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INTEGRATION OF THE PROVINVIAL PRODUCTION ACCOUNTS

REPORT OF THE PROVINCIAL WORKING GROUP

JUNE 1994

EXECUTIVE SUMMARY

This report on the integration of the provincial production accounts by the Provincial Working Group is the outcome of a request by the SNA Implementation and Historical Revision Committee at its October 14, 1993 meeting. The mandate of the group was "to identify conceptual and methodological differences among the three GDP estimates [produced by Statistics Canada's IMAD, IOD and NAED] and to resolve these in order to attain a unique conceptual framework to measure provincial GDP". The following are the main conclusions reached by the group:

(1) GDP for the business sector should be allocated to ten provinces and two territories. However, for the non-business sector, a thirteenth region should be created to accommodate the activity of "territorial enclaves" such as embassies and DND bases abroad. A similar approach should be used for religious organizations residing abroad. (No. 1 Page 2)

(2) Federal government expenditures and revenues should be allocated by province based on province of residence of the operation using the various procedures outlined in the IOD note of October 28, 1993. (No. 2(a) Page 4)

(3) Subsidies should be allocated according to province of production. (No. 2(b) Page 4)

(4) IOD treats all commodity taxes as a consumption tax while NAED treats the FST as a production tax and the rest as a consumption tax. This different treatment is eliminated beginning in 1991 with the introduction of the GST. The differences in 1990 will be footnoted in both the IOD and NAED tables. (No. 2(c) Page 4)

(5) The methodological approaches to be followed in the provincial allocation of the industries are described. (Pages 5-10)

(6) Wages and Salaries in the Balance of Payments

Presently, wages and salaries paid by international organizations in Canada and wages and salaries paid to commuters etc. are treated as services in the Canadian Balance of Payments Account. The new SNA recommends articulation of such compensation of employees as income. Such a treatment will be adopted in the next historical revision. (No. 1 Page 11)

(7) Petroleum Incentive Program (PIPS)

According to the SNA, mineral explorations, whether successful or not, are treated as fixed capital formation. The PIPS grants were made in the early 1980's to finance capital expenditure on drilling. Consistent with the SNA, these exploration expenditures were included in the fixed capital formation and in the capital stock values on which annual depreciation is calculated.

However, for income tax purposes, the company cannot include depreciation related to these assets in their books and, therefore, there is a problem in matching profits from income tax data with SNA net profits. For the most part, this is not a problem in that there are usually productive wells against which costs of dry holes can be amortized. In some cases, however, there is insufficient production with the result that there is large depreciation against (virtually) no production.

Therefore, it was agreed that, <u>for this instance only</u>, the PIPs should be capitalized in the period of payment/receipt and then removed from the capital stock. The effect of this treatment would be to reduce the overstatement of depreciation in the GDP. However, in as much as the sum of the 13 regional accounts should equal the national total, the PIPs miscellaneous valuation adjustments for these cases will need to be offset in other provinces, <u>until the historical revisions in 1997</u>. (No. 2 Page 11)

(8) Provincial Allocation of Capital Expenditures on Floating Machinery by the Investment and Capital Stock Division (ICSD)

The ICSD currently allocates the capital expenditures on floating machinery based on the sources of the provincial revenue. This procedure should be examined in the light of the SNA to ensure that the capital expenditure is consistent with output allocation at the provincial level. Given the time constraint for the 1990 provincial benchmark Input-Output accounts, the corrections if any should be incorporated in the next historical revision. (No. 3 Page 12)

(9) Interest on the Public Debt

NAED will develop an improved procedure for the provincial allocation of interest on the public debt. (No. 4 Page 12)

(10) Implementation of the Working Group's Recommendations and its Implications for the Revision of Time Series of Production Accounts

The Working Group has established concepts and methodologies to be used for the 1990 benchmark provincial accounts. The group's mandate does not cover the implementation of recommendations affecting the historical production accounts. There is a concern, however, that if NAED and IMAD were to align their 1990 estimates with the Input-Output benchmark, it would create a break in the time series which can only be corrected in the next historical revision. IMAD will revise their data back to 1984 in C$ and therefore will be consistent with IOD for GDP by industry in C$. The GDP estimates for agriculture in the Input-Output Accounts will, however, remain different for 1984 and 1988 because IOD will incorporate the intercensal revisions for these two years in the next historical revision. NAED will revise their data back to 1981 but will remain benchmarked to the National Income and Expenditure Accounts until the next historical revision. (No. 5 Page 13)

INTEGRATION OF THE PROVINCIAL PRODUCTION ACCOUNTS

REPORT OF THE PROVINCIAL WORKING GROUP

***Introduction**: By fall 1994, three separate sets of 1990 provincial current price Gross Domestic Product (GDP) estimates will be available within the Canadian System of National Accounts (CSNA). These estimates will be produced by the National Accounts and Environment Division (NAED); the Industry Measures and Analysis Division (IMAD); and the Input-Output Division (IOD). The SNA Implementation Committee, having discussed this issue, decided that the CSNA aim at releasing an integrated and reconciled set of provincial GDP estimates in current prices as is the case with the national GDP estimates. To this end, the Committee set up a working group comprised of Yusuf Siddiqi (Chairman), Richard Martel, Michel Vallières, Hans Messinger and Joel Diena (Secretary). Dave LeBlanc also joined the group and shared the secretary work. The mandate of the working group was to identify conceptual differences among the three provincial GDP estimates and to resolve these in order to attain a unique conceptual framework to measure provincial GDP. This mandate included a review of the methodology underlying the three sets of estimates. Statistical reconciliation was to follow once provincial estimates were produced by IOD. Some of the conceptual issues to be reviewed included:*

(1) the treatment of the thirteenth region (Outside Canada);

(2) the provincial allocation of federal government revenue and expenditure (i.e. expenditure on goods and services, indirect taxes, subsidies, and interest on the public debt); and

(3) the establishment concept in the provincial context for certain industries such as communications, finance, and transportation.

The working group held nine meetings over a two month period from November 1st/93 to January 13th/94. The following is a summary of the issues discussed and decisions/recommendations made.

(1) Should there be a 13th Region in the Provincial Production Accounts?

Presently, IMAD produces GDP estimates for ten provinces and two territories which add up to the national total. On the other hand, the NAED provincial accounts do not add to the national total since they exclude Canadian federal government current and capital expenditures in "territorial enclaves" as well as business and personal sector wages and salaries paid abroad. In effect, NAED assigns these exclusions from the provincial totals to a thirteenth region. The amount of wages and salaries paid abroad by the business and personal sectors is not significant (about $160 million in 1990). The thorny issue was the allocation of Canadian federal government expenditures (about $1.8 billion) in the "territorial enclaves" in the rest of the world.

As we know, the conventions of the provincial accounting were not really designed to cover such "external" transactions of the federal government. The question of how to measure the value of such services provincially was addressed. In the CSNA, we have already decided to allocate government expenditure based on the province of residence of the operation which in most cases translates into the province of consumption. Since embassies are not resident in any province, one alternative[1] was to allocate their expenditure and revenue back to the province where the controlling office (headquarters) was located. However, it was felt that such a treatment would distort the GDP picture of the province where the controlling office was located. It was therefore agreed that for the non-business sector, a 13th region should be set up to reflect the activities of "territorial enclaves" such as embassies and Department of National Defence (DND) bases abroad. A similar approach should be used for religious organizations

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[1] A second alternative used by Balance of Payments (BOP) in estimating the provincial distribution of Canada's federal government expenditures abroad is that they can be viewed as expenditures on behalf of all Canadians, linked to their capacity to support such services, and distributed provincially according to a combination of income and corporation taxes. The sum of the provinces must match the national totals.

residing abroad. As an analogy, it was mentioned that for the international organizations the revised International Monetary Fund (IMF) guidelines[2] provide for a separate international or international organizations region. It was, however, emphasized that details should be available for analysts so that the expenditures in the thirteenth region could be allocated back to ten provinces and two territories for modelling purposes.

For the business sector, however, it was agreed that domestic GDP be allocated to 10 provinces and two territories. This asymmetrical treatment was recommended for three reasons. ***First****, the production can be attributed to a province/territory where the factors of production are located. In instances where a branch office of a Canadian enterprise is located abroad, the SNA criteria[3] should be applied to determine its residency. Where such offices do not qualify as non-residents, the wages and salaries and other expenditures incurred abroad should be allocated by province (as an imported cost) based on activity in Canada. A question was raised concerning foreign offices of Canadian airlines. According to H. Henderson of the Balance of Payments Division, branch offices of foreign airlines in Canada (except the wages and salaries paid to Canadian residents) do not satisfy the IMF criteria and are not part of Canadian GDP. Symmetrically, branches of Canadian airlines abroad would be treated as non-residents of the host economy and included as part of Canadian GDP. As for the transactions of foreign airline branches, the Balance of Payments Division is concerned with the classification of the wage and salary component, notably locally-engaged staff. The concern is whether such compensation should be part and parcel of the overall service purchased and handled like trade in business services (import of services), or split out as labour income rather than services. It should be noted that Bell International does qualify to be a non-*

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[2] *IMF: Balance of Payments Manual, Fifth Edition, 1993.*

[3] *"When a corporation or unincorporated enterprise, maintains a branch, office or production site in another country in order to engage in a significant amount of production over a long period of time but without creating a subsidiary corporation for the purpose, the branch, office or site is considered to be a quasi-corporation (i.e. separate institutional units) resident in the country in which it is located." (Revised UN-SNA Chapter IV pg.89). In addition, the enterprise must among other considerations, maintain a complete set of accounts of local activities (income statement, balance sheet transactions with the parent enterprise) pay income tax to the host country, have a substantial physical presence... IMF: Balance of Payments Manual, Fifth Edition, 1993.*

resident entity and therefore should be treated as such in the Canadian Balance of Payments. ***Second,*** *as mentioned above the amount of wages and salaries paid abroad by the business and personal sectors is insignificant.* ***Third,*** *creation of a thirteenth region in the business sector would create an unwieldy problem as this region would potentially produce a wide range of output which would have no analytical value.*

(2) Provincial Allocation of Federal Government Expenditures and Revenues, Subsidies and Indirect Taxes

(a) Federal Government Expenditures and Revenues

It was agreed to allocate federal government expenditures and revenues by province based on province of residence of the operation. For example, expenditures related to a coast guard vessel patrolling several provinces would be assigned to the province of home port of the vessel. As noted above, expenditures/revenues for embassies/posts abroad or DND bases abroad will be assigned to the 13th region. It was agreed to use the various procedures outlined in the IOD note of October 28, 1993 to distribute the federal and defence revenues and expenditures by province. (Appendix 1)

(b) Subsidies

Subsidies are tied to production costs and therefore should be allocated according to province of production rather than to province of consumption of the product being subsidized. This treatment will be consistent with the provincial allocation of the producer's profits.

c) Commodity Indirect Taxes

In the Input-Output accounts, commodity indirect taxes (including the FST) are consumption taxes and are levied in the province of use of the product. In the provincial economic accounts, the FST is treated as a production tax and is allocated according to the province where the production of the manufactured goods occurred. The problem is eliminated beginning in 1991 with the introduction of the GST, which is

treated as a consumption tax by both NAED and IOD. For 1990, the tables produced by both NAED and IOD will be footnoted indicating the different treatment.

(3) Establishment Concept for Industries and Allocation Methodologies

(a) The benchmark provincial methodologies for the following industries were considered straightforward and have been accepted and therefore have not been highlighted here.

Agriculture

Forestry

Manufacturing

Urban Transit

Inter-urban Transit

Highway and Bridge

Gas Pipeline

Oil Pipeline

Gas Distribution

Storage & Warehousing

Radio & T.V., Cable and Telecommunications

Postal Services

Utilities

Private Hospital

Private Education

Accommodation and Food Services

(b) Industries where some adjustments are required:

Fishing

In building the estimates for this industry, IOD utilizes data from Fisheries and Oceans Canada on fish landings as well as farm fishing (first estimated for 1989). A review of the provincial allocation of farm fishing data indicated under-reporting in Ontario and Quebec. The committee agreed that adjustments were required to the national total for this under-reporting. It was agreed that IOD make the appropriate adjustments to both the national level and provincial totals.

Mining

It was agreed that the benchmark methodology use Census Value Added (CVA) to allocate service inputs by province. Furthermore, provincial wages and salaries from T-4 should be used to allocate the national output of the Quarries and Sand Pits Industry by province.

Trucking

Survey data are available based on province of domicile of the company and it was agreed that IOD would verify that the survey includes the provincial dimension of the activity if there is more than one terminal or "establishment". There was agreement that expenditures on inputs of the factors of production must be shown in the province where the "establishment" is located. For example, expenditures on inputs such as fuel, meals, hotels, etc. of a truck travelling from its terminal in Ontario across the country (outside Ontario) would be measured in Ontario.

Taxicabs

The two methodologies followed to obtain a provincial allocation of output have some merit. One involves using the gross revenue by province based on the tax data, and the other involves dividing the output between personal use and business use. The personal use is allocated based on the Family

Expenditure Survey (Famex) and the business use is allocated on total provincial GDP. It was agreed that IOD would analyze the results and arrive at an agreed benchmark methodology.

Miscellaneous Transportation

This industry includes school buses. The data are available by province on the final demand side for the government sector which is the main user of the service. It was agreed that IOD would compare the data to ensure that the demand by province matches the output by province.

Air Transportation

Data are available by province for passenger revenue by main carrier based on point of sale. Although this point of sale may represent consumption, it does not represent production. Data on origin and destination are available but these were thought not to include the intermediate leg of the journey. It was subsequently discovered that the fare basis survey included origin and destination for each leg of a trip and was representative of production for level I passenger revenue. Other revenue for level I was allocated using T-4 data for level I. It was agreed that revenue data for other levels be allocated using respective T-4 levels as they represent province of work (production). In all cases where province-specific output data were available for particular commodities, they were used (i.e. services to agriculture, forestry). It was also agreed that surplus be allocated based on provincial output. However, IOD would make adjustments where required if problems arose with the provincial allocation of intermediate inputs.

Rail

Data are available for transportation both within a province as well as between provinces. Intra-province transportation is straightforward but inter-provincial transportation requires adjusting. It was agreed to use the wages and salaries weights of the CN/CP employees from the T-4 data by province to allocate gross output of inter-provincial carriers.

Water

This industry includes both water transport and services incidental to water transport. There is a Water Transport Survey based on province of location of the company which could be used to allocate the water transport portion of the industry by province. However, there are both domestic and international companies in the Water Transport Survey and it was agreed that for both international and domestic companies, T-4 data would be reviewed to indicate if the company operated in more than one province. If so, the survey results will be adjusted based on the T-4 pattern. The results of this IOD analysis will then be compared to the IMAD data, (based on T-4 data), and differences will be discussed and agreement reached on the final methodology to be used.

There are also origin and destination data available on tonnages from the Cargo Survey which could be used to allocate the services incidental to water transport portion.

Construction

It was agreed that production is to be measured in the province where the work is put in place. The data base received from ICSD allocates contractor and own-account costs to the province of work put in place. The labour component of the provincial GDP estimates will utilize the following:

(1) own-account salaries and wages by province of work put in place;

(2) the contractor labour income reported data based on T-4 salaries and wages paid by province (place of employment). A good portion of the provincial GDP satisfies the work put in place concept as salaries and wages reflect the location of the labour factor of production.

It was recognized that some activity might be done by a contractor (provincially resident in one province) in another province with labour utilization from either province. It is not always clear as to when and whether separate establishment data exist for the other province i.e. through the T-4 salaries and wages paid. For example, where to measure the activity of a firm based in Alberta working in the north

for 6 months. It was agreed that if a firm is operating in one province and establishes residency (work put in place) in another province, the value of work put in place should be measured in the latter province.

Banks, Trust & Mortgage

The output of banks consists of (a) imputed interest and (b) actual charges. Agreement was reached on the method to be used for allocating imputed interest by province separately for the business, government and personal sectors. These will be based on the relevant loan and deposit data available from the Bank of Canada. Actual charges will be allocated based on combined deposit and loans data available from the Bank of Canada by province. The same methodology will be used for the trust and mortgage loan industry.

Credit Unions

There are problems with the quality of data concerning coverage and edit checks. It was agreed to use net interest (interest earned less interest paid by province) plus other revenues from NAED as provincial allocators of gross output.

Insurance

It was agreed that property and casualty, life and deposit insurance industries will be allocated by province on T-4 data. The rental income, and stocks and bond commission paid by life insurance will be similarly allocated.

Other Finance and Real Estate Industries

This is the largest of the finance industries and it was agreed that most of the financial sub-activities of this industry be allocated by province using T-4 data. Data for real estate commissions, residential rents, farm rents, trusteed pension funds and the personal portion of royalties are satisfactorily estimated by province by the NAED. The biggest problem is the allocation of commercial rents. It was agreed to use

the provincial gross output of all service-type industries as the initial allocator. This estimate will later be adjusted on the basis of use of the commercial rents in both the intermediate and final demand sectors.

Owner-Occupied Rent

NAED develops data by province for gross rent, net rent, and taxes. It was agreed that for inputs such as repair expense, insurance, and miscellaneous expenses the IOD calculations would be used. Surplus, which consists of mortgage interest and depreciation, is calculated residually.

Wholesale/Retail Trade

It was agreed that margin rates and GDP ratios should vary by province and that IOD and IMAD should agree to a methodology by comparing data by trade SIC. The ratios of wages and salaries to gross output will also be examined. Since provincial data for wholesale trade margins are weak, the national margin rates by SIC should be applied to provincial sales to obtain estimates of output. The T-4 wages and salaries and Revenue Canada source for net income should be used for estimates of salaries and wages and net income. Estimates of surplus by province should be made using the national surplus/output ratio by kind of business. However, these estimates should be adjusted whenever the intermediate/output ratios are not appropriate.

Other Services

Most data used are obtained from Services Division. However, IMAD uses T-4 data for the computer and professional services industries and motion picture production and distribution since for these three industries the Services Division data show head office activity in the province where the head office is situated which is not necessarily the province of production (establishment). The IOD is in the process of reviewing the results of the Services Division Annual Survey of Software Development and Computer Services which will be based on province of location of the establishment. If feasible, these provincial data

will be used. For professional services, data from Revenue Canada (the Green Book) by province will be used.

Other Issues

During the discussions some other issues were also identified and are listed below.

(1) Wages and Salaries in the Balance of Payments

Presently, wages and salaries paid by international organizations in Canada, and wages and salaries paid to commuters etc. are treated as services in the Canadian Balance of Payments Account. The new SNA and Balance of Payments manuals recommend articulation of such compensation of employees as a factor income. The committee agreed to adopt the SNA treatment in the next historical revision.

(2) Petroleum Incentive Program (PIPS)

According to the SNA, mineral explorations, whether successful or not, are treated as fixed capital formation. The PIPS grants were made in the early 1980's to finance capital expenditure on drilling. Consistent with the SNA, these exploration expenditures were included in the fixed capital formation and in the capital stock values on which annual depreciation is calculated.

However, for income tax purposes, the company cannot include depreciation related to these assets in their books and, therefore, there is a problem in matching profits from income tax data with SNA net profits. For the most part, this is not a problem in that there are usually productive wells against which costs of dry holes can be amortized. In some cases, however, there is insufficient production with the result that there is large depreciation against (virtually) no production.

Therefore, it was agreed that, <u>for this instance only</u>, the PIPs should be capitalized in the period of payment/receipt and then removed from the capital stock. The effect of this treatment would be to reduce

the overstatement of depreciation in the GDP. However, in as much as the sum of the 13 regional accounts should equal the national total, the PIPs miscellaneous valuation adjustments for these cases will need to be offset in other provinces, until the historical revisions in 1997.

(3) Provincial Allocation of Capital Expenditures on Floating Machinery by the Investment and Capital Stock Division (ICSD)

The ICSD currently allocates the capital expenditures on floating machinery based on the sources of the provincial revenue. This procedure should be examined in the light of the SNA to ensure that the capital expenditure is consistent with output allocation at the provincial level. Given the time constraint for the 1990 provincial benchmark Input-Output accounts, the corrections if any should be incorporated in the next historical revision.

(4) Interest on the Public Debt

Ideally, two measures for the interest on the public debt should be calculated: one on a domestic basis (who pays the interest on the debt) and the other on a national basis (who receives the interest on the debt).

The present allocation procedure in NAED has to be improved since the provincial estimates rely on a mixture of the two concepts. In the case of interest paid on Canada Savings Bonds and all other loan instruments (including marketable bonds), the method used attempts to reflect interest received by province, while the provincial allocation of interest paid to non-residents reflects the payer of the debt (i.e. allocated per capita). In addition, the provincial estimates for interest of all other loan instruments are of poor quality since they are derived from data reflecting the original point of sale of those debt instruments, which leads to approximately 75% being assigned to Ontario.

(5) Implementation of the Working Group's Recommendations and its Implications for the Revision of Time Series of Production Accounts

The Working Group has established concepts and methodologies to be used for the 1990 benchmark provincial accounts. The group's mandate does not cover the implementation of recommendations affecting the historical production accounts. There is a concern, however, that if NAED and IMAD were to align their 1990 estimates with the Input-Output benchmark, it would create a break in the time series which can only be corrected in the next historical revision. IMAD will revise their current price GDP estimates back to 1984 and therefore will be consistent with IOD for GDP by industry. NAED will not revise until the next historical revision. The GDP estimates for agriculture at the national level will, however, remain different for 1984 and 1988 because IOD will incorporate the intercensal revisions for these two years in the next historical revision.

APPENDIX

Methodology used to Allocate Federal and Defence Expenditures and Revenues, and Federal Subsidies by Province for the 1990 Provincial I/O Accounts

(A) *Federal and Defence Expenditures and Revenues*

Concept of "Province"

The concept used in allocating federal government expenditures by province is that of province of residence of the operation (or in some cases province of intended use). The province of residence of the operation is where the goods/services purchased are used or in some cases where they are intended to be used (intended use in the case of goods delivered to warehouses to be reshipped later as and when required and allocated based on data provided by the respective departments. Storage has not been considered to be use.)

"Province" also includes abroad (outside Canada) for "territorial enclaves" such as embassies or posts abroad and DND bases abroad. Revenues are allocated by province based on the province where they are earned (where the operation that generated the revenue is located).

(1) *Sources of Provincial Allocation Data - Federal*

(i) Responsibility Centre/Province Code Relationship

The main basis of allocating federal departmental expenditures and revenues by province is the responsibility centre/ province code relationship that exists in many federal government departmental accounting systems. In the federal government accounting system, a Responsibility Centre is an organizational entity "responsible" (accountable) for an expenditure/revenue.

Under this method, expenditures/revenues are charged against a responsibility centre (RC) budget as they are incurred by line object code. Each responsibility centre (RC) is identifiable by province of location and as such expenditures and revenues of each RC are aggregated by province, economic object code (ECON) and line object code (LOBJ) at year end. In general, the goods/services charged to the budget of a responsibility centre are used by that responsibility centre in the province in which the operation or RC is located. There are several instances where this is not the case and departments assist in identifying these areas and adjustments are made by I/O to the RC/province statements by line object to reflect the province where the operation is located.

Source:

Data based on the RC/province code relationship contain expenditure/revenue details for several departments by line object/economic object by province in either tape, diskette, or hardcopy form and are obtained from:

(a) Departmental Reporting System (DRS) maintained by the department of Government Services (formerly SSC).

(b) Various other departmental accounting systems for non-DRS clients.

It should be noted that not all departments maintain dictionaries linking RC's to provinces. For these departments, alternative allocation methods are used as outlined below.

(ii) Other Allocation Methods/Sources

(a) In some cases, departments which do not have a RC/province code relationship specified in their accounting system provide additional information by province similar to that provided in the RC/province code database described above.

(b) For other expenditures, allocation patterns used include the following:

(1) Personnel distributions by province of work. This data represents the number of employees by province by department and is mainly used to allocate expenditures such as general office operating expenditures (office supplies, telephones, rentals, etc). The number of employees by province is used rather than the salary levels by province since the nature of the expenditures is more a function of number of employees than the employee's individual salary.

Source:

Federal Government Employment System maintained by Public Institutions Division. This system is based on data provided by the Personnel Applications Centre of SSC and data used is based on province of work by department and agency.

(2) Population of Canada by province for some expenditures such as advertising.

Source: Cansim

(3) Wages and Salaries (w&s)/supplementary labour income (SLI) Data by responsibility centre/province code is not available for these expenditures for use in the 1990 provincial I/O tables. Therefore, the data by province of work provided by Labour Division (based on T-4) will be used to allocate the wages and salaries. Labour Division does not have a provincial allocation for SLI by industry; estimates of SLI by province will be derived by applying the overall provincial ratio of SLI to wages to the wages & salaries value in each province, constrained to the national total SLI by province.

(4) Other allocation data/methods. In some cases, other provincial allocation patterns are used, such as some data from Volume 2 Part II of the Public Accounts, results from some studies performed by the former Intergovernmental Taxation Centre of SSC, or results of other studies done by organizations such as the Treasury Board.

(2) <u>Sources of Provincial Allocation Data - Defence</u> (DND)

Several data sources are used to allocate Defence expenditures by province of residence of the operation (or intended use). It should be noted that DND does have an accounting system similar to the RC/province code system referred to earlier. However, due to the nature of the department and how it operates, the data from the system are not representative of province of residence of the operation since in most cases the area responsible for the budget and spending the money is not the province of residence of the operation. Many items are procured centrally, delivered to warehouses, bases, etc. and it is very difficult (if not impossible) to use an accounting system to keep track of these. Therefore, the following data sources have been developed and used to allocate DND expenditures:

(i) DND Costing System

This system maintained by DND provides information by type of good/service (by line object/economic object) by province. The system is based on "cost" as opposed to "expenditure" and is a summary of the numerous cost factors applicable to the various operations of DND. The cost values (in percentages by province) by ECON are applied to the ECON expenditures, resulting in a distribution by province and commodity. Under the Federal-Provincial Reciprocal Taxation Agreements in place between 1977 and 1990, this system was considered to be a representative base on which to allocate DND expenditures by province of use and on which provincial consumption taxes were paid to the provinces. It is

also considered by I/O to be the best alternative to actual province of residence of the operation data and therefore has been used in this exercise.

(ii) DND Capital Project System

DND has numerous "capital" projects underway in a given year and each project has a manager and project code. Each project manager provides information by project code as to the nature of expenditures (line object) and the distribution by province (or intended use) of the goods purchased. Items such as spare parts are normally assigned by province based on the provincial distribution of the main equipment purchased.

(iii) Salaries and Wages/SLI

Salaries and wages are allocated by province based on province of work and salaries earned in each province. SLI will be allocated by province based on the provincial pattern of salaries and wages, adjusted for the provincial weights of SLI to wages and salaries and constrained by the total SLI by province.

(iv) Other Allocation Sources/Methods

Other allocation methods referred to in Federal (ii) (b) are also used, namely;

(a) distribution of departmental personnel by province of work

(b) population of Canada

(c) other allocation methods (from Federal (b)(4) above)

(B) <u>Federal Subsidies</u>

Federal subsidies by industry are allocated by province based on province of production.

Sources/methods

Subsidy data by province of production cannot be obtained from the RC/province code data referred to above since this data represents province of expenditure (where the payments are made from) and not the province of production (where the subsidies were "used"). However, there are various other sources for the provincial dimension of the federal subsidies by province, namely:

(1) Agricultural subsidies (Industry 1,2 20, and 22 - $1075M or 22% of total federal subsidies)

The provincial distribution of agricultural subsidies is based on detailed data received from Agriculture Division of Statistics Canada. Agriculture Division receives detailed information from Agriculture Canada by program and recipient and provincial data are derived based on province of production. Adjustments are made to the cash values to obtain subsidy values on an accrual basis.

(2) Other main subsidies

Data for the following subsidies are obtained from the respective recipients or departments who make the payments:

CBC (Ind 175)

CMHC (Ind 187)

Transport - Rail(Ind 163); Water(Ind 164); Truck(Ind 165)

Canada Post (Ind 178)

These 6 areas total $3277M or 68% of the total federal subsidies. Therefore, using the data sources from (i) and (ii) above, almost 90% ($4352M) of the total federal subsidies ($4841M) have been allocated by province.

(3) Other federal subsidies

For the balance of the federal subsidies ($489M), some subsidies were aimed at encouraging employment ($140M) and the provincial distribution for these subsidies is based on the provincial distribution of employment by industry for the respective industries.

For the remaining subsidies by industry not yet allocated by province ($349M), the industry output by province was used.