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BOOK REVIEW: GDP A BRIEF BUT AFFECTIONATE HISTORY, BY DIANE COYLE, PRINCETON UNIVERSITY PRESS, 2014

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BOOK REVIEW

GDP A BRIEF BUT AFFECTIONATE HISTORY, BY DIANE COYLE, PRINCETON UNIVERSITY PRESS, 2014.

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This is a book that everyone should read. GDP, or Gross Domestic Product, is the measure that is most often used to describe the health of the economy, something that matters to us all. It will therefore come as a shock to be informed that "GDP is a made up entity … an abstract statistic derived in extremely complicated ways, yet one that has tremendous importance"(Page 5), and that "The community of national statisticians with a command with all this detail is small. In other words, very few people indeed truly understand how the regularly published GDP figures are constructed – this excludes many of the economists who comment on GDP." (Page 25.) What is more, the GDP is not a very good measure of what it purports to describe: "It is a measure designed for the twentieth century economy of physical mass production, not for the modern economy of rapid innovation and intangible, increasingly digital, services." (Page 6.) In this short, readable and often entertaining book, Dr. Diane Coyle, Visiting Research Fellow at Oxford University and an authority on the subject, explains that GDP is a relatively recent concept, which dates from the post WW2 period. Richard Stone and Professor James Meade published the first modern GDP in 1941, for the UK. The first UN System of National Accounts dates from 1953, and as recently as 1985 there were only 60 countries in the world for which GDP estimates were regularly published.

Dr. Coyle explains why GDP is such an elusive concept. The GDP purports to be a measure of the value of all goods and services produced in the economy, less the value of all intermediate goods and services used in the production of this final output. A difficulty immediately arises with the valuation of services. In Adam Smith's view, services were a cost to the economy, and added no value. Under the system of social accounts used by the USSR up until the breakup of the Soviet Union, services were not counted as "productive output". Even under the UN system which is now almost universally employed, there are services which are added to the total of output which are arguably inputs to production and should therefore be subtracted from the total, such as the provision of sanitation services. The logic is that the provision of sanitation services does not provide a benefit in and of itself, but is among the inputs which facilitate the provision of useful goods and services.

An intractable problem with services in GDP is the measurement of a unit of service, as opposed the price of that unit. In the case of physical goods, we can measure the actual number of shirts

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or cans of soup produced; for services measures of actual output are harder to come by. This is especially true of financial services and government services, though the problem arises with all services. For services such as education and health, there are measures such as scholastic achievement and health indicators, but they are all complex and it is difficult to attribute outcomes to the delivery of particular services. What is more, the data requirements for applying these measures to all transactions are so demanding that few countries actually employ them. The measurement of the value of financial transactions is even more problematic: in principle financial institutions add value by managing risk, but what best measures that value added is a matter of debate. Dr. Coyle believes that the value of financial services in the national accounts may be overstated by as much as a quarter, based on the current definitions of the UN System of National Accounts.

In order to arrive at a measure of changes in the real value of goods and services produced, market values have to be adjusted for inflation. Inflation adjustment is complicated and there are many ways of doing it, all producing different results. Among the complications are the weights attributed to various items in the basket of expenditures used to compute inflation. The computation of a good weighting system involves carefully designed census and survey data collection, informed choices of a base year, allowances for technology changes and new products, and other analytical challenges. A poorly informed weighting system can lead to very large errors: Ghana's GDP increased overnight by 60% when it updated the weights used in the price deflator between November 5 and 6, 2010 (Page 32). Developed countries mostly use chain-weighted deflators that change month by month, but then the expenditure components don't add up to the total. The UK secured an IMF loan in 1976, but much later (in the 1980s) when the GDP and borrowing data were revised, it was discovered that there had been no crisis in 1976 after all!

The GDP excludes goods and services which are produced and consumed within the household, and goods and services which are traded on informal markets, both of which are known to be substantial. The problem with this procedure is often illustrated by the hypothetical case of the widower who marries his housekeeper and ceases to pay her a wage, thereby *reducing* the GDP. Household production is excluded because of the impracticality of collecting the data. Informal markets create a similar problem of access to data for reliable estimates. Estimates of the size of the informal economy vary widely across countries: Dr. Coyle cites estimates of 7% for the US, 8% for Switzerland, 20% for Italy and 25% for Greece, all in 2012 (Page 107). What is more, formal production and government production are measured differently. In his Nobel Memorial Lecture, on December 8, 1984, one of the originators of the GDP measure commented "This treatment, whereby commercial products are valued at market price, government services are valued at cost and unpaid household activities are simply ignored, is not a matter of principle but of practical convenience." (Page 105.)

The comparison of GDP across countries gives rise to another set of complications, which have recently surfaced in international media, in the discussion as to whether China is about to become the largest economy in the world. If we measure GDP in all the national currencies of the world and convert them at current exchange rates for the US dollar, as is often done, you reach the conclusion that GDP declines by the amount of any local currency devaluation, even if the actual amount of domestic production and the prices in local currency remain unchanged. That is obviously misleading. To get around the problem, statisticians have devised measures of the purchasing power of local currencies, based on global surveys of what the local money will buy. The GDP values in US dollars are adjusted to reflect these differences in purchasing power. For example, in 2012 Trinidad-Tobago's per capita GDP of US$17,500 was only just ahead of Barbados' US$15,000, but because the TT dollar goes so much further in Trinidad, their per capita PPP was much higher, at US$29,000, compared to Barbados' PPP of US$15,000, according to the *Human Development Report*. The PPP calculations are complex and highly controversial, however. The Government of China refuses to accept the validity of the UN's most recent estimates.

There are a host of other complexities and compromises in the compilation of GDP: how do we establish the real value of services which are not bought and sold on open markets? How should we value those that are sold on markets where prices are dictated by a few dominant producers? How can we take account of and measure productivity changes? How do we distinguish between changes in value which reflect changes in quality, rather than price inflation? Is it acceptable to ignore public goods which are not marketed, and public "bads" such as environmental degradation? How should we treat complementary products and services, such as the organizational changes needed to realise the potential productivity gains from the use of new technology? How should technological change be accounted for?

Dr. Coyle concludes that:

- At present we have no alternative to the GDP that is generally available for comparison among countries globally;
- Because of its deficiencies, wherever possible we should use supplementary measures or alternatives: the Human Development Index, "dashboards" of composite measures, and measures of household value added and the informal economy;
- No good measure of environmental sustainability is available, and conclusions drawn from GDP and supplementary measures need to be evaluated with this in mind;
- Collection of statistics needs to be modernised: surveys cannot keep up with changes in economic structure;
- GDP definitions have become too convoluted, complicated, and their "accuracy is spurious" (Page 139);
- A radical rethinking of "the economy" is needed: today's economy is largely intangible, and quality, choice and variety are the essence of value added. In addition, we need to account for voluntary value creation, such as the creation of Wikipedia and Linux;
- The gap between GDP and social welfare is larger than ever.

This book is essential reading for all informed citizens, and should be required for all economists.