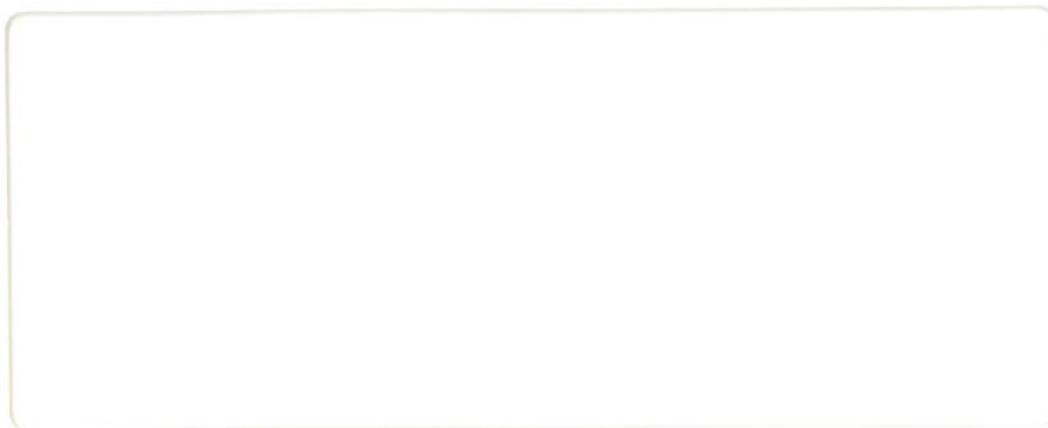


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**International Comparability of Domestic Economies :
Recent Successes and Future Challenges**

By

P.S.K. Murty

80

November 8, 1996

Prepared for presentation at Graduate Seminars of California State University -- one in the Department of Political Science, and another in the Department of Statistics and Economics -- to be held on October 31, 1996. The author thanks Dr. Donald Bray (Political Science) and Dr. Neil Garston (Economics and Statistics) of California State University for their excellent comments and discussion in the seminars. He also thanks his colleagues Yusuf Siddiqi, Nugent Miller, Mehrzad Salem, Dave Van Luven, Seymour Berger, Joel Diena, and Aftab Syed for their valuable comments. The views expressed in this paper are those of the author and not necessarily those of Statistics Canada. The author appreciates the technical services of Diane Smith and thanks her for the contribution.

INTERNATIONAL COMPARABILITY OF DOMESTIC ECONOMIES : Recent Successes and Future Challenges

BY

P. S. K. MURTY

Prepared for presentation at Graduate Seminars of California State University -- one in the Department of Political Science, and another in the Department of Statistics and Economics -- to be held on October 31, 1996. The author thanks Dr. Donald Bray (Political Science) and Dr. Neil Garston (Economics and Statistics) of California State University for their excellent comments and discussion in the seminars. He also thanks his colleagues Yusuf Siddiqi, Nugent Miller, Mehrzad Salem, Dave Van Luven, Seymour Berger, Joel Diena, and Aftab Syed for their valuable comments. The views expressed in this paper are those of the author and not necessarily those of Statistics Canada. The author appreciates the technical services of Diane Smith and thanks her for the contribution.

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in the dimension of inter-country studies. Of course, the criteria, will depend on the purposes for which the studies are conducted.

This paper is organized into seven sections. First section gives an introduction and the second discusses definitions and purposes of international comparisons. The third section reviews how Statistical Offices have been coping with demands for important statistics covering domestic economies. While the fourth section gives a sketch of international involvement, the fifth describes content of Canadian System of National Accounts. The sixth section highlights future developmental work and the seventh summarizes the discussion.

II. Definitions and Purposes of International Comparisons

Before dealing with the subject, let us examine definitions of special terms. The term "Domestic Economy" refers to a country's "Economic Territory" as defined in the 1993 International Macro-Economic Analytical Framework called the System of National Accounts jointly produced by five international organizations:

- (i) Commission of the European Communities;

embassies physically located within the geographical boundaries of Canada. Having defined the term "Domestic Economies", let us start by posing two simple questions:

- (i) Who needs international comparisons of domestic economies?
- (ii) What is the main measure of economic activities that is generally compared internationally?

To answer the first question, international comparisons are routinely done by governments of countries, business establishments, international organizations, universities and other economic analysts.

In answer to the second question, the main single measure which indicates the level of all economic activities and internationally compared is the per capita Gross Domestic Product (GDP).

GDP consists of the total "unduplicated" value of goods and services produced by "residents" within the domestic economy and it is a comprehensive measure representing a country's economy. As we see in this definition, it should be "unduplicated" and produced by "residents" in order to be qualified

as GDP.

To clarify the term "unduplicated", let us take a simple example for a better understanding. Suppose, a farmer produced wheat and sold it for \$1000 to the miller. Let us assume for simplicity that he has no expenses for seeds and fertilizer, etc.

The miller processed the wheat and sold the flour to the baker for \$1200.

Then, the baker processed the flour into bread and sold it to the consumer for \$1500.

Assuming there were no other transactions in the economy, the GDP is only \$1500. The value of wheat, namely, \$1000 is counted only once along with the added values of \$200 from the miller, and \$300 from the baker which amounted to \$500 as shown below. It should be noted that the value of wheat which is \$1000 appeared three times -- once with the farmer, second time with the miller, and third time with the baker, but counted only once and there is no duplication in this measure of \$1500.

Value added by the farmer =	\$1000
Value added by the miller (1200 less 1000) =	\$200
Value added by the baker (1500 less 1200) =	\$300
Total added value or GDP in these transactions =	\$1500

Clearly, if some countries did not adequately follow this method of calculating the GDP (e.g. by erroneously counting some of the intermediate inputs like flour as final outputs and thus partially duplicating value added), international comparability of per-capita GDP, which is normally used for international comparison, would be seriously distorted.

Now, let us examine the term "resident".² According to the 1993 international System of National Accounts, "resident" means both individuals and institutions such as government agencies, corporations, and non-profit organizations which have a "centre of economic interest" like a building or a dwelling and engage in economic activities for one year or more in the country's Economic Territory defined earlier. Logically, then, any one who has a centre of economic interest for less than a year has to be classified as

² Ibid., p. 319

a "non-resident".

These definitions of "Domestic Economies" and "resident" determine the boundaries of domestic production of any country. The statistical measures such as GDP are produced in the context of these and other definitions. It should be noted in this connection that if the internationally standardized concepts such as "resident" are not uniformly applied by all countries, the GDP measure could lose its comparability .

Let us then look at the purposes for which data are internationally compared for domestic economies.

Naturally, the purposes of international comparisons depend on the institutions that are doing the comparative studies.

As far as governments are concerned, the following are the main purposes:

- (i) to compare and contrast the growth rates of GDP and productivity in order to determine the sources of differences and take remedial measures.

In open economies, growth is interlinked between countries due to

interdependent factors. For example, in Canada, the Finance Minister uses data from USA and other OECD countries in the annual Budget speeches.

- (ii) to assess their own competitiveness for improving international trade;
- (iii) to assess the strengths and weaknesses of their economies and to eliminate the weaknesses through international cooperation and aid programs; and
- (iv) to learn from other countries' experiences in order to decide upon appropriate policies. For example, one country's tax measures might have been effective in terms of raising revenue without hindering the economic growth.

Suffice it to say at this stage, that although country-to-country comparability is not the main item on the agenda of most countries, some comparisons of economic statistics with other countries are normally made for various reasons, particularly due to the interrelated nature of the economies.

In addition to governments, business establishments particularly multi-national corporations, which normally seek new markets for their products

and look for new countries to expand their capital investments, also conduct comparative studies using data bases of different countries before making investment and marketing decisions. In recent years, other factors such as the following have intensified international comparative studies by business establishments:

- (i) recent political changes in Eastern Europe, Russia, and China;
- (ii) trend towards privatizing Government Business Enterprises in most countries including Western Europe;
- (iii) globalization of production and portfolio investment; and
- (iv) trend towards trade liberalization and formation of new trading blocs such as the North American Free Trade Agreement (NAFTA).

International organizations such as the International Monetary Fund, the World Bank, the United Nations, and the OECD use the data of domestic economies for three main reasons:

- (i) to know the relative size of the GDP in order to determine the size of contributions which member countries have to make to finance the operations of the organizations;
- (ii) to analyze other types of economic data such as the

international trade statistics, government expenditures and revenues, government budget deficits, etc. for the evaluation of general economic conditions in the world and its regions and to produce World Economic Reports; and

- (iii) to assess the effectiveness of developmental projects.

For example, the International Monetary Fund, which provides funds to member countries for structural adjustments and in times of balance-of-payments difficulties, makes policy decisions after considerable analysis of domestic economies along with international comparisons.

The World Bank, which provides loans to developing countries, makes considerable use of statistics on domestic economies before appropriate policy decisions are taken. This International Agency also reviews the world economy and publishes World Tables³ showing per capita GDP etc. using countries' databases.

Also, the United Nations through its UN Development Programme (UNDP)

³ World Bank, World Tables, 1994, John Hopkins University Press, London.

which promotes development activities in all areas (eg. farming, fishing, forestry, mining, manufacturing, power generation, housing, transportation, communications, economic planning, public administration) makes extensive use of standardized data on domestic economies to assess the effectiveness of development activities. Evaluations by this agency tend to focus on the relative successes or failures of developmental projects.

Universities use internationally standardized data bases for teaching and research purposes. Moreover, economists, journalists, and other analysts also use these databases to compare and evaluate the performance of domestic economies.

It should be stated at this point that governments of countries generally produce data bases in their own currencies in both current and constant prices. The constant price data bases eliminate the effects of price increases and represent the volume measures. For international comparisons, these constant price statistics are normally converted into a common currency such as the US dollars using appropriate exchange rates. This kind of conversion using exchange rates will only yield data in US

currency, but does not throw light on variations caused by purchasing power disparities in prices of different countries. In order to overcome this limitation, the OECD publishes Purchasing Power Parities⁴ (PPPs) for several countries. The PPPs are the rates of currency conversion that would equalize the purchasing power of different currencies. They are generally used to obtain comparative volume measures as they would yield values eliminating differences in the purchasing power of different currencies. In other words, if a given sum of money is converted into different currencies at PPP rates, it will buy the same basket of goods and services in all countries.

These inter-country evaluations by governments, business establishments, international organizations, universities and others point to the fact that there is a fundamental need for a set of accounts containing internationally standardized concepts, classifications, and coverage for all countries. The availability of these accounts is the prerequisite for any international comparability. That being the case, let us identify the means through which

⁴ Bohdan J.Schultz, International Comparisons Based on Purchasing Power Parities, Statistics Canada, April, 1991

those sets of accounts can be available for international comparative studies.

First, Manuals containing international guidelines, concepts, classifications, and structure of accounts should be available.

Second, governments of countries, particularly their Statistical Offices, should follow the international guidelines, concepts, classifications and implement the international structure to produce data bases covering GDP, labour costs, profit margins, taxes, trade balances, government expenditures and revenues, government budget deficits, national savings, capital formation, exports, imports, inventories, consumer expenditure, etc.

If these two requirements are satisfied, data bases needed for international comparative studies would then be available.

This paper focuses on the extensive nature of these macro-economic basic data bases covering all the economic activities in current prices only. It does not deal with techniques used to deflate the current price values into constant price values or to attain further standardization using Purchasing

Power Parities (PPPs).

III Statistical Offices

Given the domestic and international needs for a standardized data base on domestic economies, let us examine how statistical offices across the world have been coping with demands for these important statistics covering domestic economies.

Data bases contain statistics of several kinds:

- (i) labour statistics which show the level of employees' compensation, wage rates, hours worked, etc;
- (ii) industry GDP which measures contribution of each industry to the economy;
- (iii) other types such as statistics on international trade, prices, agriculture, forestry, mining, manufacturing, construction, transportation, internal retail trade, wholesale trade, population, education, health, etc.

Generally speaking, data on each of these areas are published by government Statistical Offices in separate publications. Also, summaries

are published in so-called Year Books using their own conceptual and classification structures.

In view of these practices and in the context of the need for internationally standardized and comparable data bases, it is absolutely essential to have a separate system integrating all economic statistics into a coherent and comprehensive framework covering all aspects of the economy. Such a system was developed by the United Nations in 1953 and it is called "The System of National Accounts" (SNA)⁵. This system is also referred to as "National Accounts" or "National Economic Accounts" or simply SNA.

What, then, are National Accounts and what do they contain?

First, National Accounts are a set of accounts covering all aspects of the economy.

Secondly, they are comprehensive.

Thirdly, their parts are interrelated and integrated.

Fourthly, they follow internationally accepted conceptual frameworks.

⁵ United Nations, A System of National Accounts and Supporting Tables, New York, 1953

Fifthly, they adopt internationally accepted classification systems such as the Standard Industrial Classification, Standard Harmonized Commodity Classification , Balance of Payments Manual, etc.

Therefore, at the outset, they have all essential elements in terms of international comparability, such as standardized concepts, classifications, coverage, and a set of analytical tables. They are supposed to portray how the economy performed in any given period such as a year, or a quarter or a month.

They provide answers to some of the questions such as the following:

Is it expanding, declining or stagnant?

Where are we in the business cycle?

What is the GDP of specific industries that are producing goods and services?

In other words, they contain all essential features of the domestic economies at the macro level to facilitate economic analysis, economic planning, and economic development activities as they contain statistics for the following areas:

- (i) Production of goods and services;
- (ii) Consumption of goods and services by various sectors of the

economy;

- (iii) Income generation in the production of goods and services;
- (iv) Capital formation;
- (v) Exports and Imports of goods and services;
- (vi) Various indicators of price inflation;
- (vii) National savings and investment;
- (viii) Balance of payments and international transactions;
- (ix) Industry outputs and inputs; and
- (x) The GDP or Gross Domestic Product.

These key economic indicators provide a statistical picture of the macro-economic structure at any given point in time. They are the most powerful and indispensable tools for development planning and economic analysis. They are essential for formulating fiscal and monetary policies of all countries as government policy makers need them in their daily activities. Policy makers need them, because these key indicators measure changes in growth of output, patterns in income flows, composition of demand and supply, strengths and weaknesses in production, etc. Without these key indicators, which are available only in National Accounts, it would be

impossible to determine what is happening in the economy.

As the introduction of an international system needs the acceptance of the participating countries, let us review briefly how this international involvement evolved over the years for a better understanding of its inherent problems.

IV International Involvement and the Latest Developments

The official interest in economic accounts at the international level can be traced back to 1928 when the League of Nations⁶ held a conference relating to economic statistics to encourage all countries to compile economic statistics, to adopt standard concepts and methods for international comparability and for assessment of different levels of economic development. Thus, while the need of economic statistics for fiscal and monetary policies felt by the governments of countries strengthened the official interest in economic accounts around the world, the need and importance for international comparability of economies felt by the League of Nations strengthened the official interest of the international community.

⁶ United Nations, System of National Accounts, 1993, op.cit., p xxxvii

This official interest in international comparability influenced the development of uniform standards and guidelines for concepts and classifications with a common framework for statistical presentation. As far as countries were concerned, the international comparability was not the main driving force at that time to produce economic statistics. Rather, it was the individual need for each country to assess its own economic performance that drove countries to allocate resources and to develop the necessary statistical infrastructure.

In Canada, the development of National Accounts was powerfully influenced by the experience of the Great Depression and the Second World War.

The depression of the 1930's posed a challenge for economists and statisticians to produce reliable quantitative data on many aspects of the economy. In fact, in 1933, there was no one in a Canadian policy making position who knew how far production and incomes had fallen from the peak in 1929, or for that matter, how many people were unemployed. There were no figures available to assess the full dimensions of the depression. The statistical system was not developed at that stage to a point where such critically important information on the state of the economy was available. On top of that, there were also problems associated with mobilization and

the operation of a controlled wartime economy in the 1940's. These factors influenced governments to develop the necessary infrastructure in order to produce the essential statistics to manage their own domestic economies.

Thus, during the war, efforts were made within federal government departments to produce rough estimates of National Accounts, so that the government could use them for planning and postwar reconstruction. In 1944, discussions were held in Washington, DC with US and UK experts on the question of developing an appropriate framework for the National Accounts. After the end of war hostilities, concerted efforts were made in Canada to develop National Accounts. These developments also took place in other countries. They culminated in international action taken by the United Nations. The UN issued for the first time A System of National Accounts in 1953. This document was later revised in 1968⁷. These international documents provided guidelines to Statistical Offices to develop National accounts and they helped many countries to develop the GDP accounts. After 25 years, another revision took place in 1993. During these four decades, there was considerable progress in the international

⁷ United Nations, A System of National Accounts, New York, 1968

COUNTRIES COVERED BY UNITED NATIONS PUBLICATIONS ON NATIONAL ACCOUNTS

<u>YEAR</u>	<u>PUBLICATION</u>	<u>TOTAL NUMBER OF COUNTRIES INCLUDED</u>
1950	<u>National Income Statistics</u> <u>1938-48⁸</u>	41
1958	<u>Yearbook of National Accounts</u> <u>Statistics⁹</u>	70
1968	<u>Yearbook of National Accounts</u> <u>Statistics, 1968; volume 1</u> <u>Individual Country Data¹⁰</u>	116
1988	<u>National Accounts Statistics, Main</u> <u>Aggregates and Detailed Tables¹¹,</u> <u>1988, Part 1</u>	170

⁸ United Nations, System of National Accounts, 1993, p. xxxviii

⁹ Ibid., p. xl

¹⁰ United Nations, Yearbook of National Accounts Statistics, 1968, volume 1, Individual Country Data, New York, 1969, p. v

¹¹ United Nations, National Accounts Statistics: Main Aggregates and Detailed Tables, 1988, Part 1, New York, 1990, p. v.

Like its predecessors, the 1993 SNA represents only another stage in the evolution of National Accounts. Although there are still unresolved issues, this document of over 700 pages contains considerable improvements over the previous documents.

Improvements implemented in the 1993 SNA are:

- (i) Clarification and justification for all concepts presented in the system. For example, it has been clarified that expenditures on education should be treated as current consumption expenditures, but not capital formation. In this case, students consume education services produced by the schools, colleges, and universities¹².
- (ii) Harmonized conceptual framework with other international systems such as the Balance of Payments Manual of the International Monetary Fund which was also revised in 1993 (5th edition, BPM -5); and
- (iii) Introduced a number of new features reflecting the analytical and policy concerns from countries and international organizations. For example, all defence expenditures used to be government current

¹² United Nations, System of National Accounts, 1993, op.cit., p. 10

this stage the broad coverage of National Accounts, so that improvements that are still needed can be better understood.

The Canadian System of National Accounts consists of four components.

- (i) National Income and Expenditure Accounts;
- (ii) Input Output accounts;
- (iii) Financial Flow Accounts and Balance Sheets; and
- (iv) Balance of Payments and International Investment Position.

Although there are four types of accounts, two of them, namely, the National Income and Expenditure Accounts and Input-Output Accounts measure the production and consumption of goods and services in the total economy of the country in both current and constant prices. The availability of these accounts in both current and constant prices makes inter-temporal comparisons of volumes and prices possible for economic analysis.

Financial Flow Accounts and Balance Sheets are an extension of the National Income and Expenditure Accounts and they focus on financial transactions which are associated with acquisition of financial assets and

Description and Coding System (HS). This Harmonized system of classification of commodities is the result of several international agencies such as the International Chamber of Shipping, the General Agreement on Tariffs and Trade (GATT), and the Economic Commission for Europe.

The main principle used in Input-Output Accounts is the balancing of each commodity's production with its disposition. In other words, the supply side is balanced with demand for each commodity in the economy. This commodity balancing technique, unique to Input-Output Accounts, yields numerous advantages.

First, it shows up discrepancies between different basic data sources.

Second, it shows up deficiencies and inconsistencies in diverse classification system in use.

Third, it forces economists and statisticians to conduct research and analysis in consultation with basic data suppliers to resolve the problems.

At the end of this exercise, the data become firmer at the commodity, industry, and sectoral levels for both details and aggregates. That is why, after completion of the commodity balancing exercise, statistical series

developed in Input-Output Accounts become bench-marks for the entire Canadian System of National Accounts.

Incidentally, it may be mentioned that commodity and industry details in integrated Input-Output Accounts also contain details of margins such as wholesale margin, retail margin, transport margin, and tax margin. These margins make up the difference between the producer and purchaser price values. As Input-Output Accounts provide the necessary breakdown of tax margin by type of tax for each commodity, industry, and sector in the economy, Finance Ministries at Federal and Provincial levels tend to use these details extensively for fiscal policy decisions. For example, in Canada, a Goods and Services Tax was introduced in 1991. Before the introduction of this new tax, extensive use was made of Input-Output Accounts as they contained necessary details for research on the implication of this new tax.

In general, National Accounts are based on the principle of recording transactors and their transactions in the economy. In other words, the entire System of National Accounts is integrated in definition, coverage, and

Each of these sectors represents a class of transactors based on the particular role it plays in the economy. Thus, personal and households sector includes all persons and non-profit organizations serving households. Government sector includes public authorities and encompasses all levels of government - federal, provincial or state, and local -- and the administrative agencies that come under their respective jurisdictions. As we all know, this government sector exerts a powerful influence on the level and direction of economic activity by its spending patterns and financing arrangements. The government sector not only provides goods and services to the community, but also redistributes income and regulates economic activity through fiscal and monetary policies.

Business sector covers both incorporated and un-incorporated transactors who produce goods and services for sale at a price not only to cover costs but also to yield a profit.

These three sectors are called domestic sectors as they are residents in the country concerned. All transactions that take place between these three domestic sectors and the rest of the world are grouped together into the

fourth sector, called non-resident sector. In other words, this non-resident sector contains all transactions between domestic sectors and foreign countries. Thus, for example, if Canadians buy apples and oranges from the US, such transactions will be reflected in imports of Canada and exports of US. Conversely, if the foreign countries buy wheat from Canada, the transaction will be reflected in exports of Canada and imports of the concerned countries.

Turning now to main transactions that take place in the economy, there are two main types.

- (i) Those transactions that have quid pro quo in them. For example, buying and selling goods and services where A produces and sells to B for a certain consideration. B pays the price and obtains goods and services from A. With this type of transaction, commodities are exchanged between transactors. All transactions of this type are measured in the exchange economy.
- (ii) The other type of economy is the Grants economy where A gives something exchangeable to B and in return B gives

nothing exchangeable to A. There is thus a one-way transfer or a grant from A to B. A is the donor while B is the donee (recipient).

While National Accounts deal extensively with the exchange economy in the four types of accounts mentioned earlier, they have very limited information on Grants Economy. No doubt, some transfer payment tables are provided, but they are not as elaborate as those of the exchange economy.

VI Future Developmental Work

We started off at the beginning with the premise that international comparisons can be accomplished through the SNA data bases. Although the National Accounts provide the bulk of the data needed for domestic economies, there are still some areas for future developmental work. They can be summarized as follows:

- (i) The measurement of non-market household production;
- (ii) Negatives in the economy;
- (iii) Border trade leakages; and
- (iv) Development of subsidiary accounts called "satellite accounts"

for international comparisons.

(iii) Border Trade Leakage

In developing countries, border trade leakage, namely, through unofficial channels rather than through regular official channels of customs posts, is a serious problem. Goods traded through unofficial channels at borders are a part of countries' production and it is not usually reflected in official trade statistics normally derived through customs documents unless specific adjustments are made with appropriate estimates covering these types of leakages. If these adjustments are not made, statistics of external trade will not be comparable with countries which have no similar problems. In order to solve this trade-leakage problem, it is suggested that the concerned countries should introduce a technique called "Trade Analysis and Balancing" (TAB).

The "Trade Analysis and Balancing" exercise suggested here is the same as the "Commodity Balancing" technique of Input-Output Accounts. In this mechanism, the following formulas are used to balance each commodity's disposition with its supply:

(i) Total supply of a commodity = Total disposition of that commodity

(ii) Total supply should be disaggregated into two main components:

Total supply =

(a) Total domestic output or production;

PLUS

(b) Total imports

(iii) Total disposition should also be disaggregated into its components:

Total disposition =

(a) Total consumption by business establishments as intermediate inputs to produce other commodities;

PLUS

(b) Total consumption by government to deliver government services to the public;

PLUS

(c) Total consumption by persons;

PLUS

(d) Total capital formation by business establishments;

PLUS

(e) Total capital formation by government;

PLUS

(f) Addition to inventories;

DEDUCT

(g) Withdrawals from inventories as they relate to past production;

PLUS

(h) Exports

of the economy without overburdening the central system which is common to all countries. For example, if a country has a need to have more details for health or environment, satellite accounts with the required details can be developed keeping the main accounts intact.

However, it should be noted that the development of satellite accounts involves considerable time and resources. Unless additional resources are assigned to these tasks, officials whose time is already committed to regular production for the existing system tend to assign low priority to the basic research work. Although, in theory, the development of satellite accounts is feasible, any basic research and developmental work over and above the operational research is normally put aside due to resource constraints. Consequently, this area may continue to be neglected. In other words, there will be recognition that it is an important area for basic research but nobody can do anything about it because of governments' resource constraints.

(v) Illegal transactions

In the Canadian National Accounts, illegal transactions are not included on

the basis of a convention that economic production should include “only the products that society recognizes as legitimate”¹³.

It is recognized, however, that even if this convention were not accepted, it would be virtually impossible to develop statistics for this area due to practical difficulties.

The 1993 international System of National Accounts¹⁴, discussed this problem and took the position that illegal transactions should be treated the same way as legal transactions, because exclusion of illegal transactions in the National Accounts would result in overestimation of savings. This area is one of the challenges to Statistical Offices to develop the required statistics.

(vi) GDP of International Organizations

In the National Accounts, International Organizations are classified to the

¹³ Statistics Canada, National Income and Expenditure Accounts, volume 3. A Guide to the National Income and Expenditure Accounts, (Definitions-Concepts-Sources-Methods), Ottawa, September 1975, p. 62

¹⁴ United Nations, System of National Accounts, 1993, op. cit., p. 77

non-resident sector¹⁵ in the same way as foreign embassies of countries.

While the GDP of foreign embassies is included in the GDP of concerned countries, the GDP of International Organizations is not available anywhere at the present time. If someone wants to conduct a study on the GDP of the world, statistics on the part relating to International Organizations would be missing. This part would also be needed to balance “World exports” with “World imports”.

This is yet another challenge for future work.

Although the above is not a complete list of all future challenges, it has to be noted that there are several of them as explained in this paper.

Universities can perhaps start full time courses in National Accounts and International Comparability of Domestic Economies and develop more experts in the field, so that the current generation could position itself to respond better to the new challenges. Also, research projects can be designed and directed to resolve the outstanding issues and to build satellite accounts in various areas such as Health, Crime, Grants Economy,

¹⁵ Ibid., p. 109

and others.

VII Summary and Conclusions

In summary, then, the growing need felt by international organizations for standardized and comparable data on domestic economies after the Second World War gave considerable support for the development of a system to measure national income. The United Nations developed such a system and it is called the System of National Accounts or simply, National Accounts.

Thus, National Accounts became the means through which domestic economies could be assessed and evaluated for their stage of development. In addition, they also became the means through which international comparisons could be made. This dual purpose is achieved as a result of their standardization in concepts and classification at the international level for presentation of statistics in analytical tables. Without this main ingredient of uniformity in concepts and classification, which is inherent in the present National Accounts, this dual purpose cannot be achieved.

In view of this, National Accounts present very indispensable tools for

domestic and international economic analysis. Despite the long history of National Accounts, there are still some items such as those mentioned in this paper for further research and improvements. The field of National Accounts is indeed a vast one and needs the participation of all concerned, namely, academicians, students, and government officials. It needs, then, to be recognized by all concerned as a subject in itself which deserves a full course in Economics rather than a few lectures. This means, the subject needs teaching of a full semester or a quarter in order to render it full justice, particularly in the context of extensive literature and its importance for general understanding of events that take place in domestic economies. In other words, all professionals -- be it business executives, political scientists, economists, statisticians, government policy makers -- need an understanding of the present day world around us and it is not a luxury, but a necessity, to possess the knowledge of National Accounts. The specialized knowledge in this important area should not be left to few bureaucrats in government offices. Others would also be benefitted by this knowledge, whether it is in their careers or for proper understanding of general economic conditions prevailing in the world. These days, when considerable discussion on government deficits, interest rates, taxes,

exports, imports, exchange rates, etc. takes place, an informed current generation will be able to participate better and contribute more significantly to the debates in question.

Undoubtedly, these issues will be taught in general economics courses, but the manner in which these components get integrated into the overall economic analytical framework in a consistent manner could be known more fully through a formal course in National Accounts.

Therefore, universities should consider the introduction of a full course for National Accounts in order to produce more experts to meet the emerging challenges. After all, the field of National Accounts is not a dull subject; it is a lively and interesting subject which offers a frontier for future developmental work. There are certainly as many interesting and thought-provoking questions in this field as we have in other fields such as political science, sociology, or statistics. Students and professors have nothing to lose in starting a full course and they have everything to gain in the long run. The society too will be enriched as more people will be able to participate in decision making processes.

Moreover, all those who are interested in conducting international

comparative studies of domestic economies (such as international organizations, governments of countries, multi-national corporations, and others) would be able to recruit their personnel from the graduating classes at Universities which teach National Accounts through full time courses.

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