Globalisation and macroeconomic statistics: Problems of measurement, interpretation and international comparison*

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The article addresses a general problem and two specific economic-statistical issues related to globalisation. The general point concerns certain conflicting trends involved in globalisation: while the macroeconomic importance of, and the demand for statistics on international transactions increases, it is becoming more and more difficult to apply the standard distinctions between "domestic" and "cross-border" real and financial economic transactions. The effects of this conflict are primarily experienced by institutions responsible for supplying statistics. However, users of economic statistics also face challenges deriving from trends associated with globalisation. Economic analysts tend to interpret national developments in international comparison on the basis of a few headline indicators, but this may result in misleading conclusions. To illustrate this point, two examples, both related to the experiences of the new members of the EU, are discussed: *1.* the interpretation/comparison of income convergence on the one hand, and *2.* that of external imbalances on the other. As pointed out, it is necessary to look beyond the "big picture" in order to reach conclusions that are sound both from an economic and a statistical point of view.

KEYWORDS: Economics.

International analyses, comparisons.

Qualitative questions of official statistics.

The impact of globalisation on economic statistics is a highly topical and increasingly relevant issue for both statisticians, who provide, and economists, who use macroeconomic statistics. The mounting cross-border interactions and the increase in openness of nations involve significant challenges for suppliers of macroeconomic data, but the interpretation and application of statistics – the task of economic analysts – is also becoming more difficult. Though we shall addresses some problems that statisticians have to face, our focus is on the interpretation and comparison of macroeconomic figures in the present era of globalisation.

The article consists of two main parts. First, we discuss certain conflicting trends of economic globalisation and some of its implications for suppliers and users of economic statistics. Second, we deal with two closely related macro-statistical issues that have to do with the interpretation of statistics: *1.* real income levels/convergence, and *2.* the size of external imbalances.

1. Globalisation and economic statistics from the perspective of suppliers and users of statistics

From the point of view of real and financial economic developments, globalisation involves the increasing openness, as well as intensifying interactions and interdependence of national economies. From the point of view of economic statistics this results in two contrasting trends.

> *1.* On the one hand, regarding business operations (decisions of economic agents), the relevance of legal national borders is fading. This, among others, is due to the increasing internationalisation of production (expansion in the activity of multinational companies, new forms of trade in services, growing importance of off-shore companies, etc.) and the migration of individuals ("labour"). As a result of these developments, it is becoming more and more difficult to apply the standard definitions regarding "internal" ("domestic" or "national") vs. external ("foreign") economic activities. Therefore, the dividing line between "resident" and "non-resident" economic units – a major distinction for national accounts – is also fading.

2. On the other hand, globalisation involves the increasing macro-economic importance of international transactions (both real and financial), as well as cross-border ownership of financial assets for national economies.

The two trends accompanying globalisation are in clear conflict with one another, which is primarily experienced by the national institutions responsible for compiling and providing economic statistics. From the point of view of microeconomic agents, the distinction between "domestic" and "international" economic activities are becoming less relevant (moreover, in an attempt at "tax optimisation", they may even have an interest in obscuring this distinction), while – due to their macroeconomic importance – governments, central banks, investors, international organisations, economic analysts, etc. would like to know more and more about expanding international transactions.

It is worth noting that these conflicting trends may involve an internal paradox for multinational companies, major drivers of globalisation. These business organisations are both important suppliers and users of data on international transactions. In their first capacity they might have several reasons to conceal certain aspects of their cross-border transactions, while as users – e.g. for building their business strategy, evaluation of country risks – they need reliable and accurate statistics on global transactions and asset-holdings.

Regarding the *effect of globalisation on users* of macroeconomic statistics, several users, in particular market analysts, interpret national developments in international comparison and, in order to simplify their task, tend to categorise/group countries according to a few and very simple "headline" indicators. The implication for statistical institutions is the increased importance of applying common international standards for ensuring comparability of national data. There is another implication as well, which concerns both statisticians and economists (familiar with macro-statistics): the education of the public in general, and market participants/analysts in particular, by calling attention to statistical indicators enabling a better understanding and/or a finer analysis of economic developments.[1]

In the following we discuss two examples to show that it is useful to look behind the main figures, as this may lead to the reinterpretation (or, at least, refinement) of the "big picture" derived from headline data on national economic developments. Both examples address the challenges (increased difficulties) involved in international comparisons of macroeconomic developments in the era of globalisation. The first concerns the comparison of national real income levels and their changes over

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[1] In this respect, the Hungarian Central Statistical Office (HCSO) has shown a good example in *KSH* [2007]. See: especially p. 52-56 on the macro-economy. http://portal.ksh.hu/pls/ksh/docs/hun/xftp/idoszaki/mo/hungary2006.pdf

time. The second example pertains to the cross-country comparison of external imbalances.

2. Relative income levels and income convergence

The terms "relative income level" and "income convergence", respectively, are shorthand phrases, applied by economists, for expressing *1.* per capita GDP of a country measured at purchasing power parity (PPP/PPS) in comparison with a reference country (USA) or a region (the EU); *2.* the catching up of countries in terms of per capita GDP measured at PPP. GDP, however, is essentially an indicator of output, rather than income.[2] Since globalisation entails the possibility of increasing differences in per capita output on the one hand, and various measures of domestic/national income on the other, it is important to take the latter into consideration in comparative analyses related to the level of, and changes in, the real income of nations.

There are three directions for extending the simple comparisons based on GDP/capita, in order to capture certain macroeconomic effects of globalisation. Two of these are actually included in the statistical framework of national accounts (SNA/ESA), but one involves an amendment to the official system of indicators.

1. The fist direction is the quantification/comparison of indicators of per capita national income (GNI, GNDI). A reason why the distinction between aggregate domestic output and national income may become more relevant in the era of globalisation is that factors of production, and, as a result, production itself can move easily among countries, which does not necessarily involve similar changes in the aggregate income of residents of a nation. For several countries there are significant differences not only in the levels, but also in growth rates of real national income vs. real domestic product.

2. The second, equally important, aspect of the distinction between output and income concerns the macroeconomic impact of changes in the terms of trade on aggregate domestic income, which is revealed by the indicator of real gross domestic income (RGDI). An important sign of globalisation is the tendency toward increased openness of countries (the rise in the ratio of external transactions to GDP). As a result, the relative impact of variations in the relative price of exports to imports tends to increase. By definition, the "level" of per capita RGDI cannot be interpreted at

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[2] On this point see in particular Chapter XVI, paragraph 16.151. of the SNA or/and Chapter 10, paragraph 10.57. of the ESA.

current prices; it can only be measured at prices of a fixed base year. Therefore, it should be compared among countries (and to per capita GDP) by using constant, rather than current PPPs.

3. A third direction of extending international comparisons is relevant mainly for the less developed, in particular new, members of the EU (new member states – NMS). This extension goes beyond the difference between output and income, as it is related to the distinction between disposable income and disposable resources of countries. The reason why this is important for NMS is that while current transfers made to the EU budget are recorded as items decreasing disposable income (GNDI), there is no macroeconomic aggregate to indicate the opposite (positive) effects capital transfers from the EU on available resources. Therefore, a supplementary indicator (GNDI+capial transfers) may be useful in international comparisons involving less developed members of the EU.

We shall proceed in two steps in demonstrating the empirical/statistical relevance of these extensions to international comparisons based on per capita GDP. First we consider the impact of *implicit* real income transfers, associated with changes in the terms of trade, on the aggregate real income of countries. In the next step, the effect of *explicit* transfers (including net foreign income, as well as and both current and capital transfers) are taken into consideration. The distinction between implicit and explicit transfers is based on whether they have to be reconstructed by means of foreign trade price indices, or they are explicitly revealed in balance-of-payments statistics. It should, however, be kept in mind that transfer pricing is a potential channel for shifting foreign income between explicit and implicit channels.

2.1. The effect of changes in the terms of trade (implicit real income transfers)

If the price level of a country' exports increases more (declines less) than that of its imports, the real purchasing power of the country's revenues from exports over imports grows (and vice versa, if export prices increase less, or decline more, than import prices). Changes in the real purchasing power of exports over imports entail implicit real income transfers received (or made) by countries. Their macroeconomic impact is revealed by the indicator of real gross domestic income (RGDI).

RGDI is derived by adding "trading gain" (or loss, if negative) to GDP measured at constant prices, i.e.:

$$RGDI_t = (GDP_t/P_{GDP} + T), \text{ where}$$

$$T = (X_t - M_t)/P_{XM} - (X_t/P_X - M_t/P_M)$$

P_{GDP} denotes the GDP-deflator,
T is trading gain/loss,
X and M are, respectively, exports and imports,
P_X and P_M are price indices of exports and imports, respectively,
P_{XM} is the average of the two, and the t index refers to the time period.

By definition, if the terms of trade improve ($P_X > P_M$,), T is positive, and it is negative, if the terms of trade worsen. The change in RGDI may be reflected by the difference between either

$RGDI_t$ and GDP_{t-1}, or
$RGDI_t$ and $RGDI_{t-1}$ (if $t-1 = t0$, $RGDI_0 = GDP$).

Before presenting comparative data on RGDI and GDP, the question of accuracy of foreign trade price statistics has to be addressed. What if foreign trade price indices are inaccurate, and, as a result, the terms-of-trade index is under/over estimated? There are two major reasons why foreign trade price data may be distorted. The first is related to potential measurement errors: both the calculation of price indices for trade in services, and adjustments for quality changes in the case of manufactured products, involve serious difficulties. Second, as mentioned previously, firms may have incentives ("tax optimisation" in particular) to move profits from one country to the other by under/overpricing exports or/and imports. But whatever the reason, foreign trade price data and, therefore, the terms-of-trade index, might indeed be distorted; and perhaps more so in the present era of globalisation, than formerly. This, in turn, may appear to suggest the irrelevance of the aggregate real income measure reflecting the impact of changes in the terms of trade.

However, even serious distortions in foreign trade price indices do not imply the uselessness of the RGDI indicator. Just on the contrary. Assuming that there are significant measurement errors in foreign trade price indices, there should be opposite errors in the measured volume of exports and imports, thus of net exports and, as a result, real GDP as well. Therefore, the indicator reflecting the change in RGDI actually corrects for those potential errors of the GDP volume index that are related to (possible) distortions in foreign price indices.

The following examples focus on developments between 1995 and 2006 in the Central and East European (CEE) new member states of the EU. In some of these countries, significant and persistent differences can be observed between the growth of real GDP and RGDI.

As shown by Figure 1 four of the new EU countries (Lithuania, Romania, Bulgaria and the Czech Republic) have experienced not just large, but also enduring improvements in their terms of trade, which lead to much stronger growth in their domestic income than what is implied by the increase in real GDP. Slovakia, in contrast, displays a longer-term decline in its real income relative to its output. Poland

was characterised by a similar trend between 1999 and 2003; in Hungary's case the gap between the growth of income and output turned negative after 2004.

Figure 1. Cumulative difference between RGDI and GDP growth rates since 1995
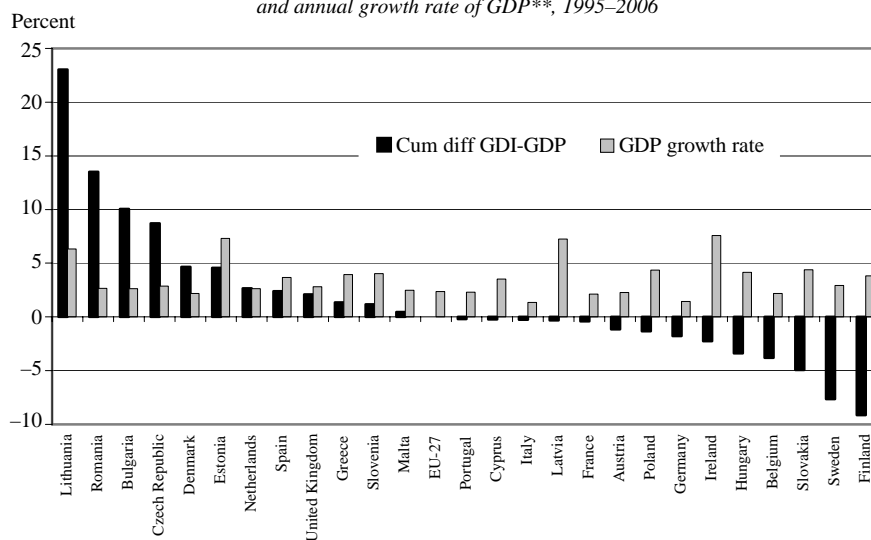(percentage points)
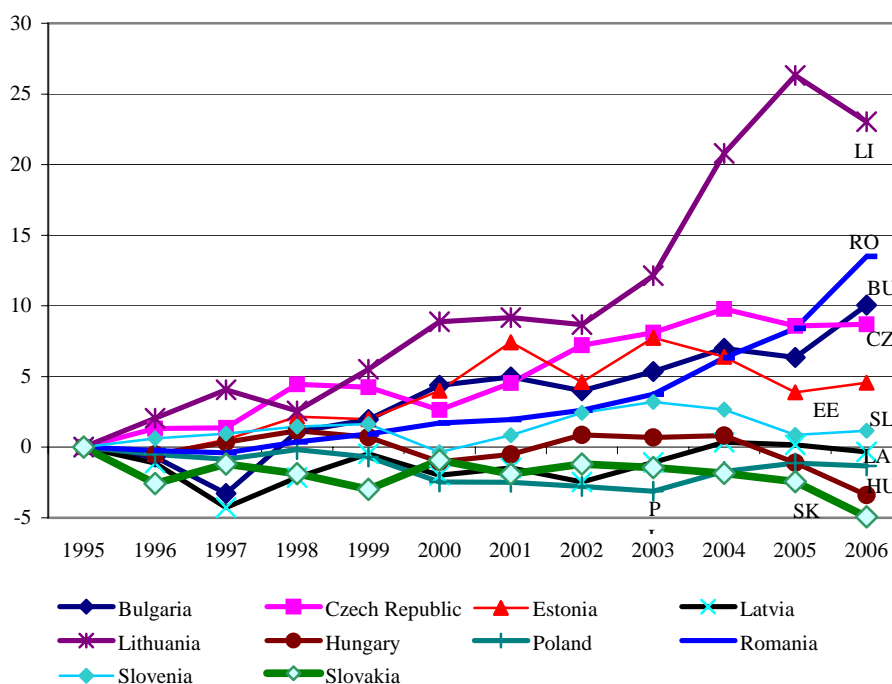
In order to gauge the macroeconomic significance of the difference between the growth of GDP and real domestic income (RGDI), it is useful to compare the cumulative gap between the two indicators to the growth rate of GDP. (See Figure 2.)

Figure 2 presents developments in Eastern Europe in a wider, European context. In the period 1995–2006, the cumulative gap between the increase of gross domestic income and GDP was the largest in the four CEE countries mentioned previously, while the CEE countries characterised by an opposite trend, perform relatively weakly in a wider European comparison as well. Figure 2 also shows average growth rates of GDP in the same period, demonstrating that, for several CEE countries, the increase in real GDP/capita is an inadequate (often misleading) indicator of per capita income convergence. This is clearly borne out by Table 1.

Figure 2. The cumulative difference between RGDI and GDP growth*
and annual growth rate of GDP**, 1995–2006

* Percentage points.
** In percent.

Table 1

Per capita GDP and RGDI convergence: relative levels and the speed of convergence, 1995–2006
(EU 15=100.0)

Country	EU15=100			RGDI_06/ GDP_06	Average annual speed of convergence*/		Number of years of GDP/cap con- vergence to fill the RGDI-GDP gap**
	GDP/cap95	GDP/cap06	RGDI/cap06		Conv. GDP	Conv. RGDI	
					percent		
Romania	27.2	31.3	34.4	110.1	1.3	2.2	7.6
Czech Republic	63.1	71.0	75.6	106.4	1.1	1.7	5.7
Bulgaria	27.9	33.2	35.8	107.6	1.6	2.3	4.5
Lithuania	30.0	51.5	57.6	111.8	5.0	6.1	2.2
Slovenia	61.6	77.1	77.7	100.8	2.1	2.1	0.4
Estonia	31.1	59.6	60.9	102.1	6.1	6.3	0.3
Latvia	27.0	51.8	51.7	99.9	6.1	6.1	0.0
Poland	36.7	48.6	48.2	99.2	2.6	2.5	–0.3
Hungary	45.4	59.6	58.4	97.9	2.5	2.3	–0.9
Slovakia	40.0	52.4	50.8	97.0	2.5	2.2	–1.3

Note. * log(Y_06/Y_95)/t; where $Y= Y_i$/YEU15 (Y refers to GDP/cap or RGDI/cap; and t indicates the num-
ber of years considered; in the table t = 11); ** ≈log[(RGDI_06)/(GDP_06)]/(Conv_GDP). GDP/cap95,
GDP/cap06 and RGDI/cap06: measured at constant purchasing power parity (PPS) of 1995.
*Source*: The author's own calculations based on the AMECO database

In the case of the four countries already referred to, the size of the cumulative gap between the increase in domestic income and output is striking. It corresponds to 2 to 7.5 years of real convergence (as measured by per capita GDP) to the more developed part of Europe. The reason why the relative size of the gap is so large for the first three countries is that they experienced very low average rates of GDP growth over the period considered. As their rate of GDP growth increases, the contribution of the terms of trade to income convergence is expected to diminish.

Differential growth rates between output and income naturally lead to differences in relative levels of per capita GDP and RGDI; this is shown by Figure 3.

Figure 3. Per capita GDP and RGDI relative levels, 2006
(EU 15=100)
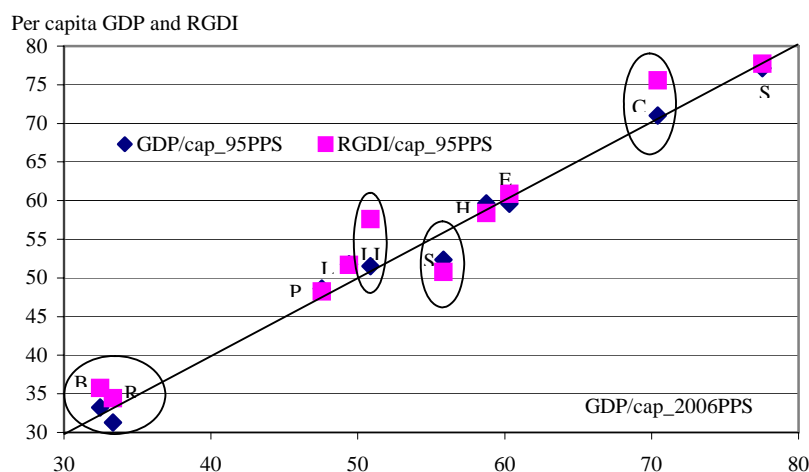
Note. On the vertical axis per capita GDP and RGDI are measured at PPS of 1995.

In 2006 several CEE countries displayed considerable differences regarding their level of relative per capita income and output. The level of per capita income (measured at constant, 1995 purchasing power parity, PPS) was significantly higher than that of per capita output in the Czech Republic and Lithuania, while it was lower in Slovakia. The explanation of these contrasting developments requires further analysis, but they certainly have to be kept in mind when comparing the change in ("catching up"), and the level of, real incomes of the new member states of the European Union.

2.2. The effect of net income flows and transfers on comparative growth rates

On measuring national income (disposable resources), there are three types of explicit net transfers that have to be taken into consideration: *1*. income flows, *2*. cur-

rent unrequited transfers and *3.* capital transfers. As discussed before, these are considered to be explicit because they are disclosed in balance-of-payments (BOP) statistics. In the following, the implications of these items for national growth rates are addressed.

First the economic and statistical content of macroeconomic aggregates corresponding to the notion of national income has to be clarified. There are two major items in BOP statistics that affect national income – net income flows and net unrequited current transfers– and there are two macro-indicators in the SNA/ESA reflecting the impact of these flows: *1.* gross national income – GNI; and *2.* gross national disposable income – GNDI.

These aggregates are defined as follows:

GNI = GDP + net foreign income,
GNDI = GNI + net current transfers.

There is a third aggregate, which is not an "official item" in the SNA/ESA, but is highly relevant for the less developed (in particular, new members), of the EU:

GNDI + net capital transfers.

Although the latter is not an indicator of income, as discussed in Section 2, it is an important measure of national disposable resources. As to be shown later, this has direct implications for the interpretation of external imbalances as well.

Since our focus is on growth rates of real national income/resources (as contrasted with real domestic output, GDP), the choice regarding the deflator for assessing volume changes has to be specified. Skipping the discussion of alternative possibilities, foreign income flows and current transfers are deflated by the price index of domestic final expenditures (as suggested in Chapter XVI of the SNA); while capital transfers are expressed at constant prices by the deflator of gross fixed capital accumulation. The reason for the latter choice is straightforward: capital transfers are meant for investments.

Figure 4 focuses at recent developments in three CEE countries, and demonstrates the importance of indices of income (disposable resources) vs. GDP.

While the scale of recent growth rates clearly differs among the countries (according to all of the indicators, Hungary experienced much lower economic growth in this period than the others), there is a common pattern: in all of the three countries the "headline" indicators, i.e., GDP and, to some extent GNI, show lower rates of growth than the one indicating the impact of capital transfers. This is explained by the fact that this was the period when transfers from the EU funds began to flow towards the new members of the EU. As these transfers are expected increase in the

next few years, the indicator reflecting the change in real disposable resources should continue to attract the attention of economic analysts.

Figure 4. GDP, GNI, GNDI and GNDI + capital transfers:
recent average annual volume changes, 2004–2006

Czech Republic   *Hungary*

Poland
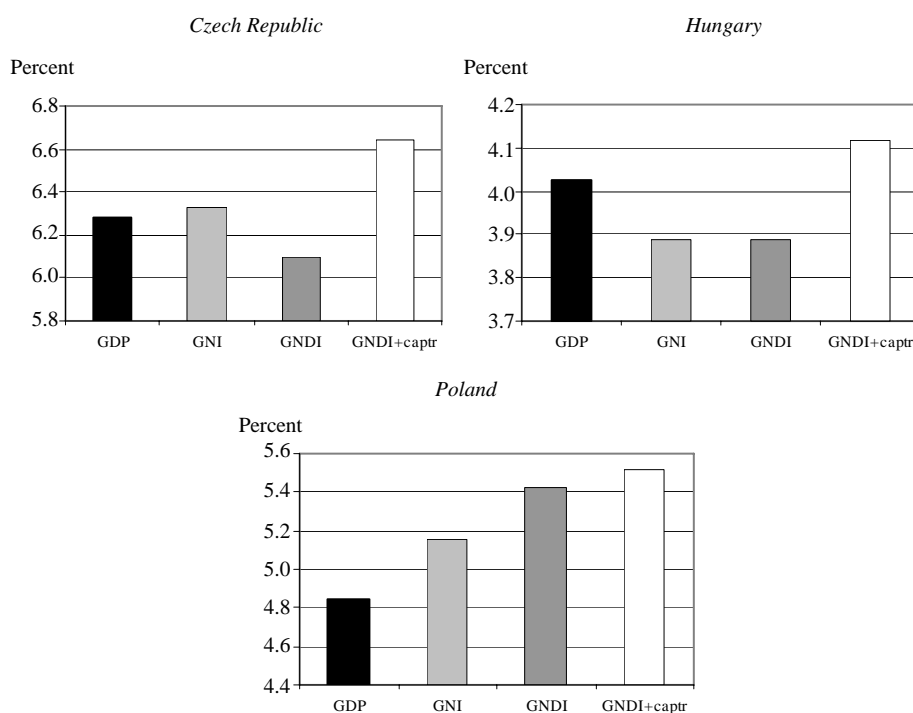
Note. GNI, GNDI and GNDI + capital transfers are calculated by combining national account and balance of payments data.

Source: Here and the following figures: the author's calculations based on the Economy and Finance database of the Eurostat (http://epp.eurostat.cec.eu.int/portal/page?_pageid=0,1136173,0_45570701&_dad= portal&_schema=PORTAL)

To sum up, globalisation has important implications for the measurement and interpretation of changes (thus, convergence) in real incomes of nations. As countries become more open (the ratio of external transactions to domestic production increases), changes in the relative price between exports and imports tends to have an increasing impact on domestic real income. The neglect of these developments may lead analysts astray in international comparisons (see e.g. the contrasting experiences of the Czech Republic and Lithuania on the one hand, and Slovakia, on the other). Globalisation, in addition, involves increasing international income flows and trans-

fers. Beside net foreign incomes, the effect of transfers (including capital transfers) has also to be taken into consideration in assessing changes in disposable resources of countries. Therefore, the one-dimensional approach, focusing solely on the relative level (change in) per capita GDP at PPP, needs to be amended in several respects in order to capture the implications of globalisation for cross-country comparisons of relative income (performance) of nations. The following section addresses some corollaries of these points regarding external imbalances

3. The interpretation and comparison of external imbalances[3]

The increase in international gross and net capital flows is partly a reflection, partly an actual driving force of globalisation. Although net capital flows, by definition, involve external imbalances, the interpretation and international comparison of foreign imbalances is very far from being straightforward. Nevertheless, most economic analysts consider it to be relatively simple: they generally rely on a standard indicator, the ratio of the current account balance to GDP (CA/GDP). This is supported by the "received wisdom", according to which a CA/GDP deficit above 3-5 percent is "dangerous".[4] However generally applied in cross-country comparisons, this indicator suffers from several weaknesses. The following discussion focuses on certain economic-statistical problems – partly related to the measurement/comparison of national income levels – of both the *numerator* (CA) and the *denominator* (GDP) of the CA/GDP ratio.

3.1. The numerator (CA)

The point that *capital transfers* have to be taken into consideration in comparisons of real income holds a fortiori for comparisons regarding external imbalances. That is, the headline indicator of external imbalances – the current account (CA) of the balance of payments (BOP) – has to be corrected for international capital transfers, recorded in the capital account (KA) of the BOP. According to current statistical definitions, the financing requirement (net borrowing/lending) of a country is indicated by, thus, changes in net foreign assets of a country are associated with, the

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[3] This section draws on *Oblath* [2006].

[4] See e.g. *UN* [2003] p. 15.: "Indicator: Current external account deficit/GDP. Interpretation: Ability to service imports and current rate of growth (warning signal if over 3%)."; and *Milesi-Ferretti–Razin* [1996] p. 1. : "…current account deficits above 5% of GDP flash a red light".

consolidated balance on the current and capital account.[5] As already discussed, due to the character of transfers from EU funds, the capital account is particularly important for the less developed EU members. (See Figure 5.) For the new member countries its importance has grown, and is certain to increase in the future.

Figure 5. The current and the current plus capital account balance relative
to GDP in nine EU countries and the United States
(2000–2005 averages)
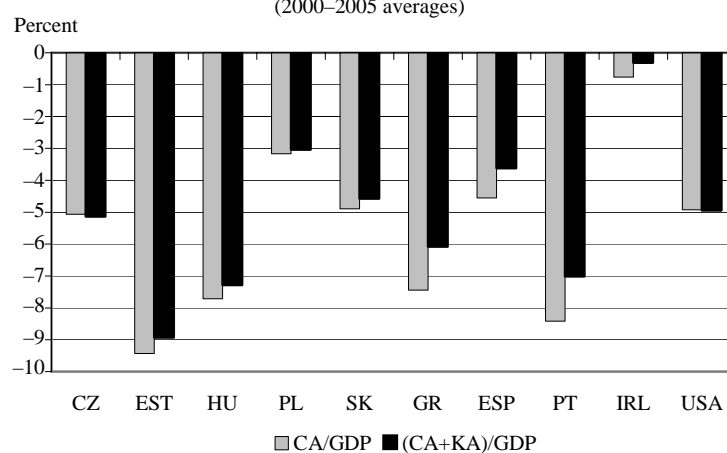
Note. CA – current account balance; KA – capital account balance.

Table 2

The structure of net financing requirement* in three new members of the EU, 2005–2006
(in percent of GDP)

Denomination	Czech Republic		Hungary		Poland	
	2005	2006	2005	2006	2005	2006
CA+KA	–3,3	–5,6	–6,2	–5,1	–1,5	–2,6
CA	–3,5	–6,0	–7,0	–6,0	–1,9	–3,4
KA	0,2	0,4	0,8	0,9	0,4	0,8

* The current plus capital account.
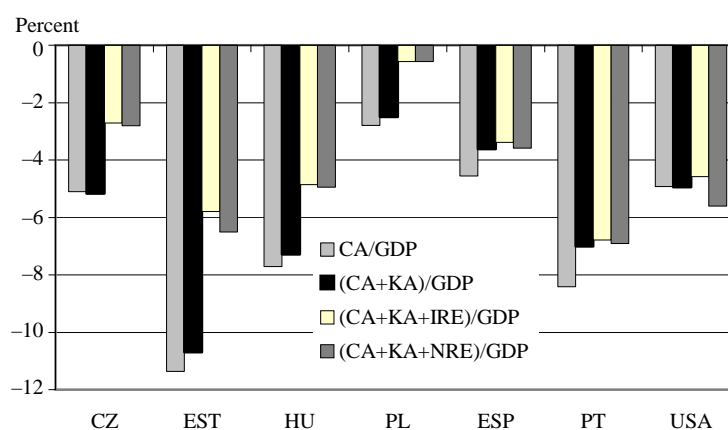*Note*. CA - current account balance; KA – capital account balance.
Source: Eurostat, Economy and Finance database.

[5] Although the definition of the "current" and the "capital" account was changed many years ago (in 1993, in line with the System of National Accounts), most economic textbooks still rely on the former definitions. What was formerly (and in several textbooks, is still) referred to as the "capital account" is, according to the current definition, labelled as the *financial account*. Some items, in turn (e.g. certain foreign unrequited transfers), that had formerly been included in the current account are presently recorded in the *capital account*.

The balance on the capital account, as compared to the current account, is empirically relevant in the three Southern EU countries, especially in Greece and Portugal, where, as a result of this item, the size of the external deficit-to-GDP ratio shrinks by more than one percentage point in the first half of this decade. In Ireland the discrepancy is not an issue, while in the US there is practically no difference at all. In the new EU countries the effect is much smaller, but still observable (in Estonia, Hungary and Slovakia), and has recently been increasing. (See Table 2.)

Turning to the *second problem* with the numerator of the CA/GDP ratio, there is a challenge in the interpretation of *reinvested earnings* of foreign-owned companies, representing virtual outflows recorded on the income account of the BOP (and "backed" by a corresponding FDI-inflow in the financial account). Though a large size of (increase in) this item has a negative effect on the current account, it has no implications for actual external financing. Moreover, from a policy perspective, it is clearly "good news" (potential source of additional investments). The special features of reinvested earnings call for careful reading of current account data of countries where this item is significant and/or markedly changing. By implication, international comparisons of current account imbalances cannot be meaningful, if cross-country differences in reinvested earnings are disregarded. This special item in the current account is much more important for the new member states of the EU than for the older ones with which they can be compared. (See Figure 6.)

Figure 6. The current and the current plus capital account balance corrected
for reinvested earnings relative to GDP in six EU countries and the United States
(2000–2005 averages)*

* Czech Republic: 2001–2005; Estonia: 2002–2005; Poland: 2004–2005

Note. CA - current account balance; KA – capital account balance; IRE – inward FDI flows in the form of reinvested earnings; NRE - net reinvested earnings (as a component of net FDI flows).

In Figure 6, the ratio of "inward" reinvested earnings (RE) to GDP can be gauged by the deviation between the second and the third (or, for net RE, the second and the fourth) bar for each country. Clearly, this item is much more important in the new EU members (most notably in Estonia) than in the older ones. The reasons for these differences mainly have to do with the relative importance of gross and net FDI in the countries concerned, but they may also be related to the average "age" of foreign investments.[6]

By taking reinvested profits into consideration, our perspective regarding the relative size/burden of external imbalances in the countries compared significantly changes. In the new member countries the adjusted external deficit radically decreases (in particular in Estonia and Poland, but this applies to the Czech Republic and Hungary as well.) In Spain and Portugal, in contrast, the latter effect is negligible. Considering the full impact of the two adjustments discussed previously (the capital account and reinvested profits), as compared to the "raw" CA/GDP indicator, the relative size of the external deficit declines in all new member countries below that of Portugal, and comes close to (or under) that of Spain.

The important message conveyed by Figure 6. is that a simple comparison of CA/GDP ratios of countries with different experiences/prospects regarding capital transfers and reinvested earnings is almost certain to lead to mistaken conclusions with respect to the relative size/burden of external imbalances.

## 3.2. The problem with the denominator (GDP) and possible solutions

It is commonly believed that if the nominal magnitude of an external deficit is divided by the nominal GDP of the county, we get a "standardised" – i.e. internationally comparable – measure of an external imbalance. This belief, however, lacks economic foundations: rather than being a neutral measure, the deficit-to-GDP ratio is a strongly biased indicator. The reason is that international transactions (therefore, imbalances) are measured at international prices, while GDP is measured at domestic prices. The domestic price level, in turn, is an increasing function of the level of real economic development (this is the so-called Balassa–Samuelson effect).[7] Thus, in less developed countries – due to the low relative level of non-traded (mainly service) prices – the CA/GDP ratio may overstate the actual burden (relative size) of external imbalances. What, then, is the economically satisfactory denominator?

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[6] On this point see *Brada–Tomsik* [2003].

[7] Economists refer to this effect by quoting the relevant articles of two outstanding economists*: Béla Balassa* [1964] and *Paul Samuelson* [1964]. However, both economists mainly relied on the work of two statisticians: *Milton Gilbert* and *Irving Kravis* (*Gilbert–Kravis* [1954]). Therefore, the positive relationship between real economic development and the level of prices could just as well be referred to as "Gilbert-Kravis effect".

The answer depends on whether we wish to handle the consequences of international differences in the prices of non-tradable services by altogether neglecting this sector, or by including the sector, but correcting for the price differences involved. In the first case, revenues from exports of goods and services may serve as an approximation for the earning capacity (though total current revenues may also be considered as a reference.) In the second case, "real" GDP (i.e. GDP converted at PPP) can be used for comparing the size of deficits. Figures 7 and 8 show the relative magnitude of external imbalances, depending on how the question is answered.

Figure 7. External (current +capital account) imbalances compared to GDP, to Xgs and to CFR
(2000–2005 averages)
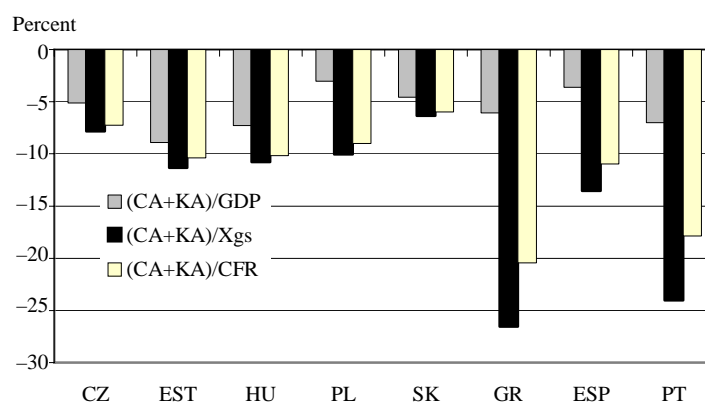
*Note.* Xgs – exports of goods and services; CFR – current foreign revenues.

If the ratio of deficit to revenues from exports of goods and services (the second bar) or to total current revenues (the third bar) are considered, the order of countries with respect to the relative size of their external imbalances – defined as the balance on current and capital transactions – change in a fundamental way. Most notably, external imbalances in Greece and Portugal appear to be significantly (in Spain, slightly) larger than in the new members, as a result of comparing deficits to actual foreign revenues, instead of the nominal GDP.

Figure 8 shows the effect of considering nominal, versus real (PPP-adjusted), GDP as a benchmark.

If external imbalances are compared to the PPP-adjusted, instead of the nominal, GDP, the relative size of external deficits decline significantly in the new Eastern members of the EU. As a result of this change in the denominator, relative deficits in the older members also fall somewhat, but by much less. The outcome of the comparisons shown in Figure 8 are similar to those in Figure 7, though the effect of switching the denominator is notably milder.

Figure 8. External (current + capital account) imbalances compared to nominal* and real GDP**
(2000–2005 averages)
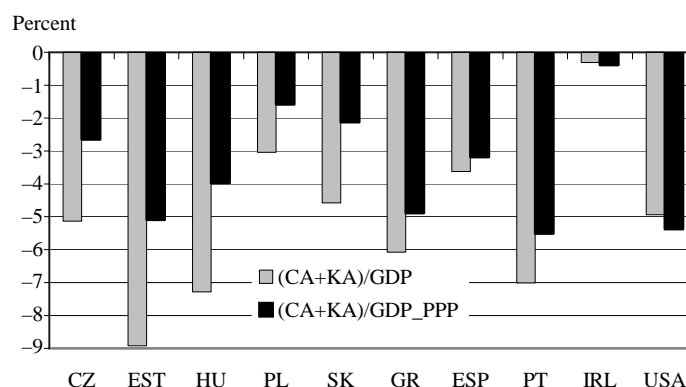
* Exchange rate-based.
** PPP-based.

To sum up, according to the conventional CA/GDP indicator some of the East-European members of the EU have much larger external deficits than certain older ones. This picture changes the more, the more the deficiencies of the CA/GDP ratio are corrected for. When the capital account and reinvested earnings are taken into consideration on the one hand, and deficits are compared to GDP valued at PPP, or exports (gross foreign earnings) on the other, external imbalances in the new EU countries appear to be milder than in the older ones chosen for comparison. Does this also mean that external deficits are less important in the new member states than in the three earlier EU members? Not necessarily. This only means that economically-based statistical standards have to be applied in international comparisons. In lack of these, comparative economic analyses cannot be meaningful.

*

Globalisation involves challenges not only for suppliers, but also for users of economic statistics. The simple observation of the headline macroeconomic figures may lead analysts astray in international macroeconomic comparisons. Therefore, there is a need for caution in comparing some of the most frequently used macroeconomic indicators across countries. Analysts should not accept the "big picture" at a face value, but rather try to look at the details behind the headline indicators.

In this respect, both statisticians and economists (familiar with economic statistics), have a lot to do. There is an important task in educating not only the general public, but also the professional users of macroeconomic statistics. Globalisation

naturally implies that the macroeconomic performance of nations (in particular, growth and external imbalance) is assessed in international comparison, but this calls for much finer analysis than what is enabled by the headline data, in the focus of public discussions.

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