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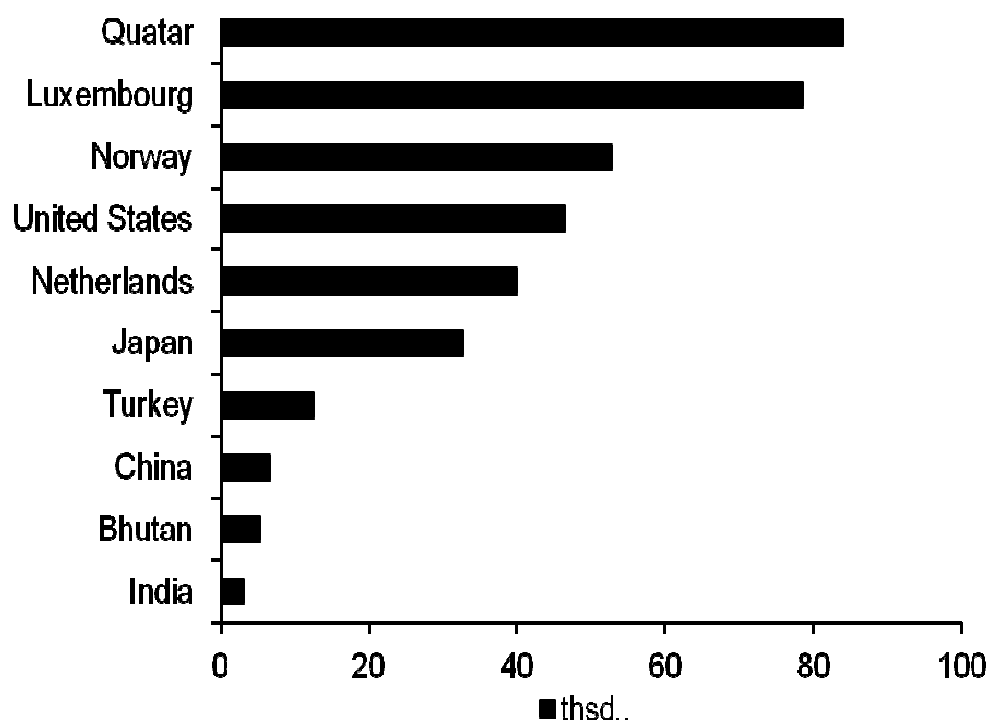
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Fifty major contributions of social science to society

National accounts: barometer, telescope and compass of the national economy

During the past 50 years, Dutch Gross Domestic Product (GDP) per capita increased fourfold. It is now seven times as large as that in China or Bhutan, 20 percent less than the USA and half of Luxembourg and Qatar. Such statements can now easily be made and have become quite common. They are also indispensable for understanding economic growth. However, hardly anyone is aware of all the thinking and calculations underlying such national accounts statistics; their availability is taken for granted and as self-evident.

Table 1. GDP per capita for a range of countries.



During the economic crisis in the thirties of the previous century, business went bankrupt, fortunes invested in equity stock disappeared and many people lost their jobs and major source of income. There was clearly a great economic crisis. However, no one had a clear perception of the size and causes of the crisis. Good statistics and analyses about this great economic crisis and their impact in the various countries were only made decades later.

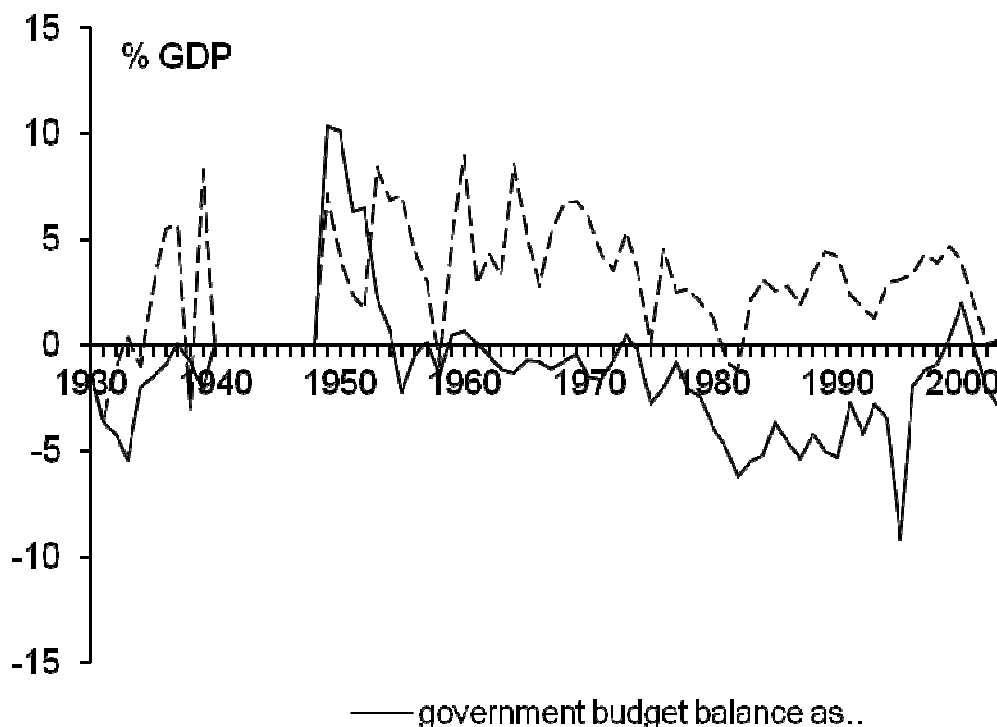
This is quite a contrast with the current situation. Now we are flooded with all kinds of new information. Using surveys and all kinds of administrative data, Statistics Netherlands publishes each quarter national accounts. These provide an up-to-date picture of the size, composition and development of the Dutch economy. What is the

economic growth-rate? Which industries flourish and which encounter difficulties? What is the size of the government deficit and debt as a percentage of GDP?

Like a barometer, these statistics are calibrated, i.e. based on one universal set of definition. As a consequence, the economic development in different countries can be compared and the current financial crisis can be monitored continuously, like through a worldwide telescope.

The invention of the national accounts is one of the greatest achievements of economic science. This unique measurement tool makes economic developments visible and quantifies them. Such information is essential for good analyses, forecasts and public and private decision-making.

Table 2. Economic growth (GDP-volume growth) and government budget balance as % GDP in the Netherlands, 1930-2009.



Who invented the national accounts?

Like the computer and many other major inventions, national accounts were not invented by one person. They are the result of many brilliant contributions during more than three centuries.

The first national income estimates were made in England and France at the end of the seventeenth century. In England, Petty and King investigated whether and how a war with Holland and France could be financed. In France, the world famous expert in fortification Vauban fell in disgrace with the French King, because he proposed a much fairer system of taxes and calculated the extra proceeds. A century later, Catherine the

Great reacted even much less enthusiastic to such unsolicited advice: the Russian pioneer in national accounting Radischev was banished from Russia.

Since the 1930s, great progress has been made in the concepts, compilation and uses of national accounts. Keynes' book *The General Theory* introduced macro-economic thinking. His pupils Stone and Meade estimated the corresponding figures for Great-Britain and used them for analysis for public finance, war planning and monetary policy. In the United States, two Russian immigrants played a pioneering role. Kuznets made first estimates of the development of the American economy since 1919. He then used this new unique data set to make analyses of long term economic growth and business cycles. Leontief developed input-output analysis and demonstrated many applications. Using detailed tables on the input and output of the American economy, he calculated for example the consequences of the end of the Second World War for employment. His simple mathematical formulae enabled him to calculate not only the impact on the war industry, but to take also indirect effects into account, e.g. for those providing goods and services to the war industry. In the Netherlands, Jan Tinbergen wanted to apply the methods of natural science to economics. Together with the Norwegian Frisch was he the first to use econometric models for analysing and forecasting a national economy. For calibrating such models, national accounts time series are crucial. As first director of the CPB Netherlands Bureau for Policy Analysis, he therefore played a very active role in the development of the Dutch national accounts.

Marshall aid was also a great stimulus for the national accounts. In order to monitor the reconstruction of Western European economies, up-to-date and comparable statistics about the national economies were essential. Stone was therefore asked to write the first set of international guidelines on the national accounts. He played also a major role in the successive guidelines. Thanks to these guidelines macro-economic notions like economic growth, saving, investment, taxes and government are defined. This is not only crucial for internationally comparable figures. It also avoids Babylonian confusions of tongues and enables international agreements, like contributions to the UN and development aid as a percentage of national income or the reduction of government deficit in the European Monetary Union.

A reliable compass?

National accounts provide a very useful and pragmatic overview of a major part of the economy. The focus is on what can be observed directly in monetary terms i.e. that part of the economy in which goods, services, labour and property are traded for money. Measuring welfare or sustainability of the economy is therefore not the primary focus. Major economic aspects, like leisure time, unpaid household services, volunteer work, pollution and income inequality are therefore ignored.

Information on such aspects could be linked to the national accounts. For example, satellite accounts could show pollution by producers and consumers and the exhaustion of natural resources directly linked to the national accounts statistics on the national economy. Several efforts have also been made to calculate a green GDP, e.g. by correcting conventional GDP for environmental damage. However, in this respect there is not much consensus, because what is the proper price for the environment? And is adding up GDP and a price tag for the environment very meaningful?

A radically different approach was taken in Bhutan. Since the seventies not GDP or national income but Gross National Happiness (GNH) is the key policy indicator. On the basis of population surveys, this index of happiness does not only take measure the standard of living. Also other aspects are taken into account, like culture (e.g. Do you know the traditional dances?) and psychic well-being (How often do you pray and meditate? Are you often jealous? Do you now and then think about committing suicide?).

Despite three centuries of progress, national accounts statistics are still full of measurement problems. According to the international guidelines, GDP and national income should take account of illegal activities. However, putting this principle into practice is not easy. Measuring economic growth should take account of changes in the quality of the goods and services produced. But what is the quality of a computer, a lesson, a heart operation or a financial service and how to express that in monetary terms? Also the requirements for national accounts continue to increase: faster, more comparable and with a reduction of the respondent burden. In order to keep a clear view on the economy a lot of effort and innovation is therefore needed. This requires a close collaboration between the producers and users of national accounts.

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