

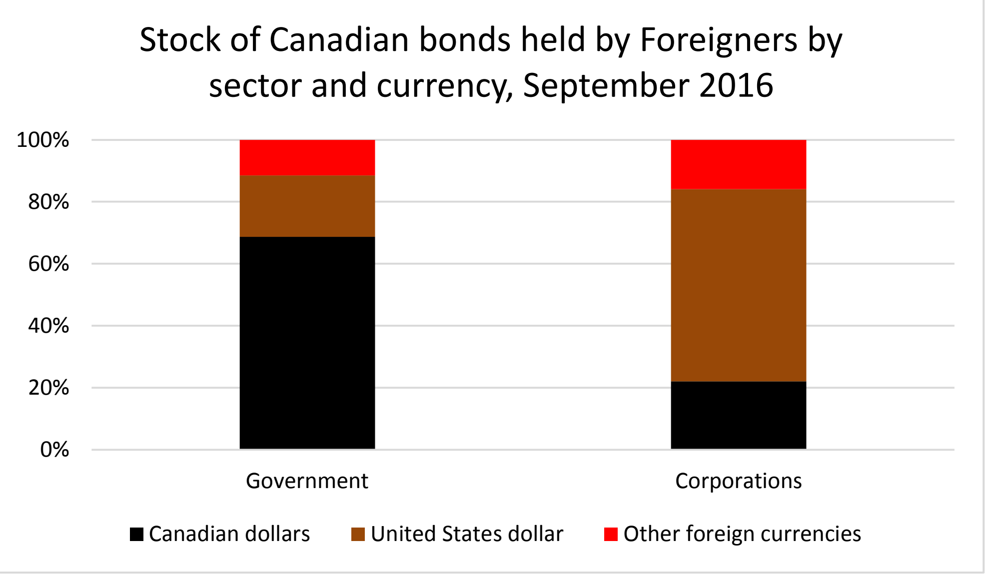
44. The traditional way we presented and measured Canada's balance of payments and international investment position need to be enlarged in order to address these important questions. We need to provide more detail, we need to decompose our estimates by currency, by term to maturity, by region to understand risk and the degree to which we are interconnected with the international markets. It is no longer enough to know that we engage in international transactions with other countries but we want to know who we are engaging with and the nature of the 'deal'. This is why we are expanding our balance of payments statistics and international investment statistics to better capture the nature of these transactions.

45. Decomposing Canadian bonds by currency starts to reveal some of the risk associated with a depreciating Canadian dollar. A growing share of Canadian bonds are

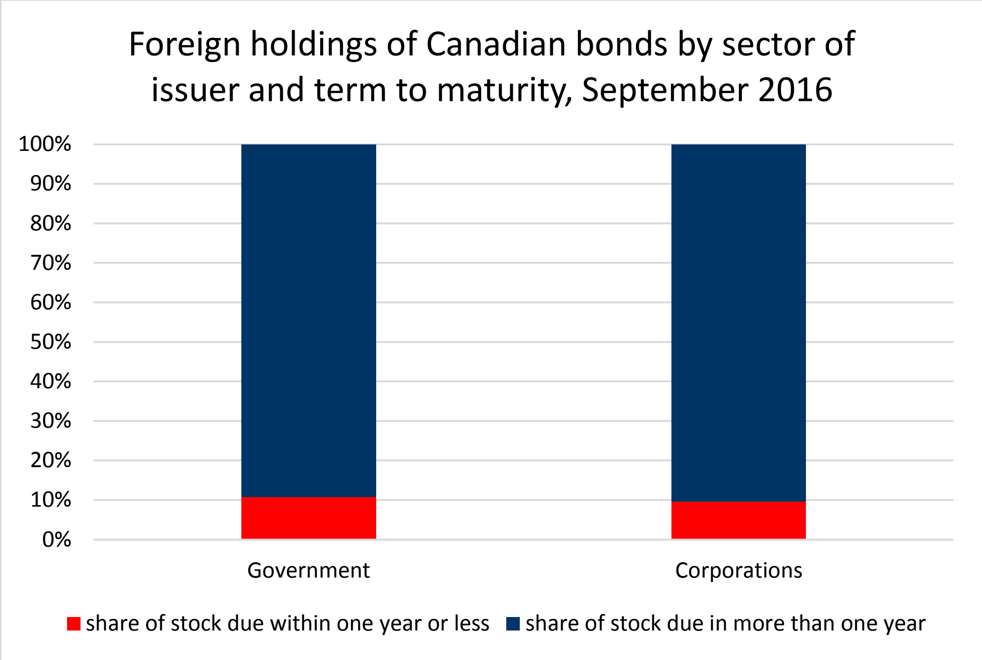
denominated in foreign currencies. This means that if the Canadian dollar depreciates, Canadian governments and corporations will need access to more Canadian dollars when the funds are due. For example, assume that a foreign investor holds $10,000 worth of Canadian bonds denominated in US dollars. Assume that when those bonds were purchased one Canadian dollar was equal to one US dollar. Assume that today one American dollar is worth 1.20 Canadian. Assume that the bond is due today. The Canadian firm will need to pay $12,000 Canadian for the $10,000 US denominated bond.



46. While decomposing foreign holdings of Canadian bonds by currency provides an improved understanding of the risk associated with total bonds we still do not know what sector is at risk – corporations or governments? Decomposing Canadian bonds by currency and sector reveals a lot more information about which Canadian sector is exposed to currency fluctuations. The majority of government bonds are denominated in Canadian dollars while the majority of Canadian corporate bonds are denominated in US dollars – clearly the greater share of risk associated with a devaluation in the Canadian dollar lies with the corporate sector while Canadian governments are at risk if the dollar appreciates.

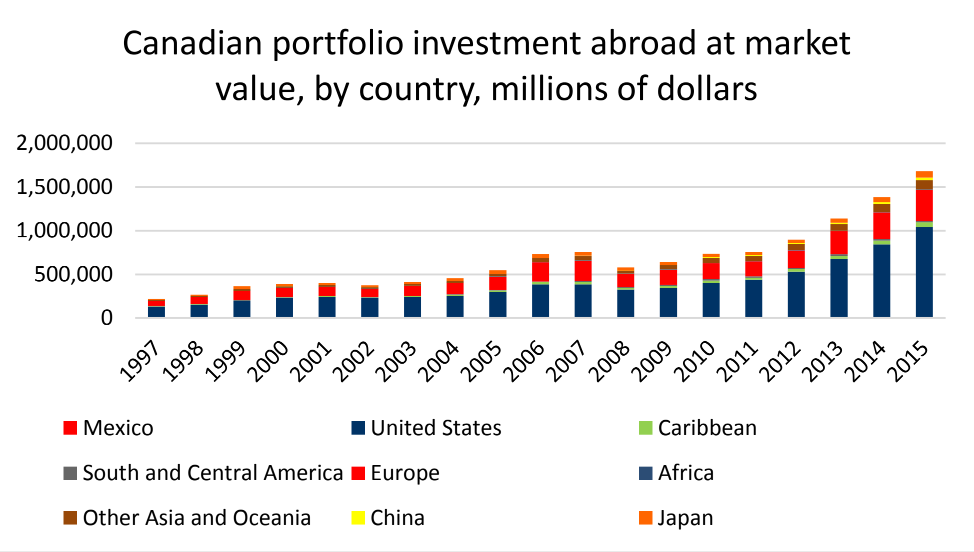


47. Even if we know the currency risk and the sector exposed to the risk we are still missing some important elements of risk such as the term to maturity. What if all this debt comes due in the next six months? Are governments and corporations in a position to pay off this debt or refinance this debt? What about the maturity risk? Are all these bonds due within the next year, two years, five years, ten years? The term to maturity is an important element of risk. Statistics Canada has begun to publish foreign holdings of Canadian bonds by sector of issuer and remaining maturity. While Canadian corporations owe $800 billion to foreign portfolio investors, less than 10% of those bonds are due within the next year.



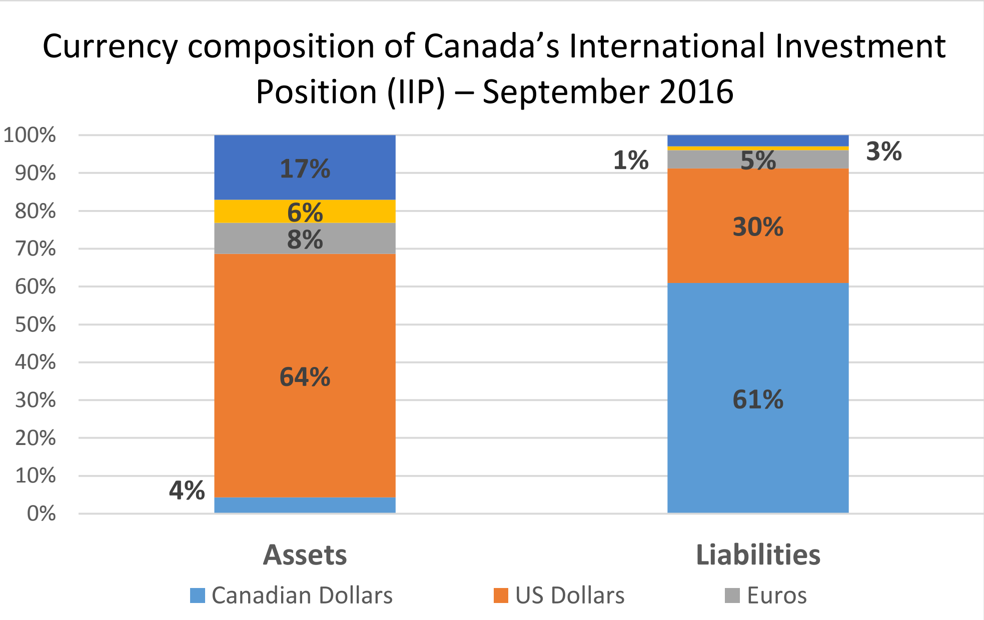
48. Over the last 5-6 years Canada has required foreign financing each quarter but where are these funds coming from – are all our eggs in one basket so to speak? The majority of Canada’s portfolio investment comes from the United States and the United Kingdom. It is also clear that the share originating in the US has been declining over the last year with other countries picking up the slack.

49. While it is important to better understand the risk associated with repaying our liabilities to non-residents, it is equally important that we understand the risk associated with our international assets. The majority of Canada’s portfolio investment abroad is with the United States and Europe, and it is growing. From a geographical perspective, we are becoming less diversified rather than more diversified.



50. Not only do we need to look at the geographical risk associated with our international assets, we also need to understand how we are exposed to international financial markets. A significant share of Canadian international assets are in the form of equity and investment funds. This means that Canadian holdings abroad are at risk to foreign stock market fluctuations, but less at risk to fluctuations in global credit markets.

51. What does this mean when we add it all up and put it all together? Remember that international accounts quandary we started this section with? How can a country that runs a persistent current account deficit be in a net foreign asset position? All the work the agency has been doing over the last number of years has allowed us to present Canada's international investment position on a composition of currency basis, and this sheds light on our little quandary. Over 60% of our international assets are denominated in US dollars and only 30% of our international liabilities are denominated in US dollars. As the Canadian dollar depreciates vis – a – vis the US dollar, our international assets are growing more than our international liabilities.



VI. Conclusion

52. Statistics Canada's international account and trade program is one of the most dynamic programs at Statistics Canada. The changing nature of the economy and the increasingly global nature of the economy is changing the way the agency reports to Canadians.

53. While Statistics Canada has made significant progress over the last three years, more work is required. Over the next three years our focus will be to improve and expand Statistics Canada's estimates of trade in services, develop a trade by importer characteristic data product, expand the foreign affiliate statistics program to capture value added and investment, and continue to expand the geographic and instrument detail related to Canada's balance of payments and international investment position.