

**Economic and Social Council**Distr.: General  
28 April 2015

Original: English

**Economic Commission for Europe**

## Conference of European Statisticians

## Group of Experts on National Accounts

## Fourteenth session

Geneva, 7-9 July 2015

Item 3 of the provisional agenda

Country experiences in dealing with global production in economic statistics

**The Inward Foreign Affiliate Statistics Program at Statistics  
Canada**

Prepared by Statistics Canada

*Summary*

The Inward Foreign Affiliate Statistics program is an initiative undertaken by Statistics Canada to identify and analyze additional dimensions of foreign direct investment in Canada – more specifically, the characteristics of Majority-Owned Domestic Affiliates (MODAs) of foreign multinational enterprises. These estimates will provide new insight on the impact of foreign multinationals on the Canadian economy. This paper (i) outlines the methodology used to construct the estimates and how Statistics Canada leveraged existing data holdings and used record linkage techniques to tie them to the FDI concepts and frame, and (ii) provides a summary of selected estimates in the context of a broader micro-macro globalization framework.



## **I. Background and Motivation**

1. The Inward Foreign Affiliate Statistics program (inwards FAS) is an initiative undertaken by Statistics Canada as an extension to Foreign Direct Investment in Canada to analyze the characteristics of Majority-Owned Domestic Affiliates of foreign multinational enterprises operating in Canada. These estimates will provide, in addition to foreign direct investment, a further insight into the impact of foreign multinationals on the Canadian economy. This paper outlines the methodology used to construct the inward FAS estimates and explains how Statistics Canada leverages existing data and uses record linkage techniques to tie them to foreign direct investment concepts and frame

## **II. Methodology**

2. There are two main steps in the development of the inward foreign affiliate statistics program at Statistics Canada. The first one involves identifying the frame of majority owned domestic affiliates (MODA) operating in Canada. The second step links this MODA frame to relevant statistical programs and extracts information that can be used to analyze the characteristics as well as the financial and operating activities of MODAs in Canada.

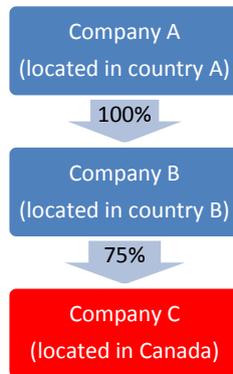
### **A. Development of the Frame**

#### **1. MODA Criteria**

3. The first step in the development of the majority-owned domestic affiliates frame is establishing the criteria used to classify firms to the MODA universe. For the purposes of the inward foreign affiliates' statistics program at Statistics Canada, a MODA is defined as an enterprise in the economic territory of Canada over which a foreign direct investor has more than 50% of the voting equity or ownership rights. As defined by FDI concepts, these MODAs are to consolidate the activities of all their subsidiaries within Canada. The following examples illustrate a few of the possible scenarios by which a Canadian enterprise would be classified as a MODA.

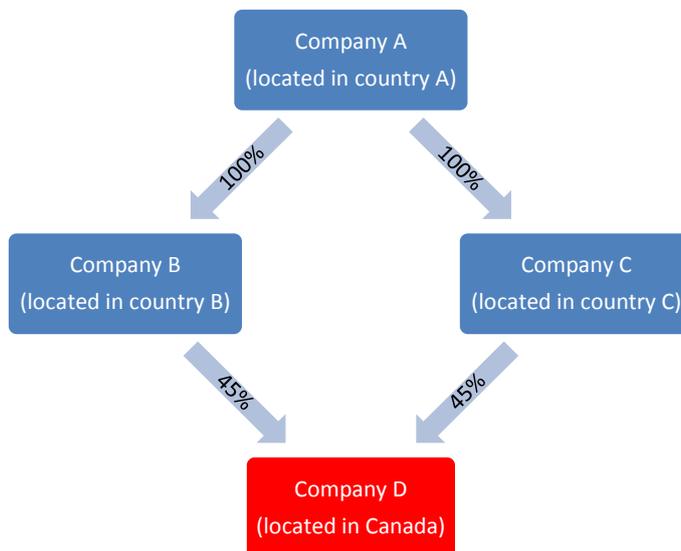
4. Figure 1 illustrates three firms, located in different economic territories. Company A is located in country A, company B is located in country B, and company C is located in Canada. Company A owns 100% of company B which owns 75% of company C. In this example, company C would be included in the MODA frame as it has a foreign direct investor (company B) with majority-ownership (75%). Company A (in country A) has the control of this group of enterprises.

Figure 1  
**Direct majority-ownership, included in the inward foreign affiliates statistics frame of study**



5. Figure 2 illustrates an example with four companies: company A located in country A, company B located in country B, company C located in country C and company D located in Canada. In this example, company D has two foreign direct investors; company B and company C, each of which own 45% of company D. Even though company A has an indirect ultimate foreign control (where company A indirectly has  $(100\% \times 45\%) + (100\% \times 45\%) = 90\%$  over company D, neither company B nor C meet the criteria for majority ownership and therefore company D would be excluded from the MODA universe.

Figure 2  
**Indirect majority-ownership, excluded from the inward foreign affiliates' statistics frame of study**

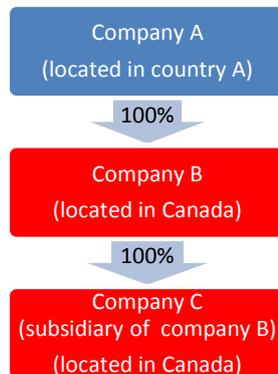


6. Figure 3 illustrates a third example, where company A is located in country A, company B is located in Canada and company B has a subsidiary (company C) which is also located in Canada. In this example, company A owns 100% of company B which fully

owns company C. As prescribed by FDI concepts, company B is to consolidate all of its domestic affiliates. In the same manner all the activities of both company B and company C are considered to be part of the MODAs’ universe. It can be noted that these cases are immaterial in the Canadian context.

Figure 3

**Majority Owned Domestic Affiliates with Subsidiaries in Canada**



7. Figure 4 illustrates a fourth example referred to as round tripping. Round tripping occurs when the foreign direct investor of a Canadian company is ultimately owned by another Canadian entity. In this case company C is located in Canada and is wholly owned by company B located in country B. Company B is controlled by company A which is located in Canada. The result is that the immediate owner of company C is foreign while the ultimate owner is Canadian. It can be noted that these cases are also immaterial in the Canadian context.

Figure 4

**Example of ‘round-tripping’**



**2. Data Sources**

8. Given the complex nature and variety of possible organizational structures that exist for multinational enterprises, a significant number of data sources were required to identify the universe of MODAs operating in the economic territory of Canada.

9. The primary data source for the majority of Statistics Canada's economic statistics programs is Statistics Canada's Business Register (BR), which represents the starting point in the identification of any frame of enterprises within Statistics Canada's economic enterprise survey program. Statistics Canada's BR contains the complete operating and legal structure of businesses operating in Canada. In addition to the organizational structure, the business register also captures and maintains information on industrial activity along with stratification variables such as the number of employees and operating revenues.

10. However, when enterprises are added to the business register, Statistics Canada does not assign a flag indicating whether or not the enterprise is a MODA. One way to obtain the MODA universe would be to conduct a profiling exercise to determine this information. Although viable, this would be an expensive endeavour. Given the costly nature of the profiling activity, Statistics Canada decided to use an alternative approach by leveraging existing data sources. The majority of these data sources represent information from Statistics Canada's foreign direct investment program, along with administrative data collected by various departments of the Canadian government.

11. The following provides a brief overview of each source:

**(a) Foreign Direct Investment Program**

12. Statistics Canada conducts an annual inward Foreign Direct Investment survey in which Canadian enterprises are asked to provide a list of each foreign direct investor ; their country of residence; and the percentage of common and preferred shares held. If there are more than one direct investor for a given country they are to be listed separately.

13. The list of enterprises which is maintained to collect inward FDI statistics formed the initial starting block for establishing the MODA frame. The inward FDI survey identifies the immediate foreign owner of the Canadian affiliate (the foreign direct investor) and the degree of ownership. Foreign direct investment ownership, following international standards, is deemed to occur when a foreign company owns at least 10% of the voting equity in the Canadian enterprise. In Canadian statistics, direct investment is measured as the total value of equity and net debt instruments between the Canadian affiliate and its foreign parent.

14. Following international standards, foreign direct investment is based on the country of ownership of the immediate foreign parent company.

**(b) Inter-Corporate Ownership**

15. The Inter-Corporate Ownership under the Corporations Returns Act is administered by Statistics Canada. The purpose of the Act is to collect financial and ownership information on corporations conducting business in Canada. These data are used to evaluate the extent of foreign control in the Canadian economy and are summarized in an annual report to the Canadian Parliament. In addition, the ownership information is used to define corporate ownership structures.

16. The target population covers all incorporated enterprises in Canada including federal and provincial government business enterprises, but excluding enterprises that are classified to the following industrial groups: Management of Companies and Enterprises; Religious Organizations; Political Organizations; Public Administration; or Funds and other Financial Vehicles.

17. This schedule requests information on the reporting corporation, its directors and officers, as well as the type, number and owners of its shares. In addition, corporations are required to report the shares they own in other corporations within Canada, the country of residence of their shareholders.

18. The questionnaire is sent to all corporations in Canada whose gross revenues for a fiscal period exceed \$80 million, their assets exceed \$200 million, or their long-term debt or equity owing to non-residents exceeds a book value of \$1 million. In calculating these amounts, each corporation must include the assets, revenues, and debt or equity of all of its affiliates which carry on business in Canada. One corporation is affiliated with another if one is controlled by the other or both are controlled by the same corporation, person or related group with assets, revenues or debt/equity above certain thresholds.

**(c) T2 Schedule 106 – Information Return of Non-Arm’s Length Transactions with Non-residents**

19. Canadian firms that have transactions with affiliates (either parents or subsidiaries) who are not resident in Canada are required to complete an information return of non-arm’s length transaction with non-residents. Canadian firms are required to indicate on this form whether they are controlled by a non-resident entity and the country of the controlling entity.

**(d) T2 Schedule 19 – Non-resident Shareholder Information**

20. Canadian enterprises are required to complete the Non-resident Shareholder Information schedule “if a non-resident shareholder(s) owned a share of any class of the corporation’s capital stock at any time during the taxation year”. This form collects information such as the name of corporation, the business number, class of shares as well as the percentage of shares owned by non-residents (foreign investors). It is important to note that the ‘percentage of shares owned by non-residents’ variable is not separated by individual investors and therefore would not meet the definition of control. This data is therefore only a starting point in identifying majority investors, as it requires additional information. It is also worth noting that this form does not include a country code, which needs to be found from other sources.

**(e) T2 Schedule 9 – Related and Associated Corporations**

21. The Related and Associated Corporations form is to be completed by Canadian firms “if the corporation is related to or associated with at least one other corporation”. Information provided on this form includes: name of corporation, business number, name of the related corporation, country of residence, relationship code (1=parent, 2= subsidiary, etc.), number and percent of common and preferred shares owned (to indicate number of voting shares owned). The T9, unlike the T19, does not group investors by type of share but instead requires information for each unique investor.

**3. Deriving the list of extended MODAs for FAS purposes**

22. The Foreign Direct Investment frame is the starting point for constructing the list of extended MODAs. As mentioned earlier, this frame, used for constructing inward FDI statistics, contains the list of direct investment enterprises (DIE) in Canada on a Canadian consolidation basis. From this frame, the DIEs that are not majority owned by the foreign direct investor need to be excluded. In addition, a more relevant universe of enterprises related to FAS variables can only be obtained by going down the chain of ownership in Canada and by identifying the companies and industries at the operations level. In order to obtain information concerning these enterprises, down the chain of ownership in the context of the FAS initiative, the list of DIE is reconciled with information collected by the Inter-Corporate Ownership (ICO). The ICO is used to trace the ownership structure of each enterprise operating in the Canadian economy—from which the ultimate owner is determined along with the subsidiary detail. By identifying the list of all the subsidiaries that are owned by the Direct Investment Enterprise (DIE) in Canada, it is possible to measure more adequately some FAS variables such as employment and trade and to

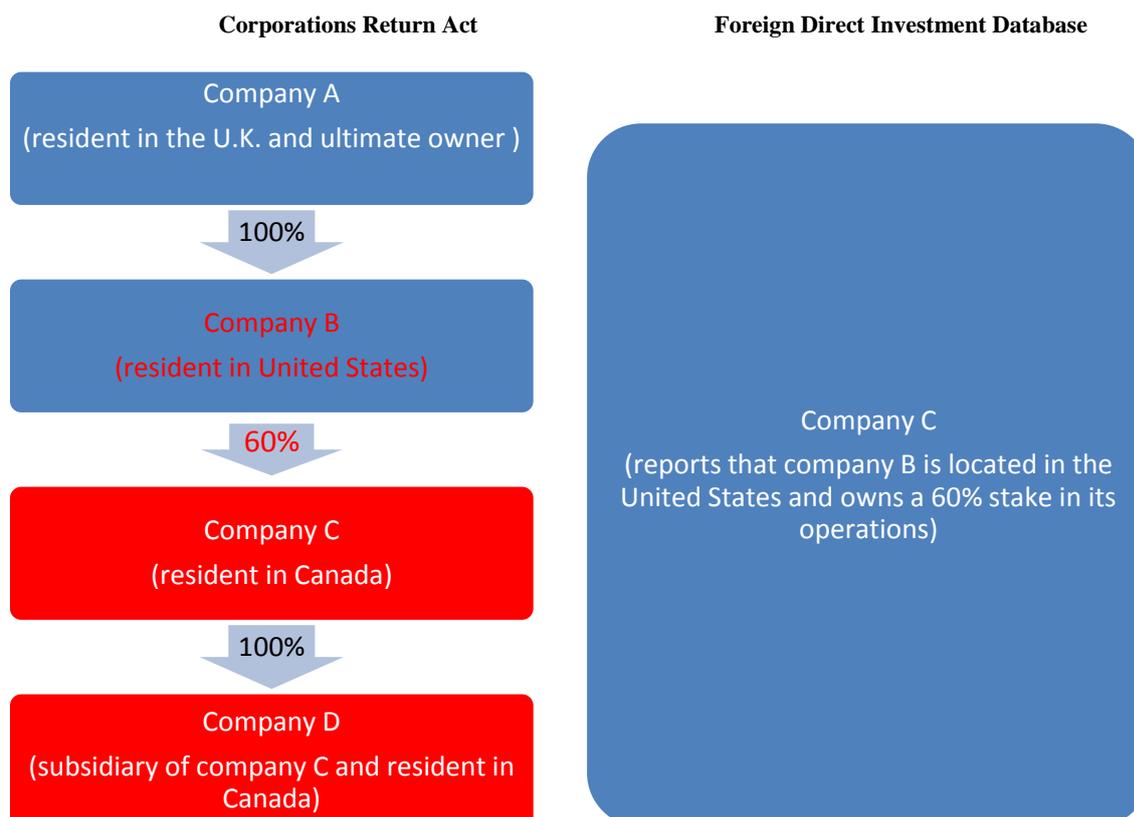
allocate them to an industrial activity that is often different than the one assigned to the DIE under the FDI concept.

23. Information from the T2 schedules and third party data sources are also used as supplementary information to perform quality checks and refine the estimates.

24. The creation of the MODA frame is illustrated in Figure 4.

Figure 4

**Corporations Return Act database to Foreign Direct Investment Frame linkage exercise**



25. This exercise was completed for reference year 2011, and over 6,800 MODAs and all of their subsidiaries residing in Canada were identified.

#### 4. Challenges and Special Considerations

26. There were a number of challenges in the development of this extended frame of MODAs as well as its linkages to different data programs. These included:

- **Treatment of holding companies and special purpose entities (SPE):** In most cases, holding companies and SPEs were consolidated with their Canadian subsidiaries and the industry that contributes to the primary activity of the consolidated enterprise group was chosen. This enables to obtain a more accurate representation of the industries being influenced by foreign investors. In cases where this was not possible, the SPEs industry classification was left as is (the Management of companies and enterprises).
- **Consolidations:** In order to ensure quality through the record linkage exercise, it was important to understand and reconcile the level of consolidation between the

extended MODA frame and the different data supplying programs. This was a crucial exercise in the compilation of inward foreign affiliates statistics.

## B. Linking the extended MODA frame to other relevant statistical programs

27. The second step in the development of Statistics Canada's inward foreign affiliates program was to link the universe of the extended MODAs to a variety of economic and social statistical program databases maintained by Statistics Canada. The following tables 1 and 2 present the programs and the variables of interest that were used to compile the inward foreign affiliates statistics.

Table 1  
**Programs and the variables of interest used to compile the inward foreign affiliates statistics**

<i>Program</i>	<i>Program Description</i>	<i>Variables of Interest</i>
Annual Finance and Taxation Statistics Program	This program collects information on assets, liabilities and equity items encompassed in a balance sheet; revenue and expense items as reported on an income statement; a reconciliation of profit to taxable income and taxes payable; along with several common financial performance ratios.	Total assets, total revenue
Trade by Enterprise Characteristic Program	This program provides aggregate information on the number of exporting enterprises in Canada by industry and the value of exports attributable to these exporting enterprises by commodity and geography.	Exports by commodity and geographic region
Trade by Enterprise Characteristic Program	This program provides aggregate information on the number of importing enterprises in Canada by industry and the value of imports attributable to these importing enterprises by commodity and geography.	Imports by commodity and geographic region
Canada's international transactions in services	This program records Canada's annual exports and imports of services by type of service rendered and by partner country.	International trade in services
Survey of Employment, Payrolls and Hours (SEPH)	The Survey of Employment, Payrolls and Hours provides a monthly portrait of the amount of earnings, as well as the number of jobs (i.e., occupied positions) and hours worked by detailed industry at the national, provincial and	Number of employees, average wages and salaries.

territorial levels.

Table 2

**The resulting linkage exercise resulted in a record layout containing the following FAS variables:**

<i>Variable Name</i>	<i>Description</i>
Company Identifier	Enterprise identifier that can be used to link to other statistical programs
Country of Immediate ownership	Immediate country indicator retrieved from the Foreign Direct Investment program
Country of Control –	Country of control indicator retrieved from the <i>Inter-Corporate Ownership</i> program
Industry Code	North American Industrial Classification Code
Percentage Direct ownership	Level of ownership obtained from the Foreign Direct Investment program
Number of Employees	Number of employees obtained from the Survey of Employment Payroll and hours. Information on average wages can also be obtained
Total Revenue	Total revenue obtained from the Annual Finance and Taxation Statistics Program
Exports of Goods	Exports of goods which can be further linked to obtain commodity and country detail
Imports of Goods	Imports of goods which can be further linked to obtain commodity and country detail
Imports of Service	Imports of service which can be further linked to obtain commodity and country detail
Exports of Services	Exports of services which can be further linked to obtain commodity and country detail
Total Assets	Total assets obtained from the Annual Finance and Taxation Statistics Program

### III. Results and Future Work

28. While the results have been compiled they have not yet been released. Statistics Canada expects to release a set of provisional results in May 2015. The results will be included in the presentation on this subject to be delivered to the UNECE meeting of the Group of Experts on National Accounts: measuring global production in July 2015.

29. This work is part of a broader initiative at Statistics Canada to provide data users with a richer understanding of the impact of foreign direct investment, the role of affiliates (both domestic and abroad) and the supply-production-distribution chains operating in the economy. In order to do so, the inward FATS program will be tied to the outward FATS program as well as the Trade by Enterprise Characteristics initiative. The resulting micro database will be used to support analysis and the development of macroeconomic statistics.