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Redesigning Canadian Trade Policies for New Global Realities

Edited by Stephen Tapp, Ari Van Assche and Robert Wolfe

About this chapter

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Redesigning Canadian Trade Policies for New Global Realities, edited by Stephen Tapp, Ari Van Assche and Robert Wolfe, will be the sixth volume of The Art of the State. Thirty leading academics, government researchers, practitioners and stakeholders, from Canada and abroad, analyze how changes in global commerce, technology, and economic and geopolitical power are affecting Canada and its policy.

Chapter summary

Canadian businesses are more engaged with overseas markets and less dependent on the United States than is commonly believed. The conventional narrative is that only a modest (albeit growing) share of Canada's international commerce occurs outside the US. But this view often relies only on analysis of customs-based export data, which do not capture well Canada's broader participation in global value chains.

This chapter, written by Export Development Canada (EDC) researchers Daniel Koldyk, Lewis Quinn and Todd Evans, provides a more comprehensive and accurate view of Canada's economic links with the rest of the world. Their analysis presents a fuller picture of Canada's value-added exports, outward investment, foreign affiliate sales and business strategies.

Canadian businesses, much like those in other countries, are changing the way they participate in the global economy by adopting a more diversified business model that EDC calls "integrative trade." Canada is thus increasingly engaging with overseas value chains. Our foreign affiliate sales in overseas markets are already greater than those in the US, and our sales in emerging markets alone are projected to surpass our sales in the US by 2018. Canadian foreign affiliates are delivering a wide range of services and not simply producing goods. In fact, the value of Canada's foreign affiliate services sales has overtaken that of goods production and is twice as large as services exports.

Interviews with supply chain executives provide further evidence of these trends, leading the authors to conclude that the integrative trade approach is here to stay. This does not necessarily mean replacing "onshore output" with "offshore output." Doing business well abroad also means doing it well here at home. Moreover, some critical production tasks cannot be performed offshore, and some activities are being brought back onshore after failed experiments abroad. Canadian companies continue to serve the US market in various ways — through exports, foreign investment and foreign affiliates. In non-US markets the dynamics are rapidly changing: there, companies now rely much more on outward investment and foreign affiliates. This approach allows them to increase production efficiency, capture consumption growth in emerging markets, tap South-South trade networks and overcome barriers to market access.

Overseas activities can increase revenue streams, generate follow-on exports and contribute to the Canadian economy through profit repatriation (which is subject to Canadian taxes). They can also support Canadian jobs in the front office, on the shop floor, in research and development, and in a wide range of professional services such as accounting, consulting and legal services. That said, better data are needed to improve our understanding of these issues and how they should shape public policy.

Résumé de chapitre

Les entreprises canadiennes sont plus actives sur les marchés d'outre-mer et moins dépendantes des États-Unis qu'on ne le croit. En effet, ceux qui avancent qu'une part modeste seulement (quoique grandissante) de nos échanges internationaux se déroule hors des États-Unis se fondent le plus souvent sur les seules données d'exportation tirées des statistiques douanières, qui ne rendent pas compte de la pleine participation du pays aux chaînes de valeur mondiale.

Les chercheurs d'Exportation et développement Canada (EDC) Daniel Koldyk, Lewis Quinn et Todd Evans proposent dans ce chapitre une vision plus globale et plus juste des liens économiques du Canada avec le reste du monde. Leur analyse offre ainsi un tableau des exportations à valeur ajoutée, des investissements extérieurs, des ventes des sociétés étrangères affiliées et de nos stratégies commerciales.

À l'instar d'autres pays, les entreprises canadiennes transforment leur façon de participer à l'économie mondiale en adoptant un modèle d'affaires diversifié, que l'EDC qualifie de « commerce d'intégration ». C'est ainsi que le Canada s'intègre de plus en plus aux chaînes de valeur d'outre-mer. Déjà, nos sociétés étrangères affiliées enregistrent sur les marchés d'outre-mer des ventes plus importantes qu'aux États-Unis. Et d'ici à 2018, nos ventes sur les seuls marchés émergents devraient surpasser celles que nous réalisons chez nos voisins du Sud. Ces sociétés affiliées produisent non seulement des biens mais fournissent aussi un vaste éventail de services ; leurs ventes de services dépassent aujourd'hui en valeur leur production de biens, et elles sont même deux fois supérieures aux exportations de services des sociétés au Canada.

À la lumière d'entretiens réalisés avec des dirigeants de chaînes d'approvisionnement, qui ont confirmé ces tendances, les auteurs concluent que le modèle de commerce d'intégration est bien établi et va perdurer. Pour autant, il ne s'agit pas nécessairement de remplacer toute « production intérieure » par une « production extérieure », les deux se complétant. Pour réussir à l'étranger, il faut aussi réussir chez soi. De plus, certaines tâches de production clés ne peuvent être exécutées outre-mer, quelques entreprises l'ont appris à leurs dépens. Si nos entreprises continuent donc de desservir le marché américain de diverses façons (par leurs exportations, leurs investissements extérieurs et leurs sociétés affiliées), la dynamique évolue rapidement pour ce qui est des autres marchés, où elles s'appuient beaucoup plus qu'auparavant sur l'investissement extérieur et leurs sociétés affiliées. Cette approche leur permet d'améliorer leur productivité, de miser sur l'essor de la consommation dans les pays émergents, de tirer parti des réseaux commerciaux Sud-Sud et de réduire les obstacles freinant l'accès aux marchés.

Ces activités outre-mer peuvent ainsi augmenter leurs sources de revenu, générer des exportations secondaires et contribuer à l'économie canadienne grâce au rapatriement de bénéfices (assujettis à l'impôt canadien). Elles peuvent aussi favoriser la création d'emplois du côté de l'administration et de la production, de la recherche-développement et d'un éventail de services professionnels comme la comptabilité, le conseil et le service juridique. Cela dit, il est nécessaire de disposer de meilleures données pour mieux comprendre l'ensemble de ces enjeux ainsi que leur incidence sur les politiques publiques.

Chasing the Chain: Canada's Pursuit of Global Value Chains

Daniel Koldyk, Lewis M. Quinn and Todd Evans

THE MAINSTREAM DIALOGUE ON TRADE OFTEN FOCUSES ON MERCANTILIST NOTIONS — exports are good, imports are bad — but specialists have been pushing the boundaries of trade research in important new directions. One exciting example is recent work that focuses on firm-level behaviour, and opens up a range of new questions related to the decision-making structures, motivations and interactions of international companies. By doing so, this research challenges trade analysts to disentangle the complex networks that underpin international trade transactions and to better understand what allows seemingly similar firms to succeed or fail in the global marketplace.

In this chapter, we contribute to this discussion by exploring how international trade patterns are evolving and how Canadian firms are adapting to a changing playing field. We focus on one of the most important developments in international trade over the past two decades: the rise of global value chains (GVCs).[1] In Canada and beyond, GVCs are revolutionizing the organization of production in virtually every industry, for both international and domestic firms, and as a result, there has been an explosion of research activity on them (see, for instance, Globerman 2011; and both Van Assche and Blanchard, in this volume).

The questions that drive our analysis are designed to uncover high-level trends and evolving firm-level practices. At the macro level, we ask: How well integrated are Canadian companies into the value chains that are fuelling the global economy? Although it is no secret that Canada is rooted in the North American value chain, to what extent is it moving into European value chains, Latin American value chains, which include a large number of quickly growing emerging markets, and Asian value chains, which might be the most dynamic of all? At the firm level, we try to reveal how Canadian firms are engaging in GVCs, and investigate both geography and enterprise size. We ask: How has the international business model of Canadian companies adapted to the rise of differentiated GVC regions? And, how do large and small companies organize their production networks to maximize global market share?

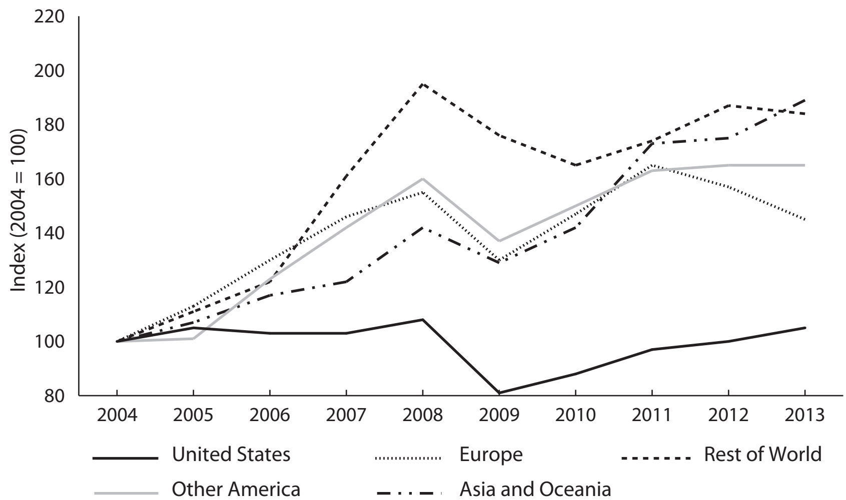
We begin by analyzing the performance of Canadian exports over the past decade using traditional (customs-based) trade data. We then examine recently developed data constructed by international organizations that instead attempt to allocate the incremental "value added" generated by various countries along the production process. (In contrast, customs-based data allocate — erroneously in most cases — all the value added to the exporting country.) After this, we try to capture the broader global business practices of Canadian firms by describing the "integrative trade" revolution, a concept pioneered by Export Development Canada, which includes outward investment and foreign affiliate sales data. As we will show, the perspectives offered by value-added exports and integrative trade challenge the dominant view that Canadian firms are overly concentrated on the US, providing a new and exciting narrative. We complete our analysis by comparing our main findings with the results of the federal government's latest Survey of Innovation and Business Strategy, as well as qualitative insights gained through interviews with value chain executives of major global corporations and small businesses with Canadian operations.[2]

Canada's Economic Linkages with the World

Goods and services exports

As we begin our story of Canada's trade diversification with an analysis of the goods and services export data, two striking facts emerge. The first, shown in figure 1, is the rapid growth of Canada's exports to all markets other than the United States over the past decade. (We refer to non-US markets as "overseas.") This trend has been especially strong in emerging markets. Goods and services exports to Asia and Oceania,[3] Rest of World (which includes the Middle East and Africa; see the appendix for more detailed definitions) and Other America grew by 89 percent, 84 percent and 65 percent respectively between 2004 and 2013. Goods and services exports to Europe have also grown by a significant 45 percent since 2004, although

Figure 1
Canada's goods and services exports, by region, 2004-13

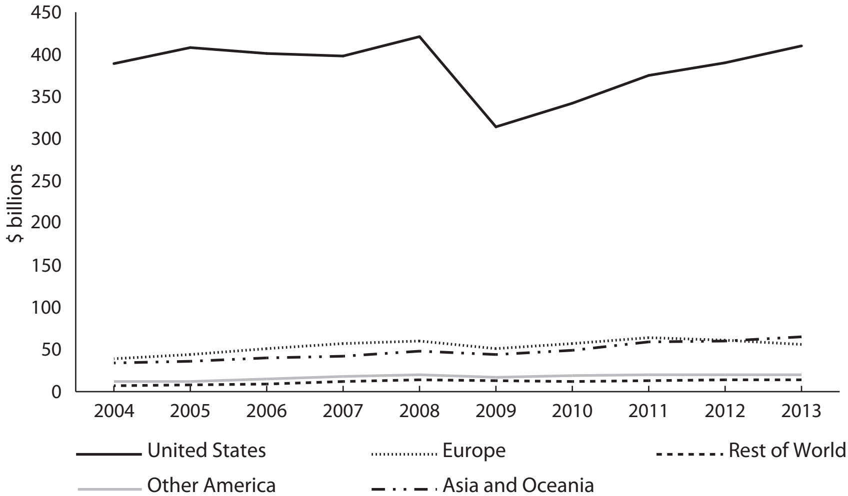


Source: Authors' calculations based on data from Industry Canada (Trade Data Online) and Statistics Canada (National Economic Accounts — Current Account).

they have trended downward since 2011. Exports to the United States, in contrast, grew by a mere 5 percent between 2004 and 2013. Expressed in terms of compound annual growth rates, these increases translate to 7.3 percent growth of exports to Asia and Oceania, 7 percent to Rest of World, 5.7 percent to Other America, 4.2 percent to Europe and just 0.6 percent to the United States. As a result, the total share of Canada's exports that goes to the United States declined from 81 percent in 2004 to 73 percent in 2013.

The second fact, however, brings the emerging market growth story back down to earth. As figure 2 illustrates, when we consider total export levels as opposed to growth rates, the United States continues to be the dominant destination for Canada's exports. As of 2013, the gap between total exports to the United States and total exports to all other markets was about $255 billion. Put differently, Canadian companies exported 2.6 times more to the United States than to the rest of the world combined. Thus, according to the customs data, the export side of the GVC story is clear: Canada's participation outside the North American value chain is growing, but it accounts for only a modest fraction of the country's overall exports.

Figure 2
Value of Canada's goods and services exports, by region, 2004-13



Source: Authors' calculations based on data from Industry Canada (Trade Data Online) and Statistics Canada (National Economic Accounts — Current Account).

Value-added exports

Until recently, one of the few metrics available to examine international trade flows — and, by extension, a country's penetration of GVCs — was customs-based data. A secondary source of information in Canada's case was Statistics Canada's input-output tables, which can facilitate rich analyses of the impact of GVCs on Canada's domestic economy, but provide only cursory details of how Canadian firms participate in overseas GVCs.

This situation changed in 2012, when the European Commission released the World Input-Output Database (WIOD), and again in 2013, when the Organisation for Economic Co-operation and Development (OECD) published the Trade in Value Added (TiVA) database (see De Backer and Miroudot, in this volume, for a more detailed analysis of the TiVA data). These new tools are game changers for GVC research since they provide new information on a particular country's import and export penetration of numerous other countries or regions (see box 1 for a discussion of definitions and data).

When we evaluate Canada's export performance using TiVA data, we can make several new observations. The first is a continuation of the export

Box 1
Value-added trade

Unlike customs data, which capture gross trade flows, value-added trade statistics zero in on the incremental increases in the production value of goods and services as they cross borders. By doing so, they allow more precise estimates of where economic activity is generated.[4] As Pascal Lamy, former director-general of the World Trade Organization, put it: "By measuring trade in gross terms [customs data], we were effectively saying that the entire value of an export could be accounted for by the last country on the supply chain. We needed instead to attribute value correctly, ensuring that the factors of production and other inputs contributed by each national location were allocated accordingly" (Lamy 2013, xv). This logic was best illustrated by research on the Apple iPod, which revealed how customs data record a $150 export for China for every unit that leaves its borders, even though China adds only $5 to $7 worth of actual value to each iPod (Linden, Kraemer and Dedrick 2007).

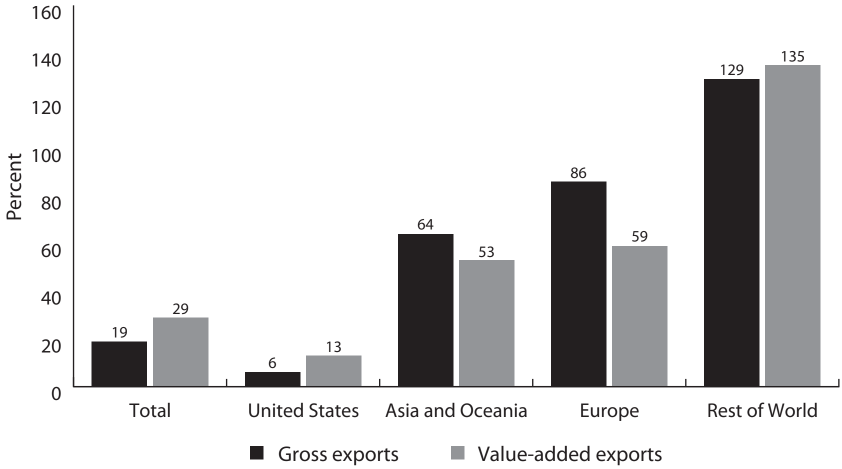
In the Canadian context, the distortions created by customs trade statistics can be dramatic, particularly in the manufacturing and service sectors, where the former are overreported and the latter underreported. According to a recent study by the Conference Board of Canada, when value-added trade statistics are used, the relative share of manufacturing exports declines from 71 percent to 44 percent (Armstrong and Burt 2012).[5] Meanwhile, the contribution of services jumps from just 16 percent to 44 percent of exports.

The main weakness of value-added data, and the primary reason they complement, rather than replace, customs trade data, is the time it takes to produce them. While conventional statistics are released within months, value-added statistics take several years to generate. As well, among other limitations, value-added trade data are generally based on less precise estimates, and lack disaggregated industry-level detail.

growth trends we observed in the customs data. Figure 3 illustrates that Canada's value-added exports — defined here as the amount of domestic value added embodied in final expenditure in each destination[6] — to Rest of World grew by 135 percent from 2000 to 2008,[7] while the figures for Europe and for Asia and Oceania were also significant at 59 percent and 53 percent, respectively. Value-added exports to the United States, by contrast, grew by just 13 percent over the same period. This works out to a compound annual export growth rate of 11.3 percent for Rest of World, 6 percent for Europe, 5.5 percent for Asia and Oceania and only 1.5 percent for the United States. On a global scale, value-added exports from Canada increased by 29 percent (a 3.3 percent compound annual growth rate) from 2000 to 2008 — faster than the 19 percent growth rate reported by the customs data (a 2.2 percent compound annual growth rate).

The second observation facilitated by TiVA data is that Canada's value-added export story is more diversified than previously realized. In 2008, value-added

Figure 3
Growth rate of Canada's gross and value-added exports, by region, 2000-08



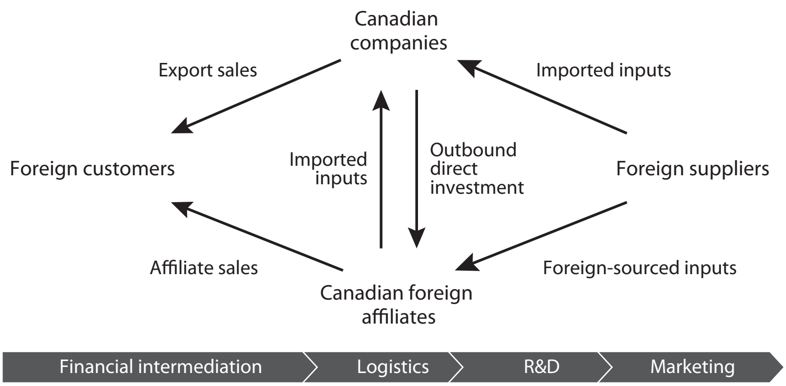
Source: Authors' calculations based on data from OECD-WTO TiVA database, Industry Canada (Trade Data Online) and Statistics Canada (National Economic Accounts — Current Account).

exports to the United States stood at $266 billion, while exports to all other regions combined were worth $153 billion. This means that, in 2008, the US share of Canada's value-added exports was 63 percent (or 1.7 times that of all other countries). This is considerably lower than its 75 percent share (or nearly 3 times that of all other countries) in the 2008 customs data. This observation suggests that a significant share of Canada's exports to the United States ultimately is destined for third countries. It also suggests that the US share of Canadian value-added exports is likely even lower today, given the steady decline since 2000.[8] Thus, although it remains true that the North American value chain continues to absorb the bulk of Canada's exports, the picture is not as one-sided as the customs data suggest.

Integrative trade

Value-added trade statistics allow us to appreciate the hidden actors in the international trade community, such as the domestic services providers and goods producers who feed supply chains indirectly. As with the customs trade statistics, however, value-added data do not fully capture some of the more recent strategies firms have used to access global value chains.

Figure 4
The integrative trade model



Source: Poloz (2012).

One of the most important strategies is the "integrative trade" approach. After decades of relying on traditional export-oriented growth strategies, Canadian firms are beginning to rely on an increasingly diversified business model that structures their domestic business operations within a wider global context. As Stephen Poloz, former president of Export Development Canada and now governor of the Bank of Canada, notes, "National economies today no longer fit inside the lines on the map. Companies are simply ignoring those geographical boundaries. This materially affects how we should look at trade and how we should interpret trade statistics" (Poloz 2012). Key elements of the integrative trade model include direct investment abroad, the use of intermediate inputs in exports and foreign affiliate activity. This framework is glued together by an overarching layer of services, including financial intermediation, logistics, R&D and marketing (see figure 4), most of which is located in or near the company's headquarters.

An excellent example of the integrative trade model at work is Canadian Solar Inc., a $1.6-billion business based in Guelph, Ontario, that builds solar farms and panels (Blackwell 2014). This company is fully integrated in the global economy, but its contribution to Canadian trade has been underestimated, since a significant percentage of its production occurs overseas and is sold directly into third markets. Canadian Solar has two significant production facilities in Canada, but these operations concentrate on the domestic market. As such, although conventional and value-added statistics can record the services exports from the

Box 2
Onshore and offshore output: The evolution of the international business model

Canadian companies increasingly rely on a two-pronged production strategy to access highly competitive global value chains. The first prong can be conceptualized as "onshore output" exports. In effect, this type of production occurs in Canada, and the output is then exported directly by the originating company or indirectly. In the latter case, the product is sold as an intermediate good or service to a secondary firm resident in Canada, which then exports it.

The second prong can be thought of as "offshore output" exports. This activity originates abroad by a company's foreign affiliate(s), typically to resolve market access issues, minimize cost and maximize production, design and distribution efficiencies. The most common such activity is foreign affiliate sales.

company's headquarters, such as the R&D services it provides its affiliates, they cannot capture the substantial portion of the company's output that is generated as well as sold overseas.

To reflect this new reality, the integrative trade concept can be applied using two indicators, foreign affiliate sales[9] and Canadian direct investment abroad,[10] both of which capture the offshore activities of firms — what we call "offshore output." The main indicators of value-added and customs trade data, by comparison, are rooted in the onshore business of firms (exports) — or "onshore output" (see box 2). As such, the addition of the integrative trade concept allows us to build a more comprehensive picture of GVCs.

Foreign affiliate sales

The shift toward integrative trade has been widespread across the globe. According to the United Nations (UNCTAD 2014), foreign affiliates employed more than 70 million people in 2013, and the value added of foreign affiliate sales was worth $7.5 trillion, or 10 percent of global gross domestic product (GDP). Canadian foreign affiliates generated $506 billion of sales in 2012 alone, compared with merchandise goods exports worth $454 billion. This phenomenon also has implications for policy. The follow-on exports and taxable profit repatriation that foreign affiliate sales generate benefit the Canadian economy by supporting jobs in the front office, on the shop floor and in a wide range of highly skilled areas such as R&D and professional services (finance, legal, accounting and consulting, among others).[11]

In Canada, watershed moments for integrative trade occurred in 2006, when foreign affiliate sales eclipsed merchandise goods exports, and again in

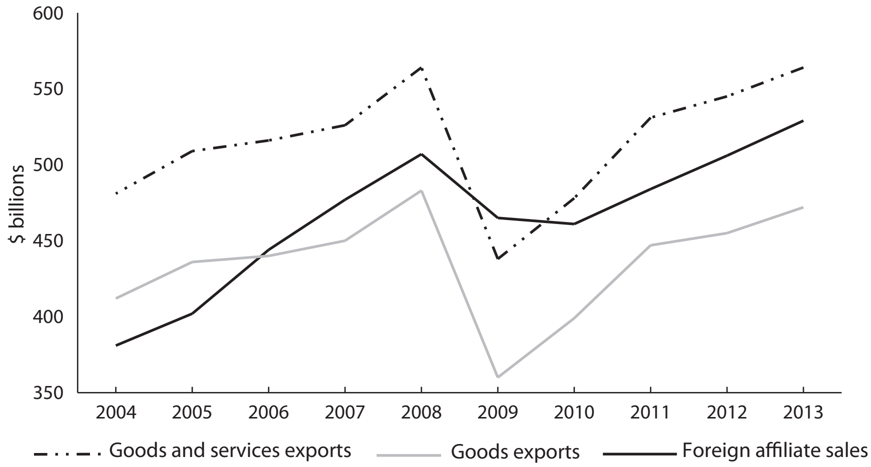
2009, when foreign affiliate sales overtook merchandise goods and services exports combined (figure 5). In 2010, merchandise goods and services exports regained the top spot, but the gap between the two categories has remained small — roughly $35 billion in 2013.

On a regional basis, the United States does not stand head and shoulders above the field as a market for Canadian foreign affiliate sales (figure 6) as it does according to the customs data (see figure 2). In fact, in 2013, less than half of Canada's foreign affiliate sales ($258 billion, or 48 percent of the total) were recorded in the United States. The next largest region was emerging markets, at 28 percent ($151 billion), followed by Europe, at 16 percent ($84 billion), and Other OECD, at 8 percent ($42 billion).

With respect to growth patterns (figure 7), Canada's foreign affiliate sales rose sharply — by 39 percent, or a compound annual growth rate of 3.7 percent — between 2004 and 2013, while its goods and services exports grew by only 17 percent (1.8 percent compound annual growth rate). The regional growth trends are even more significant. As figure 8 shows, Canada's foreign affiliate sales to emerging markets grew by 187 percent (12.4 percent compound annual growth rate) over the period, a growth rate that stands alone compared with that for all other regions. The second-highest category was Other OECD, where foreign affiliate sales grew by a distant 48 percent (4.4 percent compound annual growth rate). In contrast, foreign affiliate sales to the United States grew by only 18 percent (1.9 percent compound annual growth rate) and the figure for Europe remained virtually flat at 3 percent (0.3 percent compound annual growth rate). If these trends persist, emerging markets will overtake the United States as the number one region for Canada's foreign affiliate sales by 2018.

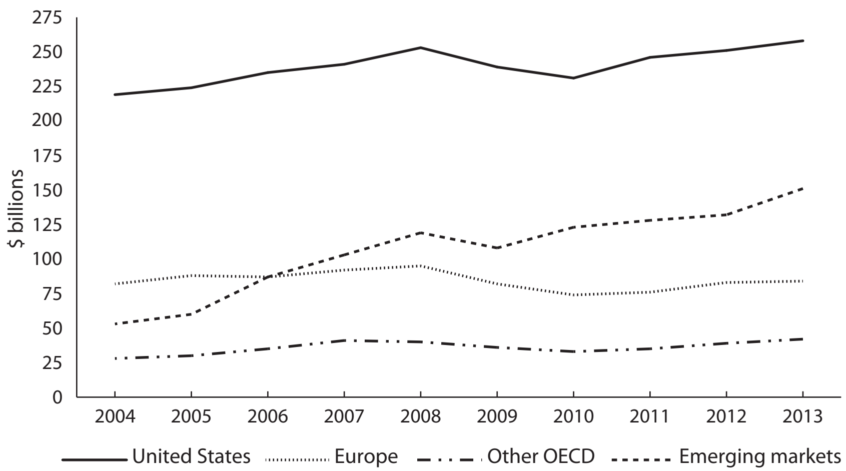
Furthermore, the hiring and revenue patterns of foreign affiliates suggest that these trends are sustainable (figure 9). From 2004 to 2013, Canadian companies increased the size of their workforces in emerging markets by a compound annual growth rate of 8.7 percent, compared with increases of 1.6 percent in Europe, 1.4 percent in Other OECD and 0.7 percent in the United States. The amount of revenue that Canadian foreign affiliates generated per employee increased by a compound annual growth rate of 3.4 percent in emerging markets, 3.0 percent in Other OECD, and 1.1 percent in the United States, but declined by 1.2 percent in Europe.

Figure 5
Value of Canada's goods and services exports and foreign affiliate sales, 2004-13



Source: Authors' calculations based on data from Industry Canada (Trade Data Online) and Statistics Canada (National Economic Accounts — Current Account and Foreign Affiliate trade Statistics).

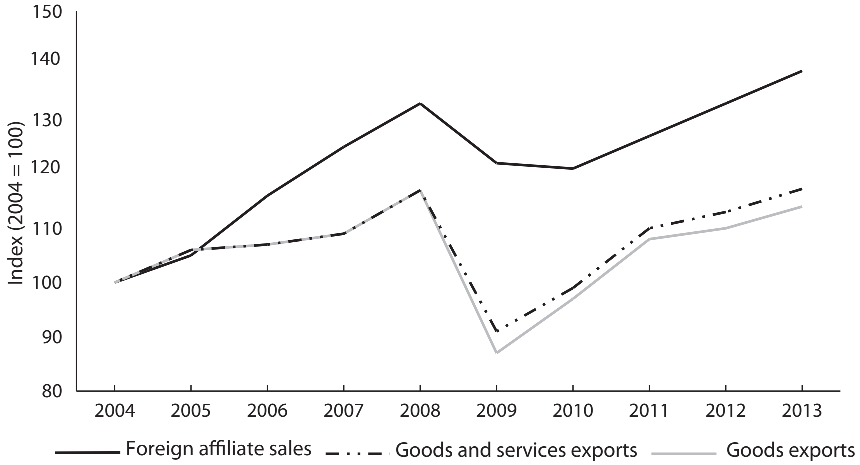
Figure 6
Value of Canada's foreign affiliate sales, by region, 2004-13



Source: Authors' calculations based on data from Statistics Canada (National Economic Accounts — Foreign Affiliate Trade Statistics).

Figure 7

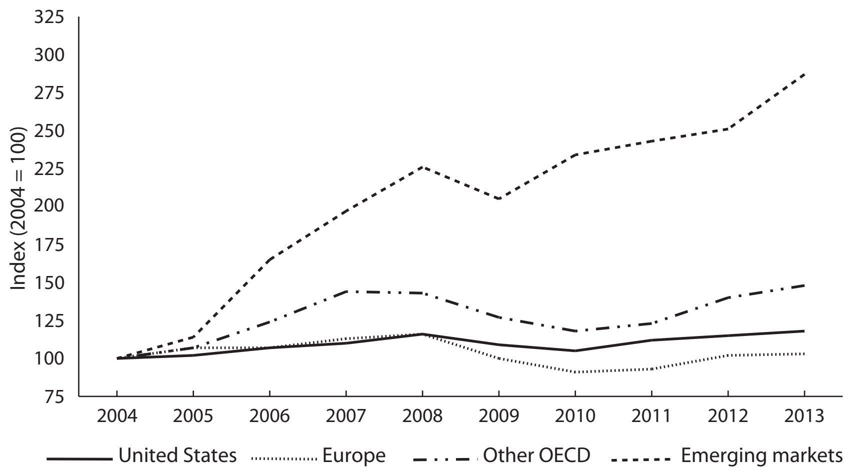
Canada's goods and services exports and foreign affiliate sales, 2004-13



Source: Authors' calculations based on data from Industry Canada (Trade Data Online) and Statistics Canada (National Economic Accounts — Current Account and Foreign Affiliate Trade Statistics).
Note: 2013 figure is an estimate.

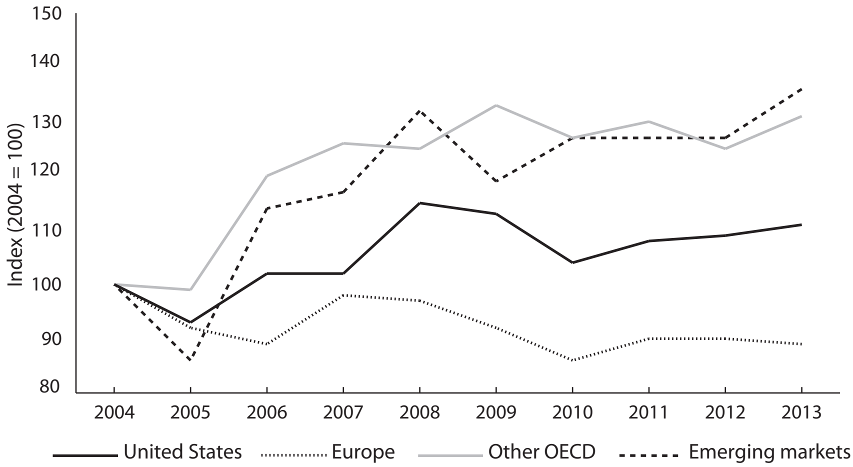
Figure 8

Canada's foreign affiliate sales, by region



Source: Authors' calculations based on data from Statistics Canada (National Economic Accounts — Foreign Affiliate Trade Statistics).
Note: 2013 figure is an estimate.

Figure 9
Canada's foreign affiliates' revenue per employee, by region, 2004-13



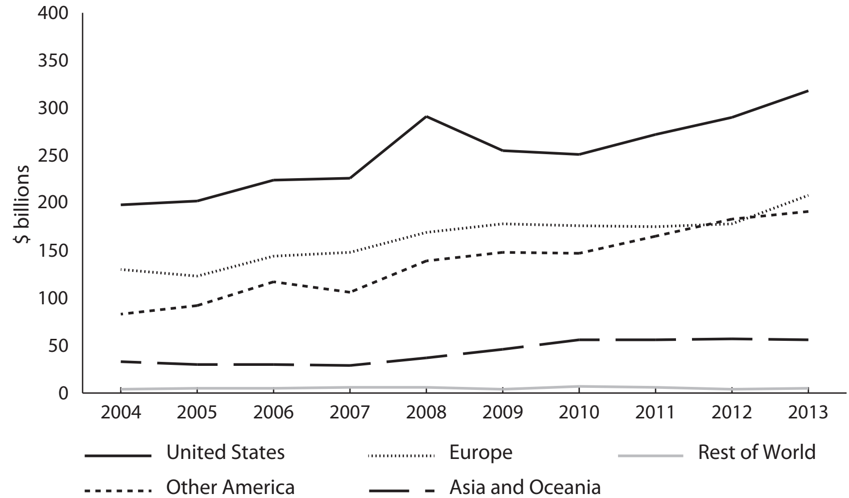
Source: Authors' calculations based on data from Statistics Canada (National Economic Accounts — Foreign Affiliate Trade Statistics).
Note: 2013 figure is an estimate.

Canadian outward investment

The Canadian outward investment story is also compelling. From 2004 to 2013, the stock of Canadian direct investment abroad grew by 74 percent (a compound annual growth rate of 6.3 percent), and by 2013, the difference between the stock of Canadian direct investment abroad ($779 billion) and annual exports ($564 billion) had risen to $215 billion.

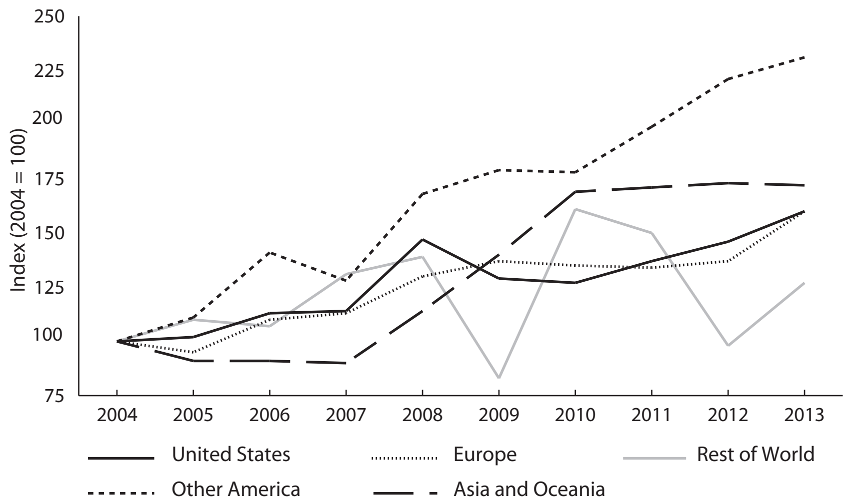
The destination of choice for Canadian direct investment abroad, unsurprisingly, is the United States (figure 10), but growth patterns indicate that significant shifts have been taking place (figure 11). Although Canadian companies augmented their stock of investment in the United States and Europe by 60 percent from 2004 to 2013, they favoured Other America and Asia and Oceania even more, with investment in these regions increasing by 131 percent and 72 percent, respectively, while investment in Rest of World grew by just 27 percent. Expressed as compound annual growth rates, these amounted to increases of 9.7 percent in Other America, 6.2 percent in Asia and Oceania, 5.4 percent in the United States, 5.3 percent in Europe and 2.7 percent in Rest of World.

Figure 10
Value of Canadian direct investment abroad, by region, 2004-13



Source: Authors' calculations based on data from Statistics Canada (National Economic Accounts — Canadian Direct Investment Abroad and Foreign Direct Investment in Canada).

Figure 11
Canadian direct investment abroad, by region, 2004-13



Source: Authors' calculations based on data from Statistics Canada (National Economic Accounts — Canadian Direct Investment Abroad and Foreign Direct Investment in Canada).

It should be noted that, in 2013, approximately 20 percent of the stock of Canadian direct investment abroad was held in low-tax jurisdictions. The most significant of these locations were Barbados ($63 billion), the Cayman Islands ($30 billion), Luxembourg ($30 billion), Ireland ($16 billion), Bermuda ($11 billion) and the British Virgin Islands ($2 billion). The investment in these jurisdictions lessens the significance of the growth trends and total investment figures for Other America and Europe, but has little effect on those for Asia and Oceania. In fact, much of the investment in low-tax jurisdictions is later reinvested in third-country markets and produces onward economic benefits for the Canadian economy (for a more detailed discussion of Canadian direct investment abroad in low-tax jurisdictions, see Hijazi 2007).

The Onshore-Offshore International Business Model

We now return to the main research question outlined at the start of this chapter: How well integrated are Canadian companies in the value chains that are fuelling the global economy?

The dominant view, which is rooted in trade statistics, holds that Canada is firmly enmeshed in the North American value chain (particularly the United States) and will continue to be for the foreseeable future. The customs data show that there has been a relative increase in the share of Canada's exports of goods and services to overseas value chains and a decline in its share of trade with the United States. The United States nonetheless has a massive advantage relative to all other regions. The value-added export data, however, tell a more nuanced story of reduced US dominance. Finally, the integrative trade data suggest that the main growth for Canadian-based firms is overseas.

To understand better the reality for Canadian companies on the ground, we conducted several interviews[12] with Canadian and US supply chain executives in the oil and gas extraction and refining, automotive, information and telecommunications, aerospace, financial and construction industries.[13] We then compared the qualitative insights gained from these interviews with the results of the Survey of Innovation and Business Strategy released in 2014 and with additional data drawn from Statistics Canada's Foreign Affiliate Trade Statistics database on industry and employment. This combination of quantitative and qualitative data supports our explanation of Canadian business practices structured to produce "onshore output" and "offshore output."

Onshore output

In virtually all of our interviews with supply chain executives, there was widespread agreement that Canadian-based operations have been optimized for the North American value chain and that, therefore, the bulk of Canada's (onshore output) exports will continue to go to the United States for the foreseeable future. Many of the reasons for this situation are well known: the common business culture and language of Canada and the United States, the open market access and level playing field created by the North American Free Trade Agreement, efficient distribution networks and communication channels, historical legacies and the sheer size of the US market. For these and other reasons, Canadian companies have over time established a privileged position in the world's largest market.

Interviewees, however, expressed important subtleties. Canadian supply chain executives from original equipment manufacturers (OEMs) and large, tier-one suppliers in the aerospace, auto parts, clean tech, and oil and gas industries, for instance, said they tended to rely on North American companies to supply their North American business. The aerospace, construction, and oil and gas executives added that they had begun to bring some complex or quality-sensitive manufacturing production destined for the North American value chain back onshore to avoid costly production delays. Similarly, these executives noted that they relied on regional goods and services providers to supply their overseas networks in order to reduce costs and production delays, establish favourable business relationships with local decision-makers, limit market access issues and tailor product offerings to local tastes, among other reasons. On occasion, Canadian firms were asked to supply overseas value chains, but only when a Canadian supplier possessed an innovative product that was in demand or a highly efficient production process that generated substantial cost savings.

Yet, interviewees also said that Canadian companies with foreign affiliates can tap more easily into the overseas value chains of OEMs and tier-one suppliers. An auto parts executive, for instance, noted that, despite years of effort and price and quality advantages, a Canadian parts supplier was able to penetrate a major European auto manufacturer's Asian supply chain only after it had established a production facility in India. This development allowed the OEM to get around market access issues and simultaneously to reduce its supply chain risk for that growing market. Of course, this scenario generates a foreign affiliate sale, rather than an export, and as such it is captured by the offshore output concept.

The executives of small and medium-sized enterprises (SMEs) viewed the world somewhat differently. Their firms tended to have a more fluid, opportunity-driven outlook, in the sense that they went where opportunities took them, particularly if they did not have a long-term contract with an OEM or tier-one supplier that absorbed the bulk of their output. Yet, when pressed, SME executives indicated that the United States was their major preoccupation, for the reasons noted above. In addition, SME executives continually referenced the riskier nature of overseas business and a host of other challenges that are amplified outside North America, including uncertainty regarding tariffs, taxes and border control; Canadian and foreign legal and administrative obstacles; linguistic, cultural and time zone differences; inadequate financing; intellectual property concerns; distance to customers; inability to find foreign customers; and transportation bottlenecks. In essence, small business executives were simply more comfortable with an export strategy that concentrated on the United States.

These results suggest that Canadian-based operations are firmly rooted in the North American value chain. Exports to overseas markets likely will continue to grow, especially as emerging markets mature into consumption economies, but the anchors of the North American value chain will remain in place, and the bulk of Canada's onshore output will continue to be exported to the United States.

Offshore output

Our interviews produced equally compelling results with respect to offshore output, particularly as they pertain to integrative trade. The main conclusion is that a growing share of Canada's offshore output is displacing exports to overseas markets, particularly in Asia and Other America.[14] Statistically, this means an increasing share of Canada's overseas engagement is taking the form of foreign affiliate sales — hence the extraordinary growth of such sales in areas other than the United States that was uncovered earlier. A recent report by the Bank of Canada that focuses specifically on the performance of Canada's forest products and motor vehicle parts manufacturing industries in the United States provides additional evidence of these effects (Coiteux et al. 2014).

This development does not necessarily mean that onshore output is being sacrificed in favour of, or replaced by, offshore output. Interviewees from both

SMEs and large corporations agreed that their foreign affiliates function somewhat independently of their domestic operations. They frequently noted that, to satisfy North American timelines and avoid costly delays and bottlenecks, critical elements of the onshore production process either cannot be offshored or are being brought back onshore after failed experiments. OEM interviewees also stated that strategic functions — including the development and production of next generation technology/intellectual property, time- and quality-sensitive output and complex tasks — remain in North America.

When we turned to questions regarding the drivers of offshore output, interviewees cited several broad and interrelated factors: cost cutting, market access, consumption growth in emerging markets and the growing demand for services abroad.[15] Cost cutting and market access have been validated empirically and widely reported in the mainstream media. In effect, to reduce costs and entry barriers to foreign markets, companies have moved easily automated production tasks offshore to low-wage jurisdictions. One noteworthy study demonstrates that foreign affiliate sales increase as trade barriers and transportation-related expenditures rise (Brainard 1993).

Historically, the bulk of this offshore output fed the North American value chain as intermediate or final goods. In 2002, for example — the earliest year for which statistics are available — 61 percent of all foreign affiliate sales were generated in the United States, but the rise of consumption in emerging markets has led to a significant diversification of this trade. As noted above, in 2013, an estimated 29 percent of Canada's foreign affiliate sales were generated in emerging markets, up from just 12 percent in 2002. Supply chain executives from the furniture and construction industries stated that they had seen a tangible increase in demand for their products in these regions, particularly Asia. One furniture executive, for instance, noted that his company had established a factory and warehouse in Vietnam to supply growing demand in Asia in addition to its traditional networks in North America. These executives also said it was increasingly common for their companies' offshore output to go directly from overseas production facilities to overseas customers without ever crossing the Canadian border. As we look forward, all indications point to a hardening of the consumption driver. According to a 2012 McKinsey Global Institute report, for instance, consumption in emerging markets is expected to rise to nearly half the world total by 2025, up from roughly one-third in 2010 (Atsmon et al. 2012).

The services driver is interrelated to both of these trends. Interviewees noted that the responsibilities of their foreign affiliates had grown to include a wide range of services, in addition to production, to accommodate new consumers. In fact, according to a 2009 report published by Foreign Affairs and Interntional Trade Canada, foreign affiliate sales of services (offshore output) outweighed services exports (onshore output) by a factor of two to one; by comparison, foreign affiliate sales of goods were just two-thirds those of goods exports (Johansson 2009). The reasons behind this growth are intuitive: foreign affiliates are better positioned to navigate the cultural, language, legal, tax and regulatory barriers that inevitably arise in overseas jurisdictions. Interviewees also noted that foreign affiliates were particularly important in Asia and Other America, where both the barriers to trade and the opportunities for growth are larger.

Marketing, sales and product design services provide a good example. Although these services traditionally have been located in the domestic market, many Canadian firms have begun to call on their foreign affiliates to perform them as well, to capture emerging-market consumers more effectively. Marketing and design units, for instance, tend to be more effective when located alongside customers, since proximity can allow a company to take the pulse of changing market conditions, tastes and behaviours (Dicken 2011). An interviewee from a prominent technology firm noted that his company had acquired overseas competitors in key markets to speed up this process.

The results of the latest Survey of Innovation and Business Strategy support these observations.[16] In 2012, for instance, among surveyed companies with at least one foreign affiliate, 56 percent stated their operations were providing services and 47 percent said they were producing goods (some companies were involved in both goods production and services provision, so the percentages do not add up to 100). As table 1 illustrates, the three most common services activities were (1) marketing, sales and after-sales service; (2) distribution and logistics; and (3) accounting and bookkeeping. In fact, just as many foreign affiliates were providing marketing, sales and after-sales service in 2012 as were producing goods abroad.

Revenue data from Statistics Canada's Foreign Affiliate Trade Statistics database also suggest that foreign affiliate services provision will continue to grow in significance. As figure 12 shows, the gap between goods production and services revenue reached its widest in 2008 and has been closing ever since,

Table 1
Canada's foreign affiliate activities (percent)

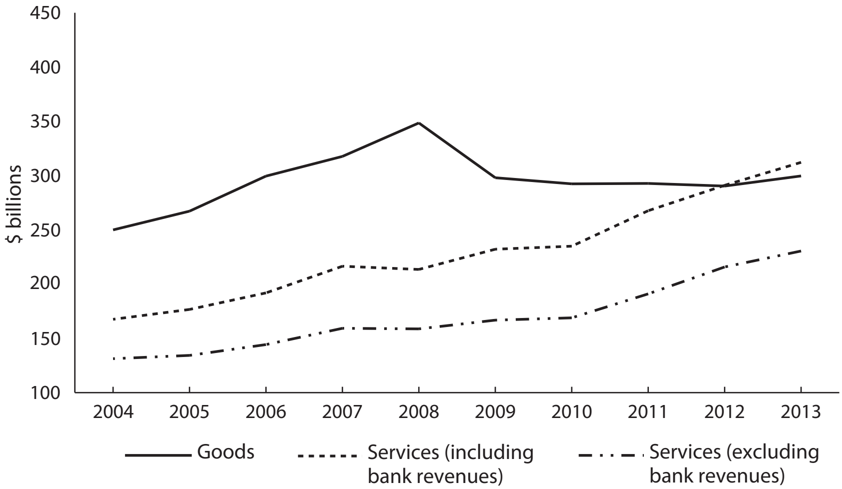
Role/function	Respondents with foreign affiliates
Provision of services	56
Production of goods	47
Marketing, sales and after-sales service	47
Distribution and logistics	35
Accounting and bookkeeping	33
Information and communications technology services	30
Human resource management	27
Financial management	27
Data processing	25
Research and development	24
Legal services	22
Engineering and related technical services	21
Call and help centres	19
Software development	19

Source: Survey of Innovation and Business Strategy, 2012.

especially when the foreign revenue of Canadian banks is included.[17] In growth terms, this trend is even more dramatic. As figure 13 illustrates, Canadian foreign affiliate services provision eclipsed goods production in 2009 and continues to grow at a much faster pace. From 2004 to 2013, services provision (including foreign bank revenue) grew by 86 percent (a compound average growth rate of 7.1 percent), while goods production grew by 20 percent (2.0 percent compound average growth rate).

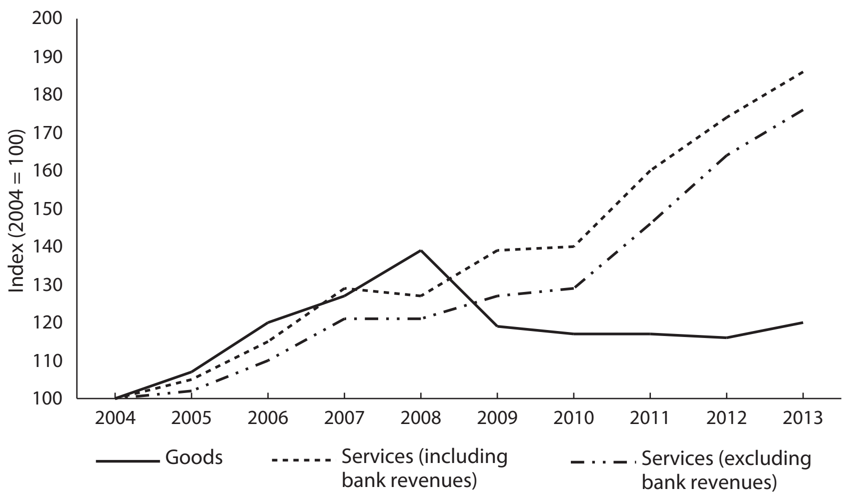
According to industry-level data, the primary reason for the poor performance of foreign affiliate goods production is a reduction in manufacturing output, which might be due to the fact that it is often easier to outsource manufacturing activities. As figure 14 illustrates,[18] production levelled off in the mid-2000s and began a prolonged slump in 2008. As of 2013, manufacturing revenues were down $25 billion compared with 2004. A potential reduction in North American energy costs and investment in new productivity-enhancing technologies might combat this trend. Services revenues, by contrast, increased by $145 billion over the period and overtook

Figure 12
Value of Canadian foreign affiliates' goods and services, 2004-13



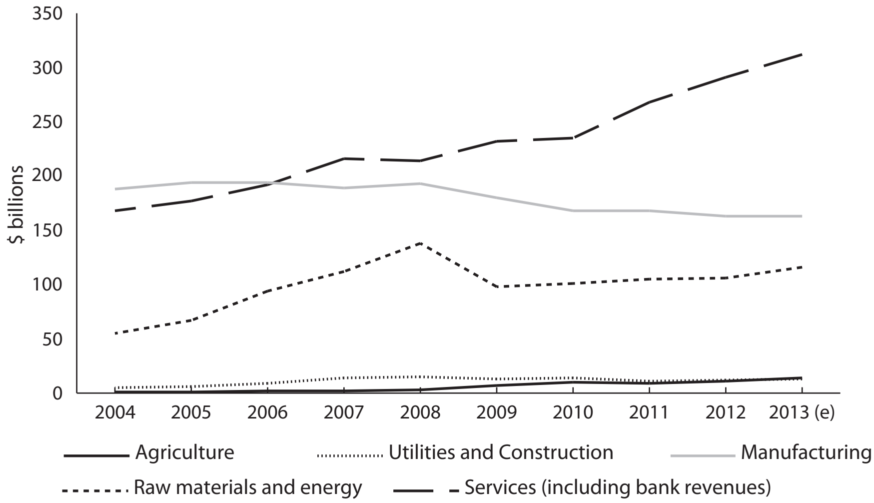
Source: Authors' calculations based on data from Statistics Canada (National Economic Accounts — Foreign Affiliate Trade Statistics).
Note: 2013 figure is an estimate.

Figure 13
Canadian foreign affiliate goods and services, 2004-13



Source: Authors' calculations based on data from Statistics Canada (National Economic Accounts — Foreign Affiliate Trade Statistics).
Note: 2013 figure is an estimate.

Figure 14
Value of Canadian foreign affiliate sales, by industry, 2004-13



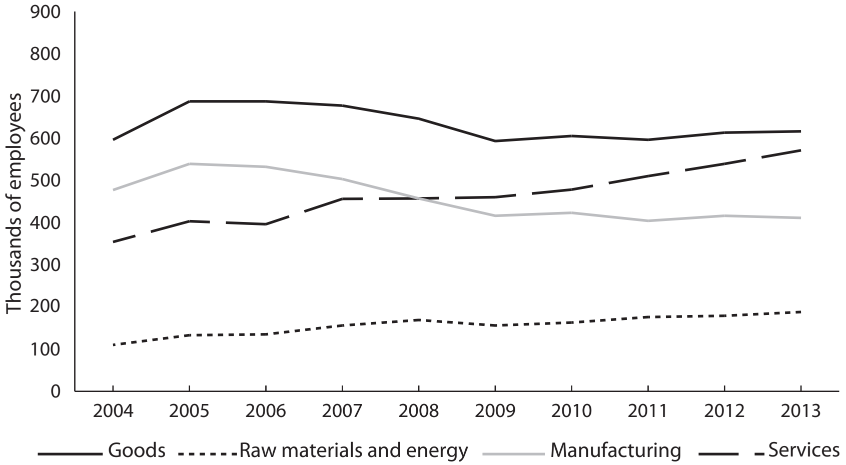
Source: Authors' calculations based on data from Statistics Canada (National Economic Accounts — Foreign Affiliate Trade Statistics).
Note: 2013 figure is an estimate.

manufacturing in 2007. Raw materials and energy peaked in 2008, but this sector has since regained some momentum.

The decline of manufacturing and the concomitant rise of services are also noticeable in the hiring patterns of Canadian foreign affiliates. As figure 15 shows, the number of manufacturing jobs supported by Canadian companies abroad decreased by nearly 66,000 between 2004 and 2013, while the number of services positions rose by over 217,000. In growth terms, as figure 16 illustrates, manufacturing declined by 14 percent (a compound average growth rate of -1.6 percent) over the same period, while services increased by 61 percent (a 5.4 percent compound average growth rate). The fastest-growing large sector was raw materials and energy, which added 78,000 jobs — a rise of 71 percent (a 6.1 percent compound average growth rate). In fact, had it not been for the gains in raw materials and energy, goods production would have experienced a significant downturn.

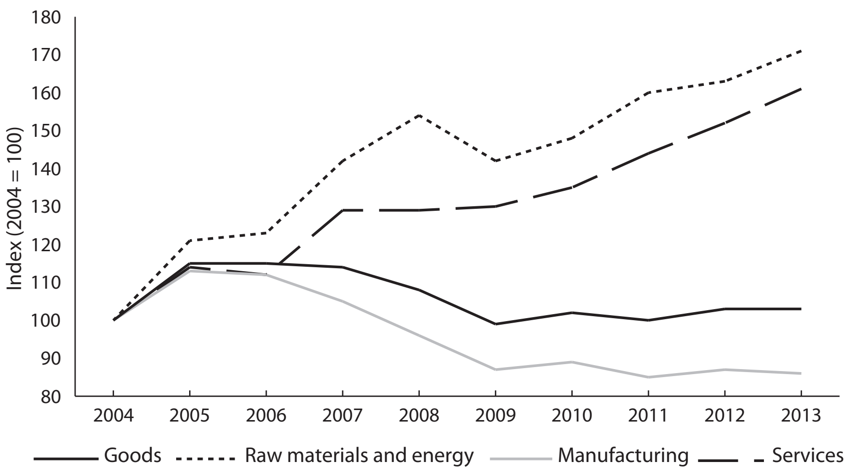
Thus, the fundamentals that have led to a rise in offshore output — cost cutting, market access, consumption in emerging markets and the growing role of services — are sustainable and likely to continue rising in importance. We should

Figure 15
Number of Canadian foreign affiliate employees, by industry, 2004-13



Source: Authors' calculations based on data from Statistics Canada (National Economic Accounts — Foreign Affiliate Trade Statistics).
Note: 2013 figure is an estimate.

Figure 16
Canadian foreign affiliate employees, by industry, 2004-13



Source: Authors' calculations based on data from Statistics Canada (National Economic Accounts — Foreign Affiliate Trade Statistics).
Note: 2013 figure is an estimate.

therefore expect the integrative trade model, and the onshore/offshore dynamic it has created, to continue growing in significance.

Conclusion

While most discussions of Canada's global value chain experience to date conclude that its participation in GVCs outside the United States is limited, our research demonstrates otherwise with three important findings.

First, when we incorporate the latest value-added trade data, it becomes clear that Canada's integration into overseas value chains is occurring more rapidly than previously realized. In other words, Canadian companies are in fact continuing to diversify away from the US market.

Second, the difference between Canada's value-added exports to the United States and all other markets is not as large as the customs data suggest. In 2008, for instance, 63 percent of Canada's value-added exports went to the United States, but according to the customs data, the share was 75 percent. Thus, although the North American value chain continues to absorb the majority of Canada's onshore output, the picture is not as one-sided as previously understood.

Our third finding, which was the most significant, concerns offshore output. We argue that export data allow us to see only part of Canada's GVC picture. To see the rest we investigated outward investment and foreign affilate sales to reveal surprising results. Both current business volumes and growth trends suggest that Canadian companies were far more active overseas than previously believed. In fact, foreign affiliate sales in overseas markets have already overtaken those in the United States, and sales in emerging markets alone are on track to surpass those in the United States as early as 2018. As such, while Canada's onshore output tends to flow into the North American value chain, its offshore output is increasingly tied into overseas value chains.

Our qualitative evidence confirms this story. In virtually all our interviews with value chain executives of major global corporations and small businesses, there was widespread agreement that Canadian-based operations have been optimized for the North American value chain. Exports to overseas markets likely will continue to grow, especially as emerging markets mature into consumption economies, but the anchors of the North American value chain will remain and the bulk of Canada's onshore exports will continue to flow into the United States.

Meanwhile, market access issues, growing consumption in emerging markets and the need for in-market service delivery will continue to drive the growth of offshore exports to overseas value chains. The latter driver — demand for in-market services — is especially important, since foreign affiliate sales of services outweigh services exports by a factor of two to one. The end result is that this onshore/offshore dynamic has allowed Canadian companies to boost their participation in value chains in Asia and Other America, while maintaining their strong presence in North America.

Several implications of this new reality are clear. In methodological terms, scrutiny of value-added and foreign affiliate trade data needs to be increased to deepen understanding of the onshore and offshore export environments. This will require statistical agencies to produce and make public new and more detailed data. Currently, foreign affiliate trade statistics are limited in scope, especially in terms of sector, geographic and historical detail. Better data will make it possible to gain a more nuanced understanding of the integrative trade revolution and related trends, and to determine how well Canadian companies are measuring up against their foreign counterparts.

The policy implications are also important. Canadian trade policy needs to reflect the growing role offshore output plays in the Canadian economy and to ensure that Canadian foreign affiliates have the requisite tools to compete against their counterparts in other countries. Anecdotally, we also know that numerous benefits are accruing to the Canadian economy in particular. The examples from the auto parts and furniture industries indicate that foreign affiliate sales have allowed Canadian companies to increase revenues and, by extension, support high-quality headquarters positions in areas such as senior management, R&D and professional services. Finally, we think that the rising prominence of foreign affiliates is likely here to stay, as companies have come to rely on them to increase production efficiency, tap South-South trade networks and address market access issues.

Appendix: Data Considerations

Using multiple databases allows for a more complete analysis of Canada's GVC performance, but inconsistencies between datasets create challenges.

Regional groupings

Each database organizes national units differently. In some cases, an exhaustive list of jurisdictions is available, while in others, countries are aggregated into regional groupings. To maximize comparability, we grouped regions according to Statistics Canada's Canadian direct investment abroad groupings wherever possible — namely, the United States, Other America (Mexico, the Caribbean and Central and South America), Europe, Asia and Oceania, and Rest of World (Africa and the Middle East). This allows us to capture data for the three main GVC regions and to collect additional data on Other America and Rest of World. Since we include Mexico in Other America to maintain comparability, our definition of the North American value chain is Canada and the United States.

Some data limitations require a more simplified breakdown. The Foreign Affiliate Trade Statistics, for instance, are disaggregated into four groups — the United States, Europe, Other OECD and Rest of World. We refer to the latter as "emerging markets." In addition, the Foreign Affiliate Trade Statistics do not report the value-added product of Canadian foreign affiliates. This means there might be double-counting between foreign affiliate sales and merchandise goods and services exports.

The TiVA country-level data cover 57 countries and lack information on several large economies. Although this limitation does not significantly affect the data for the United States, Europe and Asia and Oceania, it does lead to challenges for the Other America category since country-level data exist only for Argentina, Brazil, Chile and Mexico. As a result, we could not create a separate Other America category; instead, we added these countries to the Rest of World category. Asia and Oceania consists of 15 countries: Australia, Brunei Darussalam, Cambodia, China, Hong Kong, India, Indonesia, Japan, Malaysia, Philippines, Singapore, South Korea, Taiwan, Thailand and Vietnam. Although this is not an exhaustive list, these countries are responsible for most of the region's output and are significant enough to be representative. The Europe grouping used in the TiVA analysis consists of the 27 countries of the European Union plus Norway, Russia, Switzerland and Turkey.

Other considerations

The Foreign Affiliate Trade Statistics and TiVA data have a significant time lag, with the former available until 2012 and the latter only until 2009. Whenever estimates were required to produce a 2013 figure, we used 10-year (2003-12) compound annual growth rates. All dollar values are in constant Canadian dollars unless otherwise noted.

Notes

We would like to thank our interviewees for their generous insights, without which this chapter would not have been possible. We would also like to thank Peter Hall, Stephen Tapp, Ari Van Assche and the anonymous referees for their insightful comments and suggestions. The views expressed in this chapter do not necessarily represent those of Export Development Canada.

1. One of the most digestible definitions of GVCs is Globerman's (2011, 17): "GVCs are international supply chains characterized by fragmentation of production activities across sites and borders. In effect, the whole process of production, from acquiring raw materials to producing and delivering a finished product, has increasingly been 'sliced,' so that each activity that adds value to the production process can be carried out wherever the necessary skills and materials are available at competitive cost."
2. The Survey of Innovation and Business Strategies is a joint project by Industry Canada, Foreign Affairs, Trade and Development Canada and Statistics Canada (Industry Canada 2012).
3. Although this category includes developed economies such as Japan, South Korea and Australia, it is primarily made up of emerging economies.
4. Several high-profile publications based on value-added statistics have been released in recent years. For more information, refer to DFATD (2011); Elms and Low (2013); OECD (2013); and UNCTAD (2013).
5. The Conference Board of Canada explains this discrepancy as follows: "Because vertical trade is most common in the manufacturing sector, eliminating double counting causes a much larger downward revision in the manufacturing trade figure. At the same time, because many services are embedded in the value of traded goods, that value is now reattributed back to those services industries. For example, an imported smartphone contains a variety of services such as an operating system, engineering, insurance on the transactions, financing to support its development and production, and transportation to get it to market. All of these services may have been produced in many countries, including Canada. Yet customs data merely record the smartphone as an import of telecommunications equipment from one country" (Armstrong and Burt 2012, 8).
6. This metric is a common measure of trade in value added; see Johnson (2014).
7. TiVA data are available only up to 2009; given the adverse economic conditions of that year, we have limited our analysis to the 2000-08 period.
8. Although the primary reason for this discrepancy is the double-counting that takes place in the manufacturing industry, it is also noteworthy that many Canadian value-added exports to the United States are ultimately re-exported to third countries. These exports thus are not captured in the value-added export figure for the United States. For a more detailed discussion of this phenomenon, see Dervis, Meltzer and Foda (2013) and Lewis (2013).
9. As defined by Statistics Canada, "the universe for Canada's foreign affiliate trade statistics is comprised of foreign affiliates abroad that are majority-owned (i.e., more than 50 percent of the voting shares) by a business that resides in Canada." This includes the sale of all goods produced in Canada and abroad and services by affiliates, except those of the banks; for more detail, see Statistics Canada (2013).

10. We use Statistics Canada's definition of Canadian direct investment abroad: investment by an investor resident in Canada that "has a significant influence on the management of an enterprise residing in another country." This can include instances where the investor has a controlling interest in the foreign venture. Our analysis focuses on the stock, rather than flows, of such investment as we believe stock more accurately reflects foreign investment positions. For additional information, see Statistics Canada, CANSIM, table 376-0052 (accessed June 9, 2014).
11. For a more detailed discussion, see Poloz (2012).
12. We conducted approximately two dozen interviews. In addition to those with supply chain executives from global multinationals, small and medium-sized enterprises and Crown corporations, we also interviewed academic specialists and representatives of federal, provincial and municipal governments, industry associations and nongovernmental organizations. To respect confidentiality agreements, we cannot attribute statements to any individual or company.
13. We chose these sectors because they are critical engines for the Canadian economy. This constellation of sectors also straddles both manufacturing industries and services and old and new economy companies.
14. A recently released discussion paper by the Bank of Canada (Coiteux et al. 2014) finds a similar trend for forest products and motor vehicle parts in the United States. In effect, the report concludes that Canadian multinationals in the forest products and motor vehicle parts industries have begun to rely on their foreign affiliates (rather than on exports) to service the US market.
15. These were the most common factors cited during the interviews, rather than an exhaustive list of offshore drivers. For a more comprehensive discussion of drivers, see Bardham, Jaffee and Kroll (2013).
16. The latest round of the Survey of Innovation and Business Strategy was undertaken in 2012 and released in 2014. It includes 7,818 businesses with at least 20 employees across 67 industries. This comprehensive survey is broadly representative of the Canadian business environment. Our analysis of the survey focuses on the sections on "enterprise structure," "operational activities" and "relocation of business activities from Canada to another country." Of the companies surveyed, 22 percent had foreign affiliates.
17. Statistics Canada has excluded the foreign revenues of Canadian banks; as of 2016, however, they will likely be included. This change will bring Statistics Canada's Foreign Affiliate Trade Statistics more closely in line with the comparable numbers produced by other national statistical agencies, such as those in the United States. It is also noteworthy that the largest industry in the services category was "finance and insurance," which generated $85 billion in revenue in 2013 — $120 billion if foreign banking revenues are included. By comparison, the raw materials and energy industry generated an estimated $125 billion in foreign affiliate sales in 2013.
18. The 2012 agriculture, utilities and construction figures are estimates.

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