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**MULTINATIONAL ENTERPRISE (MNE) PROJECT
FINAL REPORT – PHASE 1
MAY 2005**

Invited paper submitted by Statistics Canada*

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0. Executive summary

The Multinational Enterprise Project (MNE) arose from a presentation made by Statistics Canada during the session on globalization at the June 10-12, 2003 Conference of European Statisticians¹ in Geneva.

The main objective of the project was to identify areas where the measurement of the activities of multinational enterprises could be improved. In this respect, the feasibility of having MNEs report in an integrated fashion to several national statistical offices (NSOs), taking into account the confidentiality legislation governing the respective NSOs, was to be evaluated.

Overall, data collected in a coordinated fashion from the MNEs for this study provided results that were different from the data collected by survey or administrative instruments in the regular programs of the National Statistics Offices.

The employment variable was the most accurately measured, followed closely by the sales variable. Capitalized expenditures were less well measured than either while the operating earnings variable was the most poorly reported and the least accurately measured.

Recruiting MNEs and obtaining the required information was difficult. However, most agreed to the waiver permitting the home country NSO to share the relevant national information with the NSO of their foreign affiliates, proving that a coordinated data collection approach is operationally feasible. This approach yields different results, however, than the measurement in the regular statistical program of the NSOs and it is not clear at this point which is the more accurate. The centrally coordinated approach to collection may in fact result in less data being collected from the MNEs overall than independent approaches to each national component.

It is recommended that the study be terminated at this point and work in this area be continued under the auspices of the Eurostat project on the creation of a European register of enterprise groups.

1. Background

In the current environment, economic activities undertaken by enterprises extend beyond national borders. As a result, national and international statistical agencies are faced with new challenges for the accurate measurement of these activities. These challenges call for increased statistical standardization together with greater international co-operation.

¹ Paper prepared and presented by Richard Barnabé: "Seeing the whole elephant: a proposed experiment on measuring the activities of multinational enterprises".

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The main objective of the project is to identify areas where the measurement of the activities of multinational enterprises could be improved. In this respect, the feasibility of having MNEs report in an integrated fashion to several national statistical offices (NSOs), taking into account the confidentiality legislation governing the respective NSOs, was to be evaluated.

The project was expected to unfold in successive phases over several years, with each phase ideally expanding on content and involving a greater number of participating countries and MNEs. This report presents the results and recommendations of the first phase of the project. Its objective was to learn more about the statistical measurement problems associated with multinational enterprises while the development and implementation of solutions would be the focus of subsequent phases.

1.1 Project structure and governance

A working team was created to carry out the first phase of the project. It includes representatives from five participating countries: Canada, France, Italy, The Netherlands and the United Kingdom. An extended project team has also been formed to provide overall coordination, to help with the provision of resources and support within their respective organizations, and to ensure liaison with other key stakeholders of the project (UNECE, EUROSTAT, OECD, and UNCTAD³).

The Bureau of the Conference of European Statisticians (CES) is acting as the steering committee. The project was endorsed by the CES Bureau at its October 2003 meeting. Progress reports on the project were presented to the Bureau at its February, June and October 2004 meetings.

The Roundtable on Business Survey Frames (Roundtable) has served as a sounding board by reviewing progress, providing feedback and making recommendations. The Roundtable endorsed the project at its 17th annual meeting, held in Rome in October 2003 and made it part of its regular work program. An update on the project was presented at the 18th annual meeting in Beijing in October 2004.

2. Methodology

The hypotheses underlying the study were that the areas where improvements might be identified were the description of the structure of the MNE in the registers and other files of the NSOs, the measurement of important economic and financial variables relevant to

² Paper prepared and presented by Richard Barnabé: "Seeing the whole elephant: a proposed experiment on measuring the activities of multinational enterprises".

³ UNCTAD joined the extended team later in the summer of 2004

national accounting and the coordination of measurement activities between NSOs. In this respect, gauging the reactions of MNEs to attempts to improve this coordination was a study objective.

The study was therefore designed to shed light on each of these issues. In general, the methodology adopted was to have participating MNEs provide information to the NSO of their home country on their operations in each of the participating country, using a common questionnaire (see Appendix B). The home country NSO would then share the relevant national information with the NSO of the countries in which the MNE had foreign affiliates, with the MNE's consent. In this way, at the end of the process, each NSO would have the collected information for the domestic operations of their home country MNEs, collected directly from the MNE, plus the data for the domestic operations of foreign affiliates, received from the relevant NSO. The information collected in this way from the MNEs would then serve as a benchmark against which the NSO would compare the data collected in its regular statistical program. Results of this comparison would be shared among participating NSOs, and reported to the CES, without divulging information on any specific MNE. More detailed information on the study methodology can be found in Appendix A.

3. Results of the first phase of the MNE project

3.1 Reactions of multinational enterprises approached for the project

Each participating country contacted a minimum of 3 MNEs. To be selected for the project⁴, an MNE had to have at least one production facility in each of the five participating countries. This criterion proved to be difficult for some countries and the working group agreed that if there were affiliates in at least 4 of the 5 countries, the MNE would be eligible. In the end, 11 MNEs agreed to participate, of which 8 had operations in all 5 participating countries, and 3 had operations in 4 of the 5 countries.

In Canada, the initial reaction of the 3 enterprises contacted was very positive as they all agreed to participate in the project. Representatives from one enterprise showed interest in being kept informed throughout the process. However, due to turnover of staff in the MNEs as well as more urgent matters, only one enterprise responded fully to the MNE project questionnaire and the second participating MNE sent only partial data. The third eventually indicated that it would not be able to work on the project until later in the spring of 2005, which was too late for Phase 1 of the project.

In France, 13 MNEs were contacted. Different reasons or difficulties were given to not participate into the project: the data requested were confidential, the information was not of the responsibility of the current MNE respondent and the search for the right contact proved to be difficult. When the right person was identified, he or she often could not be reached, as it was a busy period of the year for MNEs and the survey was not mandatory. At the end, two MNEs accepted to answer the questionnaire.

⁴ The selection criteria are described in point (1) of Appendix A

In the Netherlands, four MNEs were contacted. All were very positive in their reactions. Three of them agreed to fully participate. The other MNE was not able to report national figures for the participating countries from the central administration or bookkeeping. After having sent the data required, one MNE requested partial data protection (confidentiality) and did not give permission for the exchange of information on Earnings before interests and taxes (EBIT).

Italy and the UK experienced similar reactions as the other participating countries and in the end, two MNEs agreed to participate in each country.

While it was difficult to recruit MNEs, and once recruited, to obtain the required information, most agreed to the waiver permitting the home country NSO to share the relevant national information with the NSO of the countries in which they had foreign affiliates. This coordinated data collection approach therefore proved feasible from an operational point of view. Not all collected data was so freely shared, however, especially data on corporate earnings before taxes, as will be reported in the section below on content.

3.2 Results of the structure comparison

The results of the legal structure analysis are presented in terms of the number of legal entities on the NSO file, the number that is common to both the MNE report and the NSO file, and the number reported by the MNE. The numbers are summed at the enterprise group level (family of related legal entities), for each country.

Legal Structure - Consolidation												
Countries	Enterprise group											Total Country
	1	2	3	4	5	6	7	8	9	10	11	
Canada	STC= 22 Common=16 MNE= 20	STC= 43 Common=17 MNE= 31	STC= 3 Common= 3 MNE=4	STC= 4 Common=3 MNE=3	NA	NA	STC= 2 Common= 2 MNE= 3	STC= 1 Common= 1 MNE=1	STC= 1 Common= 1 MNE=1	STC= 3 Common= 2 MNE= 2	STC= 2 Common= 2 MNE=2	STC= 81 Common=47 MNE=67
France	INSEE= 2 Common= 2 MNE= 3	INSEE= 12 Common=12 MNE= 21	NR	NR	INSEE=10 Common=10 MNE=10	INSEE= 15 Common= 4 MNE=4	INSEE= 12 Common= 9 MNE= 10	INSEE= 7 Common= 7 MNE= 7	INSEE= 6 Common= 3 MNE=3	INSEE= 7 Common= 5 MNE=5	INSEE= 2 Common= 2 MNE=2	INSEE= 73 Common=54 MNE=65
Italy	ISTAT= 2 Common= 1 MNE=1	ISTAT= 1 Common= 1 MNE=1	ISTAT= 4 Common= 1 MNE=1	ISTAT=8 Common= 8 MNE=9	ISTAT=15 Common= 15 MNE=15	ISTAT=8 Common=8 MNE=8	ISTAT= 9 Common= 7 MNE=7	ISTAT= 4 Common= 4 MNE=5	ISTAT= 2 Common= 2 MNE=2	ISTAT=2 Common=2 MNE=2	ISTAT= 4 Common=4 MNE=4	ISTAT=59 Common= 53 MNE=55
Netherlands	NA	CBS= 2 Common= 2 MNE= 2	CBS= 4 Common= 3 MNE= 3	CBS= 6 Common= 6 MNE= 7	CBS= 3 Common= 3 MNE= 3	CBS=1 Common= 1 MNE= 3	CBS= 55 Common=55 MNE=55	CBS= 25 Common=18 MNE=18	CBS= 63 Common= 63 MNE= 63	CBS= 39 Common=39 MNE=40	CBS= 26 Common=15 MNE=16	CBS= 224 Common=205 MNE=210
United Kingdom	ONS= 2 Common= 1 MNE=1	ONS= 3 Common= 3 MNE=3	ONS= 3 Common= 3 MNE=3	ONS= 9 Common= 9 MNE=9	ONS=2 Common= 2 MNE=2	ONS= 2 Common= 1 MNE=1	ONS= 10 Common=10 MNE=11	ONS=6 Common= 6 MNE=6	ONS= 2 Common= 2 MNE=2	ONS=25 Common= 15 MNE=21	ONS= 25 Common=25 MNE=49	ONS=89 Common=77 MNE=108
Total Enterprise	NSOs=28 Common=20 MNE=25	NSOs= 61 Common=35 MNE=58	NSOs=11 Common= 10 MNE=11	NSOs= 27 Common=26 MNE=28	NSOs= 30 Common=30 MNE=30	NSOs=26 Common=14 MNE=16	NSOs=88 Common=83 MNE=86	NSOs=43 Common=36 MNE=37	NSOs= 74 Common=71 MNE=71	NSOs= 76 Common=63 MNE=70	NSOs= 59 Common= 48 MNE=73	

In all, there are 50 data points⁵ in this table for which comparisons were possible. Of these, 22 show exactly the same count of legal entities (LEs) as between the MNE report and the

⁵ Data missing from one source or confidential are identified as:

- NA No affiliate
- ND No internal data available to compare
- NR Not reported by MNE

NSO registers and other files. In 17 cases, the NSO had more LEs than the MNE reported and in the other 11, the MNE reported more LEs than the NSO had on file. Most of these 28 differences were small (1 or 2 LEs), but in 8 cases the differences are large. For 6 of these 8, the problem lies with the description of the structure of MNEs in their home countries. This follows from the fact that, at least for the 11 participating MNEs, their legal structure is much larger in their home countries than their foreign affiliates in other countries. Taking the larger of the MNE or NSO count, the average number of LEs in foreign affiliates is 6, while in their home country it is 34. Getting the home country structure right is therefore key to the overall measurement of the MNE.

In most case where MNEs reported more or fewer legal entities than the NSO had on file, the additional, or missing, legal entities were researched and found outside the enterprise group, or there had been a restructuring of the group. In some instances the aggregations of these additional entities with the known enterprise group components brought the two counts closer.

In other instances, internal records showed that some of the additional entities provided were classified as holding companies and thus, the MNE reported economic activities that were not included in the NSO national estimates.

In some cases, legal entities reported by the MNE as being established in one country were in fact legally established in another country. In one case, it is suspected that while the entity was not legally established in one country, its results appeared to be consolidated with the country's other affiliates.

Some MNEs restructured themselves during the period under study. One of the MNEs was in a process of restructuring in 2003, with a big portion of the MNE split off in October 2003. In some countries, the enterprise group families are updated once a year and newly restructured companies may not yet be represented properly on registers.

A consistent definition of enterprise groups and the timeliness of updates to registers are key factors in improving the description of MNE structures on NSO registers.

The disparity in size between MNE operations in their home country and their foreign affiliates is also reflected in the measurement of employment, as reported by the MNEs. Using size classes of small (under 100 employees), medium (100 to 1000 employees) and large (over 1000 employees), it is apparent that foreign affiliates are generally smaller than the domestic operations of MNEs (bolded in the table below). This should be borne in mind when considering the data comparisons in the following section of the report.

Total Number of Employees											
Countries	Enterprise group										
	1	2	3	4	5	6	7	8	9	10	11
Canada	L	M	M	M	NA	NA	S	S	S	M	M
France	M	M	L	L	L	M	L	M	M	L	NA
Italy	S	S	M	L	L	L	M	M	L	S	M
Netherlands	NA	S	M	M	M	S	L	L	L	L	M
United Kingdom											

Note: Data for UK not yet available at time of preparation of the report.

3.3 Results of the comparison of the measurement of four key variables

The confidentiality constraints associated with the project had a major impact on the method used to present the results of the analysis of the MNE responses. Since participating NSOs could not divulge the data collected in their regular statistics programs, the differences identified in these comparisons is presented in terms of ranges of percentages. Each participating MNE was numbered sequentially and each NSO provided the appropriate codes from the agreed scale for each variable for the domestic operations of participating MNEs.⁶

Sales

Gross sales was selected as a study variable as it is an important indicator of size and overall economic activity. To construct a measure that would be comparable to the measurement of sales in the regular statistical program of the NSOs, gross sales were defined as the national share of the global sales reported by an MNE in its annual report, plus the MNE's estimate of the intra-enterprise sales of its units in each country to affiliates in other countries. This figure would correspond conceptually to the measure of sales of the domestic components of each MNE by the appropriate NSO, which would include sales to overseas affiliates.

⁶ The ranges were calculated as follows: Difference= ((MNE response – Internal results)/MNE response)*100.

If difference < -10 % then the code was set to “-2”
 If -10%<= difference < -5 % then the code was set to “-1”
 If -5 % <= difference <= 5 % then the code was set to “0”
 If 5 % < difference <= 10 % then the code was set to “1”
 If 10 % < difference then the code was set to “2”

Note that where the levels are low, even small absolute changes can appear as large differences in percentage terms.

Gross Sales											
Countries	Enterprise group										
	1	2	3	4	5	6	7	8	9	10	11
Canada	2	-2	-2	2	NA	NA	0	0	-2	2	2
France	-2	0	NR	NR	0	-2	-2	2	0	0	ND
Italy	2	NR	0	1	0	0	2	-2	2	2	-2
Netherlands	NA	ND	2	-2	0	ND	0	0	0	0	-2
United Kingdom	-2	NR	0	2	0	2	-2	-1	0	-2	-1

There are 45 measurements in this table for which it is possible to make comparisons, out of 52 for which data might be expected. (Even though there are 55 cells in the table, in 3 cases there are no foreign affiliates in one of the participating countries (NA)). Data are missing in the other 7 cells because, in 4 cases, no data were reported by the MNEs (NR), while in 3 cases no data are available in the NSO because the units were not observed in the regular statistical program (ND). Of the 45 measurements that are available, 20 are within 10% of each other and 25 are more than 10% apart.

Reasons for these differences include the differences in the structure of the MNE reported in the previous section. If there are large differences in the number of legal entities in scope from the MNE's perspective compared to the number of legal entities that the NSO has in scope, then it follows that there would be large differences in the values of all the variables under analysis. This was borne out for the sales variable: the average score is 1.375 for the MNEs for which there were large structure differences compared to 1.135 where there were no differences in structure or the differences were small. If we remove the 8 MNEs with large structural differences from the analysis, then there are 37 measurements for which we can make comparisons, of which 17 are within 10% of each other and 20 are more than 10% apart, a slight improvement. Nevertheless, less than half are within 10% of each other.

A major difficulty encountered here was in the construction of the comparable measure. Most MNEs were not able, or willing, to provide intra-enterprise sales between geographic segments. As a result, the benchmark value is often simply the global, consolidated aggregate, divided into geographic segments. In theory, this value should be lower than the NSO measurement of sales, as intra-enterprise sales between geographic segments would have been netted out by the MNE through consolidation. If this was the case, then the MNE figure should be consistently lower than the NSO measure. In actuality, the MNE number

was more than 10% higher than the NSO measure as often as it was more than 10% lower, so no systematic difference on this account.

In some cases where sales declared by MNEs were higher than the aggregated sales of their legal units as measured by the NSOs, it is possible that the sales declared by these MNEs might be by destination and not by origin. Namely, these sales could include re-exports and not only the sales made by affiliates in the country. In another case, the differences noted for one MNE appear to be related to conceptual differences (inclusions/exclusions) in the sales reported as part of this project versus the sales collected from the financial survey.

Operating earnings or losses

This variable was selected as it represents the contribution of the corporate sector to national income. For national accounting purposes, it may be the most important variable collected from enterprises. Unfortunately, it was also the least well reported by the MNEs.

Operating Earnings or Losses											
Countries	Enterprise group										
	1	2	3	4	5	6	7	8	9	10	11
Canada	2	ND	CF	2	NA	NA	0	0	CF	CF	2
France	-2	NR	CF	NR	2	NR	0	2	CF	CF	ND
Italy	NR	NR	CF	-2	0	NR	-2	-2	NR	NR	2
Netherlands	NA	ND	CF	-2	-2	ND	-2	0	CF	NR	-2
United Kingdom	ND	CF	NR	ND	ND	NR	ND	ND	NR	CF	ND

There are only 19 measurements in this table for which it is possible to make comparisons, out of a possible 52. Data are missing in all the other cells for one of the following reasons: no data reported by the MNE (12 NR), no data available in the NSO (10 ND), data considered confidential by the MNE (11 CF). Of the 4 key variables in the study, this is the only one that was considered confidential by the MNEs. Four of the 11 MNEs reported that this information was confidential for at least one of its home country or foreign operations. A combination of confidential, not reported or no data available resulted in no data being reported at all for this variable for 5 of the 11 MNEs. Of the 19 measurements that are available, 5 are within 10% of each other and 14 are more than 10% apart. Operating earnings or losses were underestimated by the NSOs almost as frequently as they were overestimated (8 cases versus 6). Dividing observations between measurements of home country operations versus foreign affiliate operations also fails to detect any systematic reporting patterns by the MNEs. The important finding is the highly sensitive nature of this variable for the MNEs, even with the confidentiality guarantees that were provided. A centrally coordinated collection approach, such as used for this study, might in fact elicit a

defensive reaction by MNEs that is not encountered as readily when each national component is approached individually.

Capitalized expenditures

Capital expenditures are a component of final demand and therefore another important indicator for national accounting purposes.

Capitalized Expenditures											
	Enterprise group										
	1	2	3	4	5	6	7	8	9	10	11
Canada	-2	NR	ND	ND	NA	NA	0	0	-2	ND	ND
France	-2	ND	NR	NR	-2	-2	0	1	0	-2	ND
Italy	NR	NR	1	-2	0	0	-2	2	2	NR	2
Netherlands	NA	ND	2	ND	2	ND	2	0	0	-2	NR
United Kingdom	ND	NR	2	0	ND	0	-1	2	ND	2	-2

Of the 52 possible observations in this table, 20 are missing values while the 32 for which comparisons are possible are split between 13 that are within 10% of each other and 19 that are more than 10% apart. Most of the missing values are ND, no data available in the NSO, either because the unit is too small to be observed in the regular statistical program or, in the case of this variable in particular, the data were collected from a sample of establishments or local units and no estimates were produced at the enterprise or enterprise group level.

Total number of employees

The last key variable in the study is employment, a common size indicator for businesses and a frequent proxy for a number of other indicators.

Total Number of Employees											
Countries	Enterprise group										
	1	2	3	4	5	6	7	8	9	10	11
Canada	2	0	-2	2	NA	NA	0	0	-2	2	2
France	-2	0	ND	ND	-1	0	0	0	-2	-1	ND
Italy	-2	NR	0	-1	0	0	2	0	-2	2	0
Netherlands	NA	ND	2	-2	-2	ND	0	0	0	0	2
United Kingdom	2	2	2	-2	0	-2	-2	1	-1	1	2

This is the variable for which there are the fewest missing values (only 6), yielding 46 observations for which comparisons can be made, one more than for sales. These are evenly split between 23 that are within 10% of each other and 23 that are more than 10% apart, making this the most accurately measured variable. Surprisingly, excluding the 8 operations with large structure differences does not improve these proportions. In 4 of these cases, the NSO measure of employment was within 5% of the MNE report of employment even though there were large differences in the legal entities in scope for each. This would tend to indicate that there is little employment associated with the LEs that were not common to each.

Even though this variable was the most accurately measured, the NSO estimates were within 10% of the MNE report in only half the cases, indicating that there are still difficulties in this measurement. On such difficulty is the definition of employment. One of the MNEs was in the employment services industry. Firms in the employment services industry are generally relatively small and provide labour for other organisations, with the labour costs being paid either by the agency or by the organisation supplied. In this particular case, the MNE provided two datasets for employment, one for its own staff and another which we assumed covered also the temporary workers sent out by the unit to other organisations. Likewise, firms making use of employment services to obtain labour services could encounter difficulties in reporting total number of employees unless this is defined clearly.

Data analysis of resident versus foreign affiliate activities

A perspective that might provide insights into the relative quality of these measurements is to compare the results for domestic operations of home country MNEs (obtained directly by the home country NSO) versus domestic operations of foreign affiliates (provided by the NSO of the foreign affiliate). If we look at the results of the data analysis for resident MNEs against foreign MNEs affiliates, we note that, overall, the data obtained for resident MNEs tend to be more comparable to internal sources than the data obtained for foreign affiliates of MNEs.

Resident versus foreign affiliate operations				
	Resident		Foreign	
	within 10 % difference	greater than 10%	within 10 % difference	greater than 10%
Sales	67%	33%	39%	61%
Operating earnings or losses	50%	50%	20%	80%
Capitalized expenditures	50%	50%	38%	62%
Total number of employees	78%	22%	43%	57%

Sales:

Two thirds of the observations (6 out of 9) with data from both sources (MNE and internal sources) compared favourably (within 10% difference) against slightly less than 39 % for foreign affiliates (14 out of 36). When the data was judged to be significantly different (greater than 10% difference), there was no apparent trend to either overestimation or underestimation.

Operating earnings or losses:

Although the number of instances where data were available from both sources was smaller for Operating Profits than for other variables, the data comparison for resident MNEs (2 out of 4) gave better results than for foreign affiliates (3 out of 15). For cases where the data was judged significantly different, there were only a few more instances (8 against 6) where the MNE provided lower values for foreign affiliates MNEs than what was on internal sources.

Capitalized expenditures:

In the case of Capital expenditures, the results of the analysis of MNEs data for resident operations and foreign affiliates followed the pattern shown by the first two variables (Sales and Profits). Again, half of the observations for residents operations of MNE (4 out of 8) compared favourably while 38 % of the observations for foreign affiliates operations agreed with internal data (9 out of 24). When the two data sources were different, the number of cases where the data provided by the MNE was higher than the data on hand (internal sources) was basically the same as the number of cases with lower values.

Total number of employees:

In most cases (78%) the data provided by the MNEs for resident operations agreed with internal sources (7 out of 9) while the data provided for foreign affiliates tend to differ from internal sources (as only 16 cases were comparable out of 37). In the two cases where the sources for resident operations data did not agree, the data provided by the MNE were higher than what was shown on internal records. Finally, for foreign affiliates, the number of cases

where the MNEs provided data higher than internal sources (10) almost offset the number of cases where lower values were provided (11).

4.0 Conclusions

Overall, data collected in a coordinated fashion from the MNEs for this study provided results that were different from the data collected by survey or administrative instruments in the regular programs of the National Statistics Offices. Of the 220 possible measurements of key variables (4 variables, for 11 MNEs in 5 countries), the NSO measure is within 10% of the MNE report in 61 cases (28%), is more than 10% divergent in 79 cases (36%) and cannot be compared for a variety of reasons in 80 cases (36%).

In these 80 cases, the data comparison was not possible because of missing values either from the data provided by MNEs or available in NSO sources. The main reasons for the absence of data were:

CF - Confidential (11 cases): Many MNEs considered Earnings before taxes and Interests very sensitive and refused to either provide it or to allow its disclosure to the other partners in the study.

NA - No affiliates in one of the 5 countries (12 cases): Three of the selected MNEs did not have affiliates in all of the participating countries. In most cases the absence of affiliates was verified and confirmed in each affected country.

NR – Data requested not reported by the MNE (25 cases): In at least one case, the MNE was able to report for only two of the six variables because its internal management system did not provide the required breakdown by country for the remaining variables. In addition, intra- MNE sales to foreign affiliates were not often reported.

ND - Data not available from NSO sources (32 cases): While the economic activities of MNEs were large in their home country, foreign affiliates were too small in some countries to be included in the regular survey of the NSOs.

The employment variable was the most accurately measured, followed closely by the sales variable. Capitalized expenditures were less well measured than either while the operating earnings variable was the most poorly reported and the least accurately measured.

The legal structure of the MNEs was relatively well measured for foreign affiliates, which were generally small, and less well measured in their home countries, where they generally comprised many more legal entities.

Recruiting MNEs and obtaining the required information was difficult. However, most agreed to the waiver permitting the home country NSO to share the relevant national information with the foreign affiliates NSO, proving that a coordinated data collection approach is operationally feasible. This approach yields vastly different results, however, than the measurement in the regular statistical program of the NSOs and it is not clear at this

point which is the more accurate. The centrally coordinated approach to collection may in fact result in less data being collected from the MNEs overall than independent approaches to each national component.

All of the participating countries have found the exercise interesting and valuable. It has helped understanding some of the problems related to the data provision by MNEs to NSOs and identified potential weaknesses in our statistical systems. Concluding comments from each participating NSO follow.

Canada:

This exercise has been very interesting. It certainly underlined the complexity of work required when trying to understand the functioning and the economic impact of these large MNEs.

Also, in spite of the few and relatively simple data variables requested for this phase, it has been difficult to obtain the information and in many cases there were confidentiality concerns raised by the MNEs even with the assurances provided by the waiver and the common declaration form signed by all participating countries. This shows the level of sensitivities MNEs have for some economic variables.

France:

The exercise has been very interesting, but not simple. It required searching for information not only from internal databases, but also in the MNE annual report or on their web site especially for complex organizations. The inter-segment sales could not be compared, but France feels that it is interesting information that could help to delineate the MNEs French activities.

Moreover, the discussions with French MNEs which accepted to participate to the project confirmed the complexity of the MNE's international organization that also has to do with their different economic activities.

Italy

The work was of really great interest but very costly in terms of working hours, considering the available resources since all had to be done manually.

Contacts with the MNE's had been easy and they were willing to share data with other NSO without restrictions. Nevertheless they could not see immediate benefits in terms of statistical burden reduction from the project.

The main benefits from the Project's results were in terms of Business Register analysis. Most of the problems that were suspected with the Register for Multinational groups were confirmed. In particular the MNE project permitted to detect and quantify them. They can be summarized in over-coverage of legal units (due to the presence of ceased legal units not

cancelled in the administrative registers); over-estimation of the number of foreign controlled groups (due to different truncated parts of the same multinational group); under-estimation of the dimension of foreign controlled group (due to the same reason as above). From the point of view of structural statistics, the benefit was minor. The comparison of economical variables suffered from lack of information either in Istat's surveys or in the data provided by MNEs and from discrepancies in definitions of some of them (such as capitalised expenditures).

Netherlands:

The global comparison provided very interesting results. Within Statistics Netherlands, interesting differences between the two data collection methods were also noted.

The two foreign affiliates of MNE's in the Netherlands indicated as small in the table have only very marginal activities in the Netherlands, which means that only legal units exist without employees. These may only have the function of a specific financial institution for the regulation of financial flows.

United Kingdom:

The project has been beneficial in identifying those businesses that have an incorrect structure on the UK business register. Consequently, the Business Profiling Team will profile these businesses. Unfortunately due to the small size of the businesses, as far as UK activity is concerned, they would not normally fall within the criteria for profiling.

There was some difficulty in persuading the MNE's to participate in the project. These are large organisations within the UK that currently respond to a number of the economic surveys and the burden on them is already great. This was commented upon by the organisations themselves.

5.0 Recommendations

Even though the project was expected to unfold in successive phases over several years, with each phase expanding on content and involving a greater number of participating countries and MNEs, the participants feel that the study in its current configuration should be terminated at this point. The participants believe that they have learned a great deal from the study, which learnings can be better applied in a different approach to the study of MNEs than an expansion of the current study. More specifically, it is recommended that the work be continued under the auspices of the Eurostat project on the creation of a European register of enterprise groups. Should the work continue in this way, means would need to be found to keep non-EU members of the ECE involved in the project in some way.

The MNE project can be seen as a precursor to the Eurostat project and experiences gained from it can be usefully applied in the context of this new project. Specifically, the following issues have been highlighted by the study:

A consistent definition of enterprise groups and the timeliness of updates to registers are key factors in improving the description of MNE structures on NSO registers.

The legal structures of the MNEs tend to be larger in their home countries and special attention needs to be paid to accurately profiling these domestic operations.

Consolidation and deconsolidation of financial results of enterprise groups is a key difficulty, which must be resolved to accurately measure financial variables such as sales and operating surplus.

Specific definitions and instructions must be provided for the accurate measurement of employment as between employer-employee relationships and other means of labour supply.

Even though only a few, high-level variables were requested in the study, there were problems related to the sensitivity of the information, especially for operating profits or losses (earnings before interest and taxes). While the requested information is generally made available on a global basis, many MNEs considered it highly sensitive once broken out by country.

The determination of the allocation of the EBIT in specific countries may be influenced by cost effectiveness considerations, including national advantages from taxation or subsidies. Various means can be used to effect the allocation of EBIT such that the total consolidated result of the MNE is optimised. This could be the reason that some MNE's were very cautious in reporting the EBIT, because the formal allocation of the EBIT could be different from the business related one.

For this reason, a centrally coordinated collection approach, such as used for this study, might in fact elicit a defensive reaction by MNEs that is not encountered when each national component is approached individually.

4. Appendices

Appendix A

First phase methodology

A practical interpretation of the objectives of phase one of the project was developed and focussed on two elements:

- a. The working group was to determine whether the national measurement of the domestic activities of participating MNEs based on current statistical instruments is coherent with the national segment provided by the MNE itself, and if not, what general areas need to be examined to explain and reconcile these differences.
- b. The working group would then summarize the findings resulting from the above analysis in order to get an indication of the accuracy of the global measurement of participating MNEs.

1. Selection of multinational enterprises for the project

Each of the five participating countries agreed to target 3 multinational enterprises for a total of 15. To be selected as a potential candidate for the project, a multinational enterprise had to have the following characteristics:

- MNE is publicly traded or a listed company;
- It provides some form of geographical segment disclosure in its annual report;
- The ultimate controlling shareholder(s) of the MNE is a resident of one of the five participating countries;
- The group has at least one production facility resident in each of the five participating countries;
- The primary activity of the MNE is non-financial and,
- The MNE has agreed to release the profiling information to the other four partners.

The fourth condition proved to be difficult for some countries and the working group agreed that if there were affiliates in at least 4 of the 5 countries, the MNE would be eligible.

2. Information collected

The working group decided to collect six variables from the participating enterprises, broken down by geographical segment (namely, the five participating countries and a residual total representing the rest of the world). These variables are

- Sales (or revenues or turnover) – national consolidation

- Sales or revenues between/from geographical segments, plus a split between goods and services
- Total net sales – worldwide consolidation
- Operating earnings or losses before taxes
- Capitalized expenditures
- Number of employees

These variables represent key data items used by MNEs in their financial statements for describing their worldwide economic activities as well as their activities by geographical segment. This information will be collected from MNEs' headquarters and used as reference for comparing with data collected by each participating NSO using their current statistical instruments. The latest annual report as published by the MNE served as an overall control total.

In addition, to help understanding and reconciling the financial data collected by the project, it was proposed that information on the levels of consolidation plus a list of the legal entities that are under each level of consolidation be obtained. The list of legal entities would be used to assess the coverage of current financial data collection programs, compared with the data provided by the MNEs.

3. Questionnaire Vehicle

A prototype questionnaire was developed by the working group and used as the vehicle of data collection. It took the form of Excel printable spreadsheets that participant multinational enterprises were free to print and mail back or send back electronically through e-mail.

The questionnaire included two spreadsheets⁷, one for the structure and the other one for data reporting.

The prototype was used as a starting point by each participant country and modified when required to meet particular internal requirements.

4. Confidentiality

A framework for data sharing and confidentiality has been agreed upon by the participating countries.

Each participating MNE were asked to sign an “Authorization to release data”⁸ form. This form includes a set of rules participating NSOs have agreed to adhere in order to maintain the confidentiality of the information collected:

- The information collected would be used only for statistical purposes within the scope of the MNE project;

⁷ An example of the questionnaire is available in Appendix B

⁸ A copy of the form is available in Appendix C

- Only employees working directly on the MNE project in the participating NSOs would have access to identifiable information;
- The information provided would be stored in a secured physical environment;
- The information shared would not be redistributed to any other organizations without the prior consent of the MNE and,
- If permission was not granted, the information would not be transmitted to the other participating statistical agencies.

In addition, the project team has agreed on the content of a common declaration⁹ for participating MNEs, outlining the confidentiality principles to which each NSO is committed within the context of the project. This declaration has been signed by the heads of each participating NSOs.

Each participating MNE was informed that while all NSOs agree to adhere to the above-mentioned rules, such an agreement cannot override national legislation.

With these rules in mind, MNEs were asked to provide all the information requested by the project to the NSO of its home country. This NSO would, in turn, release to each participating country NSO the relevant national information from its portion of the questionnaire.

5. Data transmission between participating countries

A MNE Cryptography Application (MECA) has been developed for the secure transfer of information between participating NSOs. MECA is a Visual Basic application developed by Statistics Canada.

The actual transfer of data followed these steps:

- Data files with MNEs information were encrypted using MECA software and stored on a CD (one per country);
- The CDs were shipped through priority mail and intended recipients confirmed their reception;
- The passwords were communicated via telephone or e-mail;
- The same encryption software was used by all countries (to encrypt and decrypt files).

6. Comparison process

The starting point of the comparison was the information obtained in the MNE's latest published annual report (generally for 2003). Each MNE was asked to break down 6 selected variables between the 5 countries plus one additional entry for the rest of the world to ensure that the total would sum up to the one reported in its annual report. Information on the national levels of consolidation and a list of the legal entities under each level of consolidation were also requested.

⁹ A copy of the common declaration can be found in Appendix D

Each NSO analyzed their portion of the MNEs data against information obtained from current statistical instruments. The data provided by an MNE were to represent all activities of the enterprises in the participating country.

When available, national financial surveys at the enterprise group level were then the primary sources of internal data used in the comparison process. Following are summaries of the methodology and sources of information used to do the analysis in each of the participating countries.

Canada:

Data analysis methodology:

The results from two enterprise statistics programs namely: the Quarterly Survey of Financial Statements (QSFS) and the Annual Financial and Taxation Statistics (AFTS) were used for the analysis process. The QSFS is a survey of the very large enterprises in Canada while the data for the remaining portion of the corporate population are estimated through a model approach. The AFTS is a mixture of annualized reports from the QSFS and financial data coming from tax sources. So in essence, the MNE data were compared to either reported data filed on survey questionnaires or to data provided as supportive documentation when corporations are filing their tax forms to the Canada Revenue Agency. The drawback in using data from the corporate tax source is that data are reported for legal entities and the sum of the revenues is not consolidated at the enterprise level. This, however, still provided an approximation of how close the two sources are.

Establishment based surveys such as the Survey of Employment, Payrolls and Hours as well as the Capital Expenditures Survey were used for cases where all the establishments of an enterprise were covered.

Structure analysis:

The Canadian portions of the MNEs were compared to the information available from Statistics Canada Business Register (BR). The QSFS targets the highest level of Canadian consolidation as reported by the enterprise at the time of the profiling exercise.

France:

Data analysis methodology:

For each affiliate found, the economic data and the number of employees were obtained from France's structural business statistics database. When no data were found for 2003, the 2002 data was used. If no economic data were found, the business register was used to get the number of employees.

These economic data are administrative data obtained from the tax administration; it does not include intra-MNE sales. That is the reason why it was impossible to compare and analyze inter-segment sales and net sales provided by the MNE.

Structure analysis:

The French frame of the MNE was delineated and it was verified that it included the same affiliates (legal units with a SIREN number). To do so, the survey on financial links (LIFI) was used. It provides the links between legal units.

Italy:

Data analysis methodology:

All the comparisons on the economic variables were made with respect to the maximum overlapping perimeter between the MNE and the Italian one. Therefore, for cases where Italy had more units, the additional ones were excluded and the perimeter (legal units) covered was exactly the same. However, when a MNE had more units the comparison referred to different perimeters. So, a different evaluation should be given to the results in these two cases.

The sources used were:

- I. Statistical Business Register
- II. Statistical Business Structural Census Surveys (more than 99 employees and Nace C, D, E, F, G, H, I, K, M, N, O excluding Section 91).
- III. Statistical Business Structural Sample Survey (less than 100 employees all Nace).¹⁰
- IV. Published Annual Balance Sheets.
- V. Published Consolidated Balance Sheets (for National Sub-Holdings)

Information about economic variables was taken both from statistical and administrative sources available at Istat. Employment came from the Business Register (BR) where it is estimated from different administrative and statistical sources as well as from manual profiling of the largest units. Employment from the BR is used at Istat as a benchmark for all surveys and National Accounts.

Information about Gross Sales was taken from Source II (when the legal unit responded) and from Source IV. Net Sales and Inter-Segment Sales are never available from Istat Surveys and they are not published in the Annual Balance Sheets.

The formula used to calculate Earnings before interests and taxes (EBIT) was the same as the one used for Structural Statistics Indicators (Operating Income before Interest and Taxes). It

¹⁰ None of legal units from MNE was actually included into the sample.

is given by the difference between Production Value and Cost of Production (excluding cost of depreciation and earmarking).

The information about Capitalized expenditure was verified against information from Source II and Source III. In the Annual Balance Sheets of each affiliate, the part of the Report where analytical and qualitative information are given was used. Often expenditures for Material and Immaterial Immobilisation in the accounting year are detailed in several parts. "Acquisition of Material and Immaterial Immobilisation in the accounting year" was used while "Disinvestment" was excluded since these are not expenditures.

Structure analysis:

As far as the analysis of the legal structure is concerned, Istat carried on a double check: first the structure of the MNE was checked with respect to the Italian Business Register (BR) on enterprise groups (EG) and then, when there were missing legal units in the Register or incoherent structure of the group, all the available administrative sources in Italy containing information on the legal structure were used. This procedure provided a wide range of hints about the status of the Register with respect to multinational groups.

When information from the BR on EGs was missing or incoherent, the main administrative sources used to check the legal structure of the group were the published list of shareholding in the Chamber of Commerce on-line database in use at Istat. The on-line version of the data base is normally more updated when compared to the frozen file received each year to build up the Register so, while the information structure is the same in terms of definition of variables, etc., it is of better quality. For the case of truncated parts in the Register we took advantage of the information coming from the MNE. The final perimeter of the MNE (in terms of legal units) was then decided upon and compared to the one transmitted by the MNE.

Finally, all resident legal units belonging to the MNE or to truncated parts of it were confirmed as being in the final perimeters, with the exception of the units registered in Italy only for fiscal reasons. These can be recognized from their foreign juridical form in their denomination. These units often appear in the Italian BR on EGs as the first shot parents.

Netherlands:

Data analysis methodology:

At Statistics Netherlands, a choice of the source to be used for the analysis had to be made. As may be known, there are two kinds of data collections. One is the data collection for the statistics describing the financial processes for which the enterprise group is the underlying statistical unit. The other is the data collection for statistics describing the production processes for which the enterprise (and in some cases the kind of activity unit) is the basic statistical unit. The first one mentioned is closer to the annual reports of the enterprise groups or MNEs. All domestic legal units are consolidated in the report for these statistics, except the units who are to be considered as "special financial institutions". These are mainly meant for exchange of intra-company international financial flows within the

MNE and for the establishment of legal and fiscal arrangements within MNEs. This category of enterprises within the MNE can be the cause of differences that cannot be explained without contacting the MNE again.

The phenomenon of "special financial institutions" within MNE's is of substantial size in the Netherlands. According to an agreement with the Dutch Central Bank, data collection from special financial institutions is a task of the Central Bank and these are thus excluded from data collection activity performed by Statistics Netherlands (SN). So SN does not have individual financial data on these units because these are also excluded from the Enterprise group consolidated report for statistics.

The other data collection, for the statistics describing the production processes, is a more detailed one and is mostly based on the Business Register. For MNEs, the underlying legal units are in this data collection, individually as an enterprise or combined with other legal units belonging to the same group into one enterprise. However, the exhaustiveness of the collection is dependent on the sample strategy. Small units can be excluded from data collection because they are not sampled. In these cases the value of the variable that is used for grossing up from sample figures into population figures can be used. The legal units within the MNE who are indicated as special financial institutions are excluded here too.

The procedure used in the project is as follows:

1. A comparison was made with the results of the Enterprise group based data collection
2. If (1) was not available, a comparison was made with the results of enterprise based data collection. In this case, multiple enterprise reports within one enterprise group were added/combined/aggregated;
3. If information was also not available in the enterprise data collection, we used the cell average of the group representing the unit in the statistics.
4. When no population reference was available we indicated the results as "data not available"

The units with the numbers 7, 8, 9, 10 and 11 are analysed using the enterprise group reports. The units 3, 4 and 5 were analysed using the enterprise reports.

The most relevant difference in comparing with enterprise reports in stead of comparing with enterprise group reports is that in the case of multiple enterprises within an enterprise group there can be inter-company sales within the Netherlands. In the Enterprise group reports these are eliminated by consolidation. Another difference can arise because enterprise reports are for describing the production of the units. In the enterprise group reports also, financial flows are in the consolidation and these flows are not directly related to the production processes necessarily.

Structure analysis:

In the Netherlands, the files of the Chambers of Commerce are used as the main source for updating the Business Register. All legal units operating in the Netherlands have to register

to the Chambers of Commerce. Differences between what has been reported from an MNE and the register could be the results of time lags.

United Kingdom:

Data analysis methodology:

Two sources of data have been used in the analysis; administrative data held on the Business Register and data collected via the economic surveys conducted by the Office for National Statistics. Turnover and employment have been taken from the administrative data and capital expenditure has been taken from the surveys. Inter-segment sales and net sales are not available through either of the two above mentioned sources. The survey data is collected under the Statistics of Trade Act 1947 and as such is not disclosed at enterprise level and therefore does not appear in the public domain.

Structure analysis:

In the United Kingdom, the source of data for the legal structure is the government department HM Revenue and Customs (following the recent merger between Inland Revenue and Customs and Excise), Dun and Bradstreet (a private organisation) and Companies House. The structure was checked to ensure that all legal units provided by the MNE compared to those that were held on the UK business register. Additionally, checks were made to ensure if there were any additional units that the MNE has not provided.

7. Communication

Most of the daily communication between members of the project team was done via e-mail or telephone. The extended and working team members met in Luxembourg in June 2004 and two videoconferences were held later, one in July and the other one in December 2004.

The project team has also created a web-site: www.statcan.ca.mne where documents and other useful information are stored.

There are 3 levels of access on the website:

1. Accessible by the working team members only;
2. Accessible by all of the members of the project team (extended and working teams);
3. Accessible by the public

Appendix C:



Multi-National Enterprise Project (MNE)

AUTHORIZATION TO RELEASE DATA

I hereby give permission to the Chief Statistician of Canada to share the following information collected via the Multi-National Enterprise (MNE) Project for the duration of this Project.

- Gross sales, revenues or turnover
- Sales or revenues between geographical segments (eliminated upon consolidation)
- Total net sales
- Operating earnings or losses (earnings before interest and taxes)
- Capitalized expenditures
- Number of employees
- Legal entities list

If permission is granted, the information will be shared with the following National Statistics Offices (NSOs):

France: Institut National de la statistique et des études économiques (INSEE)
Italy: Istituto Nazionale di Statistica (ISTAT)
Netherlands: Statistics Netherlands
United Kingdom: Office for National Statistics

Only those data pertaining to the country will be shared with the National Statistical Office of the country (e.g. information provided for France will only be shared with INSEE). If permission is not granted, the information will not be transmitted to the participating statistical agencies.

The following set of rules has been agreed to by all participating NSOs:

- The information collected will be used only for statistical purposes within the scope of the MNE project.
- Only employees working directly on the MNE project in the participating NSOs will have access to identifiable information.
- The information provided will be stored in a secured physical and electronic environment.
- The information shared will not be redistributed to any other organizations without the prior consent of the participating multinational enterprise.

It is to be noted that while all NSOs agree to adhere to the above-mentioned rules, such an agreement cannot override national legislation in the country of receipt that may require subsequent disclosure or use of the data not described above. It is also understood that this permission may be rescinded at any time by telephoning the (Name) at Statistics Canada, followed by confirmation in writing. This permission will continue to be in effect until such permission is withdrawn.

Signature: _____

Name: _____

Title: _____

Organization: _____

Date: _____

Please return to: (Name)
Statistics Canada
Ottawa, Ontario
K1A 0T6
Tel:

Appendix D:

MULTINATIONAL ENTERPRISE PROJECT DECLARATION OF ENDORSEMENT AND COMMITMENT TO PROTECTING THE CONFIDENTIALITY OF COLLECTED DATA

With the advent of globalization, economic activities undertaken by enterprises are now extending more and more beyond national borders. As a result, national and international statistical agencies are now faced with new challenges, particularly with respect to the need for increased statistical standardization together with greater international co-operation. In this context, the national statistical offices (NSOs) of five countries—Canada (Statistics Canada), France (Institut national de la statistique et des études économiques), Italy (Istituto Nazionale di Statistica), the Netherlands (Statistics Netherlands) and the United Kingdom (Office for National Statistics)—have agreed to embark on the Multinational Enterprise (MNE) project.

The MNE project is an experimental study whose primary objective is to identify areas where more standardized and coordinated approaches to measuring the activities of multinational enterprises could contribute to improved national and international economic statistics. This study will also be used to explore the concept of having multinational enterprises reporting in an integrated fashion to several NSOs.

Each of the five NSOs is inviting a few multinational enterprises to participate in the project. Enterprises that agree to take part will be asked to provide basic statistics on their business activity in each of the participating countries. All the information requested from each enterprise will be gathered by the NSO that contacted it. This NSO will then provide the other four NSOs involved with the portion of the information that pertains to their respective countries. This data sharing will take place only with the enterprise's written consent for its information to be shared with the other NSOs.

The heads of the participating NSOs fully endorse and support the MNE project. In addition, these NSOs are committed to maintaining the confidentiality of the information that is collected and shared as part of this project, and they agree to the following provisions:

- Any information collected will be used only for statistical purposes within the scope of the MNE project.
- Any information provided will be stored in a secure physical environment.
- Only employees working directly on the MNE project in the participating NSOs will have access to identifiable information, subject to the provisions below.
- No shared information pertaining to an enterprise will be redistributed to any other organizations without the enterprise's written consent.
- If an enterprise does not provide its written consent, none of the information it provides to the contact NSO will be shared with the other NSOs participating in the MNE project, and none of the information will be redistributed to any other organizations.

It should be noted that while all NSOs are strongly committed to the above-mentioned rules, such an agreement cannot override national legislation.

Ivan P. Fellegi, Chief Statistician of Canada
Statistics Canada

F.W.M. Hendrikx (on behalf of the Director General
of Statistics), Statistics Netherlands

Jean-Michel Charpin, Directeur général
Institut national de la statistique et
des études économiques, France

Len Cook, Director,
Office for National Statistics, United Kingdom

Luigi Biggeri, President
Istituto Nazionale di Statistica, Italy

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