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# Common uses of national accounts for economic policy and some implications for the next SNA

*Derek Blades, 20 February 2006, Vientiane*

Compiling national accounts is an expensive business in most countries and national accountants must ensure that they give value for money. Value for money means providing the kinds of data that their customers actually want rather than elaborating a comprehensive set of national accounts most of which may be of purely academic interest. This paper looks at how national accounts are used by analysts at the OECD and draws some broad conclusions from this about the next version of the SNA.

## Recent History

There have been many changes in how national accounts statistics have been used in the 50 years or so since SNA-type statistics became widely available. Some of the earliest official national accounts were published in the United Kingdom in order to provide an empirical basis for the macro-economic theories that were being developed in the 1930s and 1940s by Maynard Keynes and other economists in Continental Europe and in the United States. The national accounts were used to show the relationships between consumption, investment and saving and how government manipulation of these aggregates could influence overall economic activity and, in particular, the level of employment. These early accounts were also used by J. M. Keynes in a short 1940 pamphlet, *How to Pay for the War*, showing how resources could be reallocated towards government consumption by reducing business investment and household expenditure.

In the 1950s and 1960s, national accounts became available for a wide range of countries. They were primarily used to measure "economic growth" which had by then come to mean rising per capita GDP. In this period several influential studies were published on how GDP growth varied between countries and over time[1]. What were the causes of these differences and what government policies could make GDP grow faster? Interest in "growth accounting" – identifying the factors that contribute to rising GDP – has continued to the present time. In 2001 the OECD Development Centre published Angus Maddison's monumental growth accounting study, *The World Economy: A Millennial Perspective.*

In the 1960s and 1970s, several developing countries – India, Egypt and Algeria among others – experimented with central planning and some OECD countries tried a less rigid form sometimes referred to as "indicative" planning. All such plans framed their targets in terms of growth of GDP, capital formation, output, consumption and other national accounts aggregates, and they often used input-output techniques to assess the resource requirements of different plan targets.

At least in OECD countries, planning had become unfashionable by the 1980s. The proper economic role for governments came to be seen as the provision of stable macroeconomic conditions and of a regulatory framework favourable to private enterprise. In what follows, we

1. See, for example, Simon Kuznets, *Modern economic growth: Rate, structure and spread*. New Haven: Yale University Press, 1966 and Edward Denison, *Why Growth Rates Differ,* Brookings Institution, Washington D.C. 1967.

consider how national accounts statistics are currently used by the OECD Secretariat, in conjunction with Member countries, to:

- devise policies to maintain stable macro-economic conditions; and
- create appropriate regulatory systems through what is usually referred to as structural adjustment.

**Statistics needed for macroeconomic policy**

In most OECD countries, the broad aim of macroeconomic policy is to maintain growth of real GDP and employment at rates that are consistent with stable rates of price inflation[2]. Of course, within the OECD area, governments give different emphasis to employment versus price inflation and there is increasing concern with the sustainability of different growth patterns rather than with the growth of GDP as an end in itself. Nevertheless, non-inflationary growth of GDP and employment is the central aim of macroeconomic policy in most Member countries.

Monetary and fiscal policy instruments are available to attain the objective of non-inflationary growth. Manipulation of interest rates by central banks is the main monetary instrument, while taxation and government expenditures are the fiscal instruments available[3].

The exercise of macroeconomic policy requires monitoring the growth of GDP, employment, price inflation and related variables in the recent past, and forecasting likely developments in the next 6 to 12 months. The OECD Secretariat carries out a monitoring/forecasting exercise for its Member countries and the results are published twice a year in the OECD *Economic Outlook.* The econometric model that is used for the OECD forecasts is similar in most respects to the models developed by the Member countries themselves and it is used here to show the kinds of economic statistics on which macro-economic policy is generally based. They are listed in Table 1.

The variables in Table 1 are divided into four subject areas: *employment, income and inflation*, *financial indicators*; *demand and output*; and *external indicators*. Within each group variables drawn directly from the national accounts are printed in bold type and non-national accounting variables are in italics. Of the 29 variables in the table just under half (14) are drawn directly from the national accounts. Two points deserve attention:

- The range of national accounts variables in Table 1 is quite limited. It covers the goods and services account at constant prices, the household sector accounts up to saving, the general government accounts up to net lending (referred to as "general government financial balance" in Table 1) and the rest of the world accounts (to obtain "current account balance"). If macro-economic policy is agreed to be a principal use of national

2. The acronym NAIRU (non-accelerating inflation rate of unemployment) refers to the supposed trade off between inflation and joblessness: it is the rate of unemployment consistent with stable inflation. Identification of the NAIRU for Member countries is a major concern of OECD analysts.

3 . The use of both monetary and fiscal instruments is now restricted for the Euro 11 countries. Interest rates are controlled by the European Central Bank (ECB) and the *Stability Pact* restricts government expenditures by limiting budget deficits as a percentage of GDP. In effect, macroeconomic policy for the Euro 11 is now largely the responsibility of the ECB.

accounts, the priority parts of the SNA can be identified as the goods and services accounts and the relevant parts of the rest of the world accounts and of the sector accounts for households and general government. (This was one of the main considerations that lay behind the ISWGNA's recommended *Milestones* for the implementation of the 1993 SNA[4].)

- Several national accounts aggregates in Table 1 do not appear at all in the SNA – *final domestic demand*, which is the sum of private and government consumption and gross fixed investment, and *total domestic demand*, which also includes stockbuilding. Moreover, the breakdown of gross fixed investment into public, residential and non-residential cannot be easily obtained from the standard SNA accounts. The economists' aim is to identify business investment – i.e. non-residential, non-public investment – but business investment does not appear as such in the SNA. Clearly there are differences between what economists want and what the 1993 SNA provides[5].

Macroeconomic models based on the kinds of statistics listed in Table 1 provide a medium-term framework for macro-policy. But central banks and finance ministries need to take decisions before many of the variables in Table 1 become available. Even in countries where quarterly national accounts are released rapidly after the quarter, the national accounts variables listed in Table 1 will usually be the last to arrive. Short-term macro-policy, therefore, and interest rate policy in particular, may not make much use of national accounts statistics. Instead, policy decisions are based on rapidly available statistics such as the consumer price index, (or an index of "core inflation"), employment and unemployment, unit labour costs and "confidence indicators" from business tendency surveys. The latter are of growing importance in several OECD countries. The Tankan[6] survey in Japan is closely followed by the Bank of Japan, the Purchasing Managers Index[7] is influential in interest rate decisions by the United States Federal Reserve Board and the IFO (Munich Institute) survey is closely watched by the European Central Bank. The special value of these surveys is that their results are available rapidly, they collect information from key actors in the economy and they are forward-looking in that they ask about the intentions of business people concerning employment, production and investment in the near future.

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4. The *Milestones* have now been replaced by a set of implementation criteria based on the new features of the 1993 SNA. While these criteria accurately measure the extent to which countries are following the 1993 SNA rather than some earlier system, they provide no guidance (as did the *Milestones*) to countries in planning the implementation of the new system.

5. The terminology used in Table 1 is taken from the OECD *Economic Outlook.* Non-SNA terms include *general government financial balance*, *stock building, gross fixed investment, invisibles* and *private consumption*. These traditional terms are still preferred by most English-speaking economists rather than the more precise - though often pedantic - terms used in the SNA.

6. The Tankan survey carried out by the Bank of Japan is a monthly survey of trends and intentions in a sample of all private enterprises in Japan employing twenty or more persons in the wholesaling, retailing, services, and leasing industries and fifty or more persons in other activities. See http://www2.boj.or.jp/en/dlong/tk/tkyoko.htm

7 The PMI is a composite index based on five seasonally adjusted indices, each derived from monthly surveys conducted among purchasing managers in the manufacturing sector.

| Table1 National accounts and other economic variables used in OECD semi-annual forecasts | |
|---|---|
| ***Employment, income and inflation*** | *Employment*<br>*Unemployment rate*<br>*Compensation per employee*<br>*Unit labour cost*<br>*Labour productivity* |
| ***Financial indicators*** | **Household saving ratio**<br>**General government financial balance**<br>*Short term interest rates*<br>*Long term interest rates* |
| ***Demand and output*** | **Private consumption**<br>**Government consumption**<br>**Gross fixed investment**<br>**Public**<br>**Residential**<br>**Non-residential**<br>**Final domestic demand**<br>**Stockbuilding**<br>**Total domestic demand**<br>**Exports of goods and services**<br>**Imports of goods and services**<br>**GDP at market prices** |
| ***External indicators*** | *Merchandise exports*<br>*Merchandise imports*<br>*Invisibles, net*<br>*Current account balance*<br>*Merchandise export volumes*<br>*Merchandise imports, volumes*<br>*Export performance*<br>*Terms of trade* |

**Statistics for structural adjustment policies**

Structural adjustment policies may be aimed at any areas where governments pass laws to regulate the economic, social or environmental behaviour of households or enterprises. They are here classified into those which aim to:

- improve the efficiency of markets for labour, capital and products;
- improve efficiency of government provision of health, education and social services; and
- ensure the sustainability of economic growth for future generations.

For several years now, the regular OECD Economic Surveys of its Member countries have reviewed the structural adjustments made in the recent past by Member countries, identified remaining inefficiencies and suggested policy actions to remedy them. To illustrate the range of actions covered by the term structural adjustment, Table 2 lists some of the issues that have been considered in recent Economic Surveys for Australia, Korea, Poland and the United Sates.

**Table 2. Types of issues covered by structural adjustment policies in OECD countries**

| *Areas for structural adjustment* | *Examples of actions recommended* |
|---|---|
| ***Labour markets*** | Decentralise wage-setting.<br>Ensure minimum wages do not price out low-skilled workers.<br>Increase working time flexibility.<br>Improve education and training. |
| ***Capital markets*** | Improve functioning of government debt market.<br>Improve banking supervision by adopting international standards for loan classification, loss provisioning and accounting.<br>Encourage inflows of foreign direct investment.<br>Reduce the level of government ownership of banks. |
| ***Product markets*** | Reduce the number of state-owned enterprises through privatisation.<br>Ensure that health and safety regulations do not act as trade barriers.<br>Roll back support for farmers.<br>Reduce customs tariffs on goods with very high duties. |
| ***Government provision of health, education and welfare services*** | Improve health care for poor adults.<br>Improve public efforts to provide language training to for immigrant adults.<br>Put a ceiling on the value of owner occupied dwellings that is exempted from the wealth criteria for receiving old-age pensions.<br>Simplify tax laws for pensioners. |
| ***Sustainability/environment*** | Introduce a domestic cap and trade system for $CO_2$ emissions.<br>Reduce use of pesticides and fertilizers that damage the environment.<br>Introduce carbon taxes on all carbon-based energy products including coal and natural gas. |

Designing policies for structural adjustment typically requires access to a wide range of specialised statistics. Very few of these are drawn from the national accounts. Instead they are

usually taken from administrative records maintained by ministries of education, health, environment, agriculture, transport and energy or from data compiled by central banks and tax authorities. But although there is little overlap between the national accounts and the subject matter of structural adjustment policies, this does not mean that national accounts are irrelevant in the area of structural adjustment.

First, GDP statistics are frequently used as a reference point in evaluating the relative performance of countries in a wide range of policy areas. Democratic governments are generally sensitive to claims that they are performing better or worse than their neighbours. This is particularly true for the Member states of the European Union. GDP-based indicators are commonly used to assess relative strengths and weaknesses and identify areas where remedial action may be required. For example:

- energy intensity and $CO_2$ intensity are important indicators in assessing the sustainability of economic growth and show, respectively, the amounts of primary energy used, and of carbon dioxide emitted, per unit of GDP;
- government expenditures on health, education and defence as a percentage of GDP are often used to identify countries which may be devoting exceptionally high or low amounts to these various services;
- tax to GDP ratios (taxes plus social security charges as shares of GDP) are used to assess whether taxes may be stifling enterprise or driving away investment from abroad;
- the stock of foreign direct investment as a percentage of the GDP is used to identify countries whose tax or investment regimes may be unfavourable to foreign investment.
- development aid policies usually include targets for aid flows as a percentage of GNI and the effectiveness of aid programmes may be measured by their impact on total or per capita GDP in recipient countries;
- international programmes aimed at poverty reduction use per capita GDP to identify target countries and measure the effectiveness of poverty reduction measures.

Second, growth accounting techniques are commonly used to identify social and economic factors that may contribute to economic growth and, hence, to identify areas where structural adjustments may be needed. Various econometric techniques are used in such studies but the basic approach is usually to see how much of the growth of GDP could be explained by growth in labour and capital inputs and to then examine how much of the remaining growth of GDP ("multifactor productivity") could be explained by factors such as research and development expenditure, the variability and level of inflation, expenditure on education, levels of taxation, infrastructure investment, openness to foreign trade, etc.

**Lessons for the next SNA**

The data used for **macro-economic policy-making** are drawn from a small part of the full SNA - specifically, final expenditures on the GDP at current and constant prices, the rest of the world account and the sector accounts for government and households. For **structural adjustment policies** all that is generally required are robust measures of GDP at both current and constant prices; they must be robust in the sense that both levels and growth rates are reliable and they must be comparable between countries. If these are accepted as the primary uses of the national accounts, the implications for the next SNA are as follows:

- ***Get the level of GDP right.*** The recent Eurostat "exhaustiveness project" resulted in substantial increases in the level of GDP for both existing members and candidate countries. The Eurostat Secretariat's method identifies seven types of errors that often lead to errors in estimating GDP levels[8]. Should some version of the Eurostat exhaustiveness methodology be incorporated as an integral part of the SNA?

  Two additional problems affecting the level of GDP are estimates of rents for dwellings, which are large in all countries but poorly estimated in most, and depreciation of government assets which is often based on book-valuations that substantially underestimate government contribution to GDP. Specific guidance on the measurement of these two items could usefully be included in the next SNA.

- ***Get the priorities right.*** Many national statistical offices need guidance as regards priorities in implementing the SNA. The United Nation's *Milestones* provided such guidance by suggesting a sequence in the development of the national accounts that corresponds to the main uses of the data. The *Milestones* represented real challenges to the national accountants because they were based on users' needs and not on the ease with which the various tables and accounts could be compiled. Should an updated version of the *Milestones* be included in the SNA?

- ***Keep it simple***. Some of the innovations of the 1993 SNA have proved unhelpful because, although they may be correct in principle, they have proved virtually impossible to implement in practice. Moreover, even if they were to be implemented, they would make only trivial differences to the national accounts aggregates that users actually want. *Valuables* and the *allocation of FISIM* are two examples.

  The framers of the next SNA should ask themselves "Can at least 50% of the nearly 200 member states of the United Nations implement this recommendation in the foreseeable future?" If not, forget it. This would likely rule out the inclusion of *share options* as a component of employee compensation (which is not only difficult to implement but also seems to violate some of the basic principles of national accounting) and identifying the *capital services* component in operating surplus, (which is more like national income *analysis* than national income *accounting*).

  Another item under this heading is the treatment of *defence expenditures*. The 1968 SNA put all purchases of durable goods into intermediate consumption while the 1993 version draws a distinction between weapons and weapons delivery systems on the one hand and non-lethal capital assets on the other. Again this has proved difficult to implement and the answer seems to be to either put all defence expenditures into intermediate consumption (the author's preference) or to treat them all as capital formation (See André Vanoli for why this is wrong[9]).

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[8] The Eurostat methodology is explained in *General Guidelines: Eurostat's Tabular Approach: 2002 Exhaustiveness Project*, Eurostat, Luxembourg, 2000 and in the OECD manual *Measuring the Non-Observed Economy,* Paris 2002.

[9] See, for example, André Vanoli's letter to the ISWGNA available on the United Nations web site: http://unstats.un.org/unsd/nationalaccount/AEG/comments/m1(c)vanoli.pdf

A final caveat relates to *Research and Development* expenditures. The OECD has been working with its member countries for more than 30 years to develop ways of separating R&D from other kinds of consumption expenditures by enterprises, NPISHs and government. Good progress has been made but the latest edition of the *OECD Factbook*[10] warns readers that the comparability of R&D both between countries and over time is still compromised by the changes to data collection systems in several countries and that two major R&D performers, the United States and Korea, use narrower definitions than recommended in the OECD guidelines known as the *Frascati Manual*. If the next SNA proposes the capitalisation of R&D, the international comparability of the accounts will be further undermined.

- ***Meet economists half way.*** Language is one problem. Should national accountants adopt the traditional terminology used by economists – *depreciation* instead of *consumption of fixed capital*, *profit* instead of *operating surplus*, *labour cost* instead of *compensation of employees*…? This may be mainly an Anglophone issue but the second problem is more substantial.

  Economists usually see the world as divided into a "business sector" and everything else and OECD economists spend much time recasting the SNA accounts to derived concepts such as *business investment*, and *labour productivity in the business sector* which requires an estimate of *business value added.* This latter involves separate identification of non-market output, particularly imputed rents of owner occupiers and farm produce for own consumption. The business sector does not fit comfortably with the institutional sectoring of the 1993 System. But at the very least, the components needed to derive business value added should be "compulsory" lines in the accounts.

- ***International comparisons.*** When GDP is used to standardise statistics such as $CO_2$ emissions, taxes, education expenditures, energy use, etc., with a view to making international comparisons, PPPs are usually needed to ensure that the comparisons are based on real GDP and are not distorted by differences in price levels. Three things matter for calculating PPPs. In order of importance these are – price data, expenditure weights and aggregation methods. The next SNA can draw on experience from the 2005 ICP round to explain the main issues involved here.

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[10] *OECD Factbook 2006: Economic, environmental and social statistics,* (page 128), OECD, Paris 2006