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Canada's international trade in information and communications technologies (ICT) and ICT-enabled services

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Canada's international trade in information and communications technologies (ICT) and ICT-enabled services

by **Mitra Rostami**

Introduction

Information and communications technologies (ICT) play an important role in facilitating trade in services. The reduction in costs of ICT, technological advances and digitalization of work have increasingly enabled trade in services. In fact, many services and digital products can now be instantaneously delivered online to businesses and consumers around the world.

There is, therefore, significant interest in better understanding how ICT access can lead to growth in trade in services. Such information is crucial for the development of appropriate international trade policies.

The international statistical community has worked to establish a measurement framework for cross-border ICT and ICT-enabled services. Statistics Canada has adopted this framework to produce its first estimates of such services.

This paper first summarizes the existing frameworks for the measurement of ICT services and describes the types of services that can be ICT-enabled. Canada's international trade in ICT and ICT-enabled services are then presented, highlighting the importance of such services in Canada's cross-border trade activity.

Definitions

The United Nations Conference on Trade and Development (UNCTAD) Task Group on Measuring Trade in ICT Services and ICT-Enabled Services created a detailed report on the classification of ICT-enabled services based on existing international statistical guidelines for compiling trade in services statistics. This provides an indication of the broader impact of ICT in trade.

The report defines the services related to ICT as follows:

Potentially ICT-enabled services are defined as *“services that can be delivered remotely over ICT networks.”* These include *“activities that can be specified, performed, delivered, evaluated and consumed electronically.”*¹ Potentially ICT-enabled services are divided between ICT Services and other potentially ICT-enabled services.

ICT services are defined as services that are *“intended to enable and/or fulfill the function of information processing and communication.”*² For example, computer services provide the technology to transmit, process, store, or share digital information.

Other potentially ICT-enabled services are defined as services that have the possibility to be delivered remotely over ICT networks but that could also be delivered otherwise. For example, accounting services could be provided through the internet or on site.

Traditionally, trade in services have been classified according to the Extended Balance of Payments Services Classification (EBOPS 2010). For the purpose of this study, the UNCTAD concordance between EBOPS 2010 categories and ICT services or other potentially ICT-enabled services has been adapted to the specificity of Canada's set of statistics on international trade in services. The Canadian mapping is provided in the following list. Potentially ICT-enabled services are the sum of ICT services and other potentially ICT-enabled services.

ICT services:

- Telecommunication services
- Computer services

1. United Nations Conference on Trade and Development (UNCTAD). 2015, October. International Trade in ICT Services and ICT-Enabled Services, Proposed Indicators from the Partnership on Measuring ICT for Development. Technical Note No. 3 unedited. TN/UNCTAD/ICT4D/03, page 6.
2. *Ibid.*, pages 3 and 9.

- Charges for the use of intellectual property related to computer software

Other potentially ICT-enabled services:

- Insurance services
- Financial services
- Information services
- Charges for the use of intellectual property not related to computer software
- Management services
- Advertising and related services
- Research and development
- Audio-visual services
- Architectural and engineering services
- Scientific and technical services
- Miscellaneous services to businesses related to:
 - ▶ Health services
 - ▶ Commercial education
 - ▶ Other miscellaneous business services

Not potentially ICT-enabled services are mostly made up of travel and transport but also include other commercial services not listed above, such as construction services and maintenance and repair services.

Exports

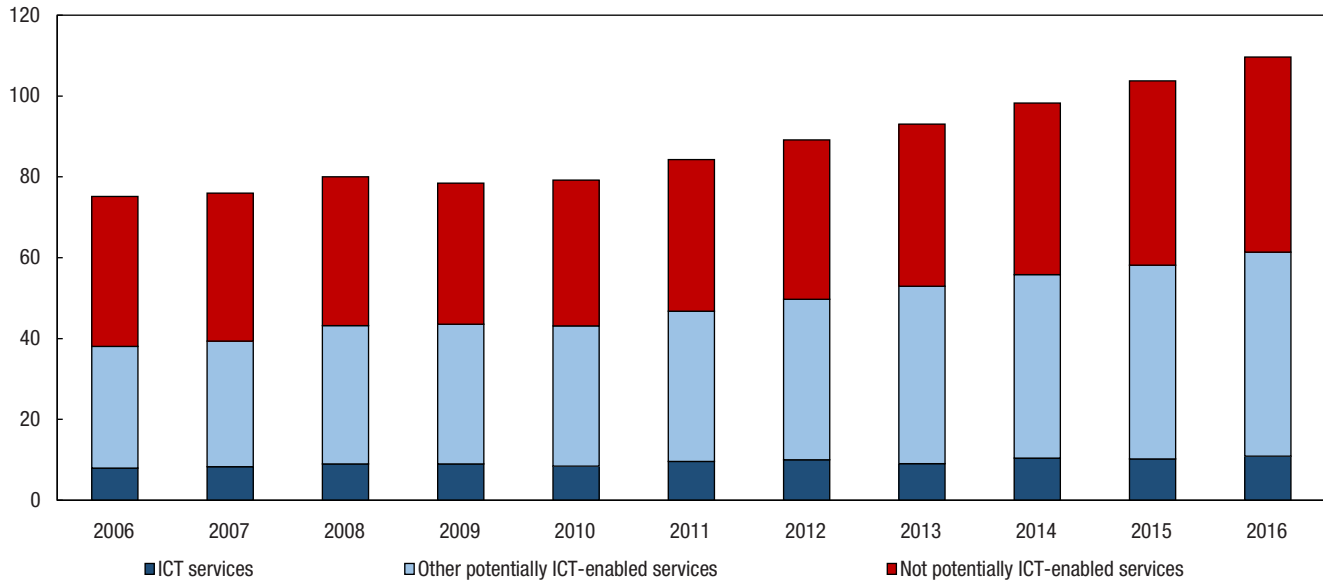
Potentially ICT-enabled services

When combining ICT services and other potentially ICT-enabled services, exports of potentially ICT-enabled services accounted for over half of total exports in services in 2016, having increased at an average annual rate of 4.9% since 2006. In comparison, not potentially ICT-enabled services grew at an annual average rate of 2.3% over the same period. Growth in these exports were driven by the United States, where \$39.2 billion of potentially ICT-enabled services were exported in 2016.

The service categories with the largest potentially ICT-enabled exports in 2016 were exports of financial services, and management services.

Chart 1
Exports of ICT, other potentially ICT-enabled and not potentially ICT-enabled services, Canada

billions of dollars



Source: Statistics Canada.

ICT Services

In 2016, Canada's exports of ICT services were \$10.9 billion, accounting for one-tenth of total exports in services. Of all exports of ICT services, 56.4% were with foreign affiliated partners (Table 1). From 2006 to 2016, ICT service exports grew at an average annual rate of 3.2%, compared to 3.8% for all exports of services. The United States remained the largest destination of ICT services from Canada, with exports of \$7.2 billion in 2016, two-thirds of total exports of ICT services.

While the majority of ICT services have been destined to the United States, the growth in ICT services since 2006 has been driven by non-U.S. countries. Both France and the United Kingdom were major destinations for ICT service exports. By service category, computer services accounted for over 60% of ICT exports in 2016.

Imports

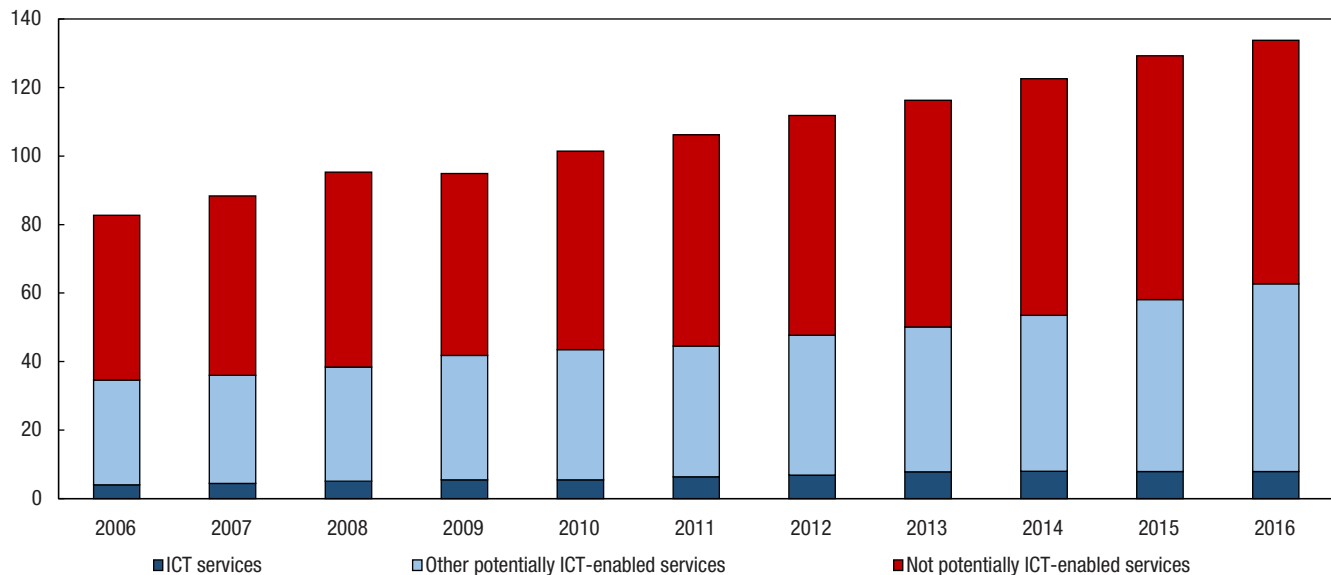
Potentially ICT-enabled services

Imports of potentially ICT-enabled services, the sum of ICT services and other potentially ICT-enabled services, reached \$62.7 billion in 2016 with an average annual increase of 6.1% since 2006. While the majority of imports of potentially ICT-enabled services originated from the United States, imports from non-U.S. countries have grown more rapidly than those from the United States since 2006. About half of potentially ICT-enabled imports were conducted with affiliated partners in 2016 (Table 1).

Charges for the use of intellectual property excluding computer software, and management services were the largest service categories with potentially ICT-enabled imports in 2016.

Chart 2
Imports of ICT, other potentially ICT-enabled and not potentially ICT-enabled services, Canada

billions of dollars



Source: Statistics Canada.

ICT services

In 2016, imports of ICT services were \$8.0 billion, with an average annual growth rate of 7.0% since 2006. More notably, imports of ICT services were higher for non-U.S. countries, representing over half of Canada's ICT imports in 2016, compared to under one-fifth in 2006. Both Ireland and India were major contributors to ICT service imports.

By service category, computer services accounted for 44.7% of all ICT imports in 2016. By affiliation status, more than 60% of all ICT imports were from affiliated partners. The percentage of ICT imports from affiliated partners was higher for non-U.S. countries, at almost 80% (Table 1).

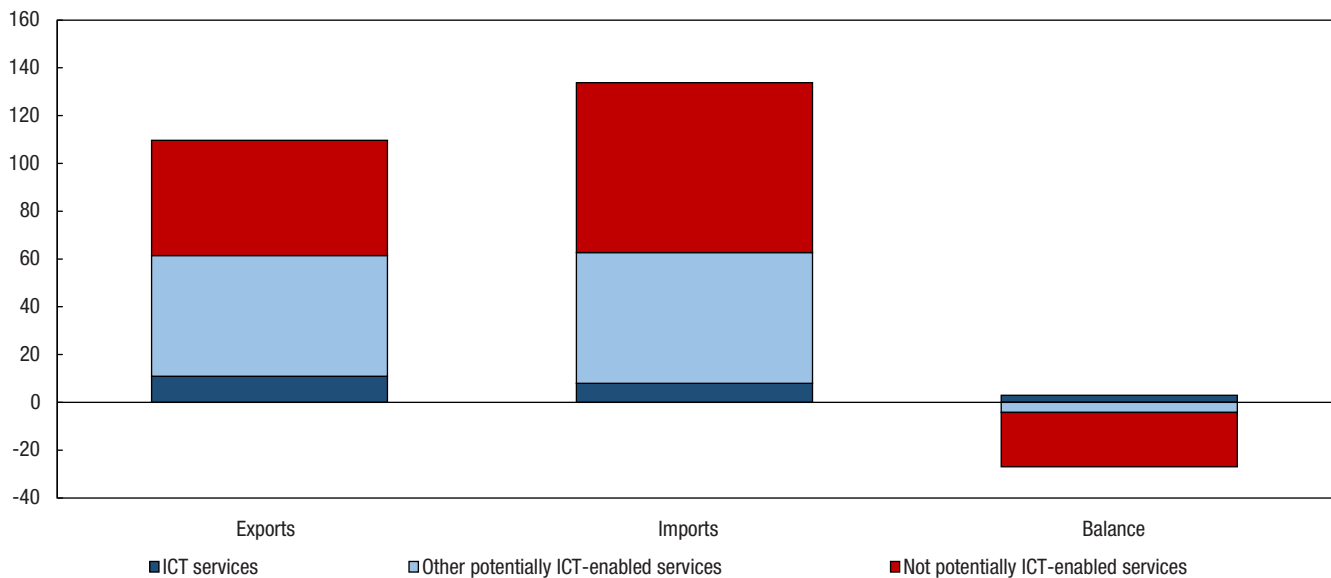
The growth in both exports and imports of ICT services to non-U.S. countries demonstrates how ICT services may be broadening access to global markets and extending the reach of trade in services.

Balance

In 2016, Canada had a trade in services deficit of \$24.0 billion. Not potentially ICT-enabled services accounted for the bulk of this deficit (-\$22.8 billion), more specifically travel services (-\$14.4 billion). While other potentially ICT-enabled services also contributed to this deficit (-\$4.2 billion), ICT services moderated the deficit with exports of these services exceeding imports by \$2.9 billion. In comparison, ICT service exports also exceeded ICT imports in 2006 (+\$3.9 billion), moderating the \$7.5 billion deficit in total trade in services. The deficit in 2006 was also mainly accounted for by not potentially ICT-enabled services (-\$11.0 billion).

Chart 3
Trade in ICT, other potentially ICT-enabled and not potentially ICT-enabled services, Canada, 2016

billions of dollars



Source: Statistics Canada.

Conclusion

These first estimates of ICT and potentially ICT-enabled services highlight the importance of such services in Canada's international trade activity. Over the next years, additional information related to ICT and potentially ICT-enabled services will be disseminated, providing more details by category of services, by country and by affiliation.

Table 1
Exports of information and communications technology (ICT) services and other potentially ICT-enabled services, by affiliation, 2016

	Exports		
	ICT services	Other potentially ICT-enabled services	Potentially ICT-enabled services
	millions of dollars		
United States			
Total	7,203	32,005	39,208
Affiliated	4,332	20,267	24,599
Unaffiliated	2,870	11,739	14,609
Non-U.S. countries			
Total	3,680	18,497	22,177
Affiliated	1,804	10,223	12,027
Unaffiliated	1,875	8,274	10,150
All countries			
Total	10,883	50,502	61,385
Affiliated	6,137	30,489	36,626
Unaffiliated	4,746	20,013	24,759

Source: Statistics Canada.

Table 2
Imports of information and communication technology (ICT) services and other potentially ICT-enabled services, by affiliation, 2016

	Imports		
	ICT services	Other potentially ICT-enabled services	Potentially ICT-enabled services
	millions of dollars		
United States			
Total	3,123	36,400	39,523
Affiliated	1,291	20,095	21,386
Unaffiliated	1,832	16,305	18,137
Non-U.S. countries			
Total	4,830	18,304	23,134
Affiliated	3,762	9,312	13,074
Unaffiliated	1,068	8,992	10,060
All countries			
Total	7,953	54,704	62,657
Affiliated	5,053	29,406	34,459
Unaffiliated	2,900	25,297	28,198

Source: Statistics Canada.