Why The Gross Domestic Product Statistic is Obsolete

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Abstract: Globalisation has many economic implications. In particular, the fragmentation of production across countries presents new challenges for economic indicators. In the past, as a way of comparing living standards, GDP was the commonly used measure. However, today, due to globalisation, fragmentation of production, increased financial flows and movement of people, it has become an obsolete measure, national income being incomparably better. Although national income is the statistic generally used by the World Bank, this is an exception to most other world institutions and economists who still use GDP. For this article, the cases of Luxembourg, Ireland, Greece and Portugal were studied to analyse the differences found using the different economic statistical measures.

Keywords: Income and GDP measurement; Wealth measurement; GDP limitations; Ireland and Luxembourg income; Portuguese crisis.
JEL Classification: E01, E66, I30.

1. INTRODUCTION

In 2016, Paul Krugman, a Nobel prize winner alerted in a tweet: Leprechaun economics[1]; Ireland just reported a 26% increase in GDP (gross domestic product). And then added: it makes no sense; why is that in GDP? The answer is because it must be. Because of what GDP means: it is a geographically based statistic [(Ivković, 2016). Several factors are distinguished as contributing to this divergence between GDP and national income, contributing to variation across countries (Nolan et al., 2019).

Although the answer is quite straightforward, the important here is the question. Due to the integration of world financial and other markets, today, and ever more so into the future, to measure a country's income GDP must be substituted by another statistic: national income [(Song 2019); (Lequiller and Blades, 2014); (Clarke, 2004)]. However, among the most important international institutions only the World Bank uses it primarily.

2. DATA VERSUS REALITY: THE CASE OF THE EUROPEAN UNION CENTRAL STATISTICS OFFICE

Ameco database (European Comission, 2019) presents the gross domestic product per capita at PPP (as purchasing power parity and involves adapting the GDP to account for the relative difference of the price of goods (bread, meat, etc.) among countries) as per Fig. (**1**). The year is 2018 to avoid the Covid impact and at the date the United Kingdom was still a member of the EU (what, for the purpose of the analysis that follows is irrelevant).

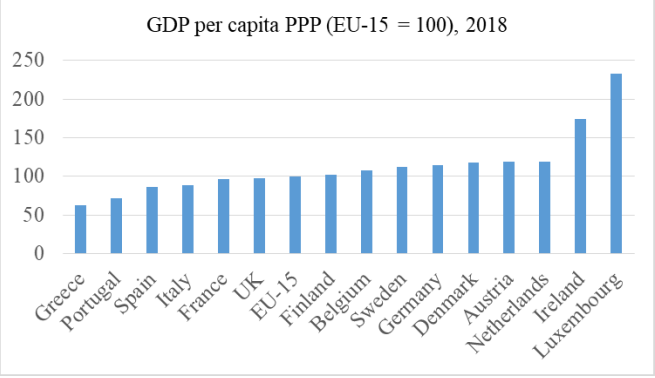

Fig. (1).

Source: Ameco database, 2019, European Comission.

Values in Fig. (**1**) were taken directly from Ameco (2019) and converted into a percentage of 100 representing the EU-15 average. So, Greece's GDP per capita is only 62,8% of the EU-15 average making it the poorest among all European countries; next is Portugal (only 71,6% of the EU-15 average); then Spain (at 85,8%); and so on.

At the right-hand side of the figure Luxembourg appears as the wealthiest EU country with a GDP per capita of 232,6%, that is 132,6% above the EU-15 average. And followed by Ireland with 174,2% (74,2% above the average). That makes the GDP per capita of each inhabitant of Luxembourg and of

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[1] Leprechauns in the Irish folklore are little green bearded men wearing a coat and hat, who in solitude spend their time making and mending shoes and with a pot of gold at the end of the rainbow.

Ireland almost four times $(3{,}7 = \frac{232{,}6}{62{,}8})$ and nearly three times $(2{,}8 = \frac{174{,}2}{62{,}8})$ that of the Greeks, respectively. These numbers, however, are misleading, since the values of Luxembourg and Ireland are grossly inflated and must be corrected to measure the true, real values of wealth as per Fig. (**2**) below.

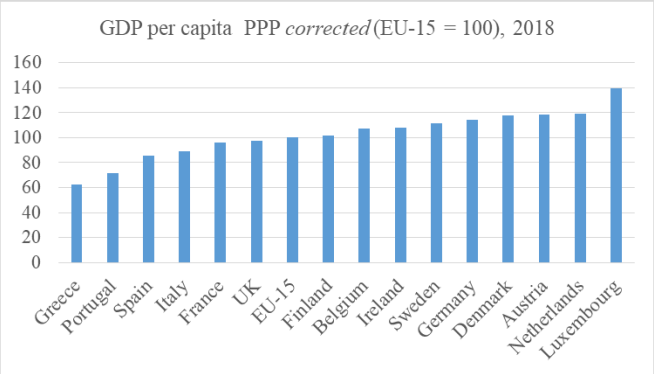

Fig. (2).

Source: Ameco database, 2019, European Comission.

Between Fig. (**1**) (directly extracted from Ameco) and 2 (the real wealth values) there are two significant differences, and both respect the right side of the figures. First Ireland is no longer the second wealthiest EU country, but the seventh, and Luxembourg is now "only" ± 40% (39,6) above the average and not ±133% as in Fig. (**1**). The explanation regarding Luxembourg is that 40% of its workforce daily crosses its borders, coming from France, Germany, and Belgium. As they work in Luxembourg, the wealth that they produce there must be accounted for when calculating the gross domestic product. But as not residents they cannot be considered for the per capita value. Consequently, they appear in the numerator, but not in the denominator of the GDP per capita quotient (domestic income divided by domestic residents), as GDP per capita is the wealth created in a country divided by its inhabitants, that is, the residents. And so, the result is that Luxembourg's income per capita is almost 70% inflated (232, 6 in Fig. (**1**) divided by 139,6 in Fig. (**2**)).

Why doesn't the EU central statistical office correct such a bias? Because it shouldn't. The core concept of GDP per capita is the income produced *within* the borders of a country divided by its residents. As ± 40% "run away" every evening to their homes in Germany, France, etc., they are not residents, and so cannot be accounted for in the GDP per capita. In other words, the statistic is correct but does not make sense. And that is why one should not use GDP to measure income.

Then there is the case of Ireland which according to figure one is the second and to figure two the seventh wealthiest European country. Now, the reason for the difference is that Ireland has one of the world lowest corporate tax rates (in theory a tax rate of only 12,5% on profits, but in practice far lower due to many deductions and exemptions) and so many multinationals such as Apple, Google, Microsoft, Facebook, Dell, etc., use internal accounting to transfer profits to artificially created headquarters, or subsidiaries in Ireland (Killian, 2006).

But although they benefit from lower taxation, these multinationals have really no operations in Ireland, whatsoever. Indeed, those profits enter into Ireland, are accounted for in the gross domestic (internal) product, and then after being (slightly) taxed, are immediately "exported" as dividends (part of the profits may remain for some time as retained earnings, but sooner or later they are sent back to the foreign owners) [(Stewart, 2018); (Jacobson, 2018)].

To account for that, the Irish statistical office reduces the national income by taking out the retained profits of multinationals artificially headquartered but with no real operations in Ireland, as well as the depreciation of intellectual property which belongs to foreigners. Producing the value for modified national income shown in Figure 2 (Department of Finance, 2018).

The value by which the GDP must be corrected, because of "box office multinationals" and to evaluate the real standard of living of the Irish, varies from year to year but in 2018 (the year of both Figures 1 and 2) the required correction value was ± 38%. And here, again, Ameco (2019), the European central statistical office cannot change the gross domestic product evaluation of Ireland, since GDP corresponds to the wealth formally registered within the geographic boundaries of Ireland.

3. NATIONAL INCOME AS A SUBSTITUTE FOR GDP

The best way to avoid the anomalies which the examples of Luxembourg and Ireland illustrate is to replace GDP by the national income: the income earned by nationals only, that is discounting those of foreigners, be they multinationals (as in the case of Ireland), or daily migrants (as happens with Luxembourg).

At the core of the difference between GDP and national income is the distinction between geography and nationals, respectively. And so, when changing from the former to the latter one considers all types of monetary transfers, salaries due to immigrants or emigrants, interests, profits, rents, all flows which cross countries borders.

And that is the reason why national income is such a better statistic than domestic product to measure the standard of living of a population: after accounting for what is produced and manufactured in a geographical area, nationals live only with whatever monetary value remains inside. And given the increasing globalization and liberalization of the in and out flows of both people and money (in top of goods, that is of exports and imports), the trend is for an ever-greater difference between the two statistics. Luxembourg and Ireland are extreme examples. But there are many others.

Portugal is such a case. In the half decade before going into bankruptcy in 2011 (and prompting an intervention by the IMF and the European Union), Portugal's GDP per capita converged ± 2,1% with the European Union. Thus, the economy seemed to be moving well (Andrade and Duarte, 2011).

However, in terms of the national income per capita that did not happen. In practice, there was no convergence whatsoev-

er (the convergence rate was 0,02%). More. While the gross domestic product per capita increased in those five years by 2,4%, national income per capita augmented by only one fifth of that: less than 0,5%. In both instances the difference was explained by the interests paid to foreigners on an ever-increasing debt (Correia, 2016).

Indeed, in terms of national income (and accounting the interest paid to foreigners on the increasing national debt and in the five years before the crisis), the real evolution of the economy (measured by national income per capita) was less than 1/5 (only 17%) of that indicated by GDP per capita (Correia, 2016). But based on GDP figures the Portuguese economy seemed to be moving well. There was no warning. No signal for alarm. Until bankruptcy forced the IMF and EU to intervene (Eichenbaum et al., 2016).

4. CONCLUSION

Naturally that no statistic can be perfect in an imperfect world. But that is not the issue. The issue is that in the past, to compare standards of living, GDP did a "reasonable job". Nowadays however, due to the increasing financial flows and movement of people (Pausenberger, 1983), national income is incomparably better. Although many fail to realize that and act accordingly. While national income is the statistic generally used by the World Bank, that constitutes an exception to most other world institutions and economists which still use the GDP. The result is misleading the public in general and policy makers and governments, as they lack a true indication of how the economy is doing (as the examples of Luxembourg and Ireland before illustrating). And in more extreme situations there are no warning signals, no "smoking gun" of dangers ahead (as the case of Portugal exemplified). Thus, the question: how can one manage what is not adequately measured?

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