

Globalisation and economic statistics – a “multifunctional” user’s perspective
(Problems of measurement, interpretation and international comparison)

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It is a great honour for an economist – a user of statistics – to be invited to this high-ranking conference of statisticians and address such a distinguished audience. Before indicating the topics I wish to cover in my contribution, let me briefly speak about my relationship with economic statistics and statisticians. This is to explain why I consider myself a multifunctional user of statistics, and give a hint regarding the choice of the issues I wish to discuss.

I am, and have been for a long time, an extensive user of economic statistics in three professional capacities: economic research, education, and as a member of the decision-making body of the National Bank of Hungary (NBH). As a research economist, I have been constantly relying on international and Hungarian statistical data. Formerly, I headed (and participated in the research and forecasting activity of) an economic research institute providing macroeconomic analyses and projections. My present research concerns real and nominal convergence in Europe – in my contribution I shall cover some aspects of the latter topic. I should also mention that, as a research economist, I participated in several projects of the Hungarian Statistical Office (HCSO) aimed at improving the quality of macroeconomic statistics.

Second, as a teacher at the Corvinus University, I held courses on applied macroeconomic analysis, focusing on the proper handling and interpretation of macro-data. In this capacity, one of my major objectives was to explain the logic of macroeconomic statistics, but I was urging students to look behind the so-called “headline indicators” of macroeconomic developments. In the following I shall give some examples on why this may be important.

Third, as a member of the Monetary Council of the NBH, one of my main experiences is that decisions crucially depend of the careful reading, understanding and interpretation of economic statistics. To give a very recent example: according to the latest figures, economic growth has almost halted in the second quarter of 2006 in Hungary. The implications for monetary policy heavily depend on whether supply or demand-side factors are mainly responsible for the slow-down. In the former case, monetary conditions should not, while in the second case, they should be eased.¹ In the following I shall address some issues related to the reading of balance-of-payments (BOP) statistics – a highly important issue from the point of view of perceived risks associated with countries.

Finally, I have to stress: as a member (and former chair) of the Economic Section of the Hungarian Statistical Society, I am not an “ordinary” user of statistics: I have full sympathy with statisticians and recognise their difficulties stemming from globalisation.

My contribution consists of two main parts. First, I address certain conflicting trends of economic globalisation and some of its implications for suppliers and users of economic statistics. Second, I deal with two closely related macro-statistical issues that have to do with the interpretation of statistics in the era of globalisation: real income levels/convergence, and the size of external imbalances.

¹ Another case is the interpretation of recent wage developments in Hungary: is high wage growth mainly due to the “whitening” of the economy (resulting from changes in regulations and increased supervision) or actual increase in wages. The implications of the two interpretations are totally different for monetary policy.

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 of, as well as intensifying interactions and interdependence among, national economies. From the point of view of *economic statistics* this results in two contrasting trends.

- *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
- *On the other hand*, globalisation involves the increasing *macroeconomic* 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 etc. – 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.²

² In this respect, the HCSO has shown a good example in its publication entitled Hungary, 2006. See: especially pp. 52-56 on the macro economy. <http://portal.ksh.hu/pls/ksh/docs/hun/xftp/idoszaki/mo/hungary2006.pdf>

In the following I 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 time. The second example pertains to the comparison of external imbalances.

2. Relative income levels and income convergence

The terms “relative income level” and “income convergence”, respectively, are shorthand phrases for expressing (i) 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); (ii) the catching up of countries in terms of per capita *GDP* measured at PPP. *GDP*, however, is an indicator of output, rather than income. 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.

- a) The first 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.
- b) 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).³ 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 current prices; it can only be measured at prices of a fixed base year.⁴ Therefore, it should be compared among countries (and to per capita *GDP*) by using constant, rather than current PPP-s.
- c) A third direction of extending international comparisons is relevant mainly for the less developed, in particular new, members of the EU (NMS). This extension goes

³ What if foreign trade price indices are inaccurate, and the terms of trade index is under/over estimated? In this case there are opposite measurement problems regarding the volume of exports and imports, thus the volume of *GDP* as well. RGDI actually corrects these potential errors.

⁴ $RGDI_t = (GDP_t/P_{gdp} + T)$; and the change in $RGDI = RGDI_t/GDP_{t-1}$; where $T = (X-M)/P_{xm} - (X/P_x - M/P_m)$. Notations: P_{gdp} is the *GDP*-deflator, T is trading gains/losses, X and M are, respectively exports and imports is P_x and P_m are price indices of exports and imports, respectively and P_{xm} is the average of the two.

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+capital transfers) may be useful in international comparisons involving less developed members of the EU.

Charts 1-4 (at the end) are meant to give an impression of the empirical/statistical relevance of the foregoing issues. Chart 1 shows the cumulative difference between the growth of real GDP and RDGI; Chart 2 and 3 indicate the macroeconomic implications of these differences among countries. Chart 4 (a to c) shows the difference between the growth rate of real GDP, GNI GNDI and GNDI+capital transfers for three countries (Czech Republic, Hungary and Poland) for the period 2004-2006. Even a casual observation of these graphs should suffice to prove that the extensions suggested above can shed new light on the comparative level of, and changes (convergence) in, the “relative income” of nations.

3. External imbalances

Globalisation involves increasing international gross and net capital flows. Net capital flows reflect external imbalances, but the interpretation and international comparison of foreign imbalances is very far from being straightforward. Still, most economic analysts consider it to be relatively simple: they rely on a standard indicator, the ratio of the current account balance to GDP (CA/GDP). However generally applied in cross-country comparisons, this indicator suffers from several weaknesses: there are serious problems with both the *numerator* (CA) and the *denominator* (GDP) of the ratio.

The numerator (CA):

- a) A corollary of the last point in the previous section (the importance of unilateral capital transfers) is that the headline indicator of external imbalances – i.e., 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 the existing statistical definitions, changes in net foreign assets of a country are associated with the *combined* balance on its current *and* capital account. Due to the character of transfers from EU-funds, the capital account is particularly important for the less developed EU-members (as shown by the example of Greece and Portugal – see Chart 5). For the new member countries its importance has grown, and is certain to increase in the future.
- b) The other problem with the numerator concerns the interpretation of *reinvested earnings* of foreign companies, representing *virtual* outflows recorded on the income 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 a careful reading of current account deficits 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 NMS-s than for the older ones with which they can be compared (Chart 6)

The denominator of CA/GDP

- a) The major problem stems from the fact that international transactions are measured at international prices (so is the CA), while GDP is measured at domestic prices. The domestic price level, however, is an increasing function of the real level of development (this is the so-called Balassa-Samuelson effect). 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 importance (relative size of) external imbalances.
- b) There are two ways to cope with this difficulty in international comparisons:
 - Compare external imbalances to exports of goods and services (or total current receipts)
 - Compare external imbalances to GDP measured at PPP

As shown by charts 7 and 8, the latter type of comparison displays a rather different picture than the one based on the simple CA/GDP indicator.

4. Summary

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

CHARTS

Chart 1: Cumulative differences in RGDI and GDP growth rates since 1995 (percentage points)

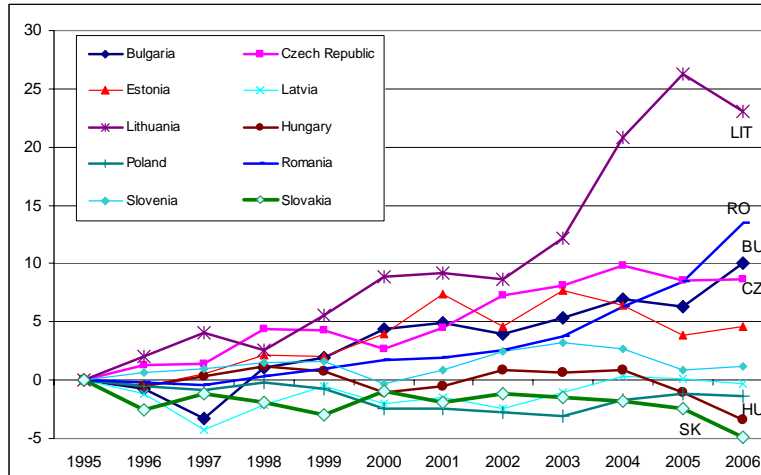


Chart 2: Cumulative difference between RGDI and GDP growth (pp) and annual growth rate of GDP (%): 1995-2006

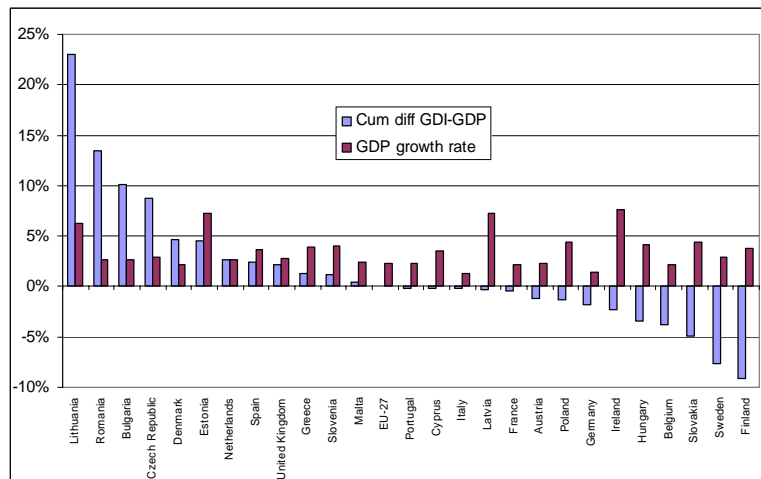
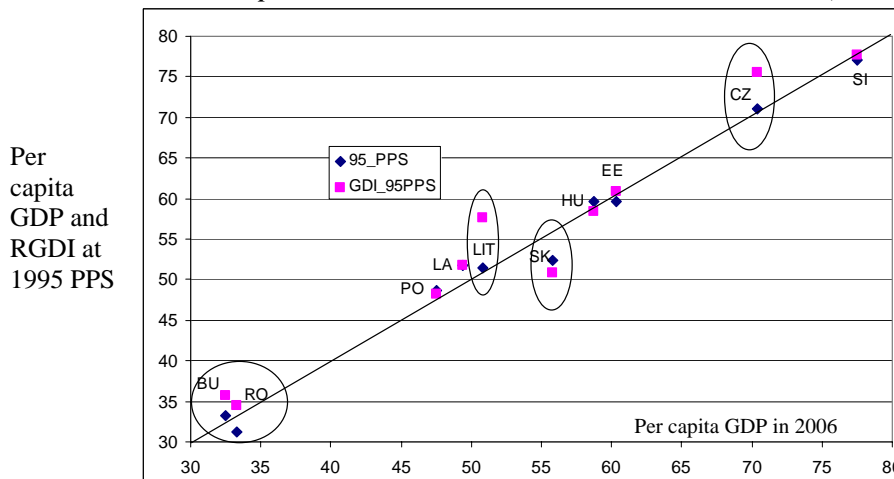
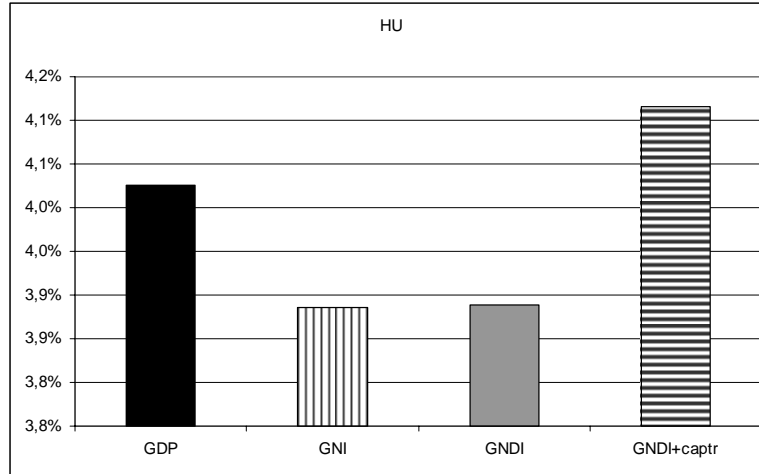


Chart 3: Per capita GDP and RGDI relative levels in 2006 (EU15=100)

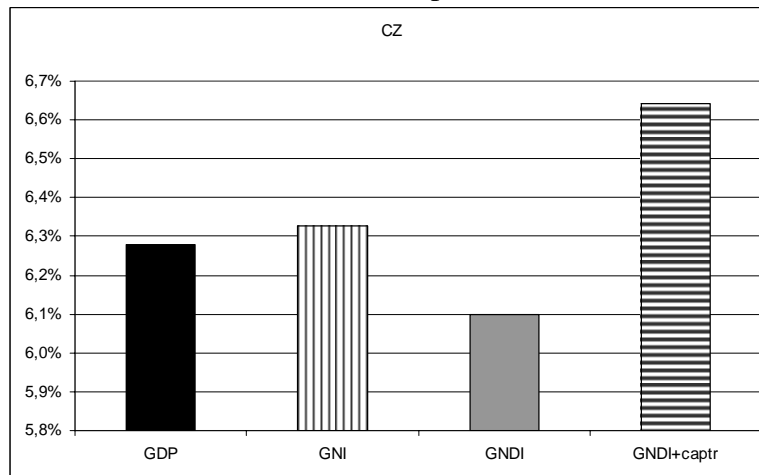


Charts4/a-c: GDP, GNI, GNDI and GNDI+captr.
 recent annual average **volume** changes:
 an illustration (CZ, HU, PL: 2004-2006)

a) Hungary



b) Czech Republic



c) Poland

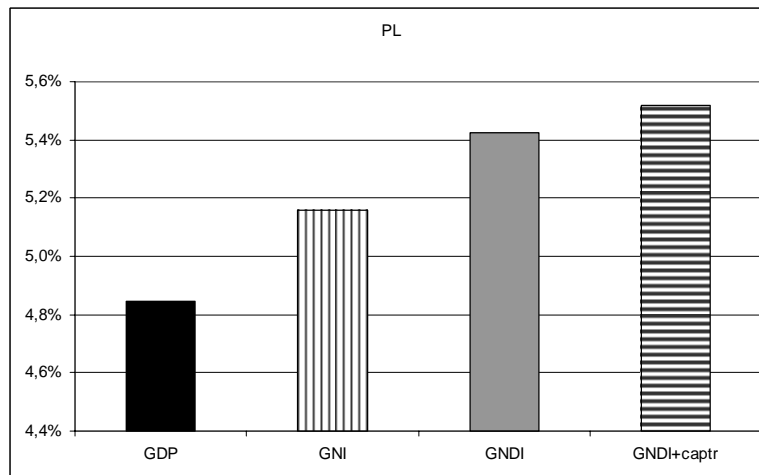
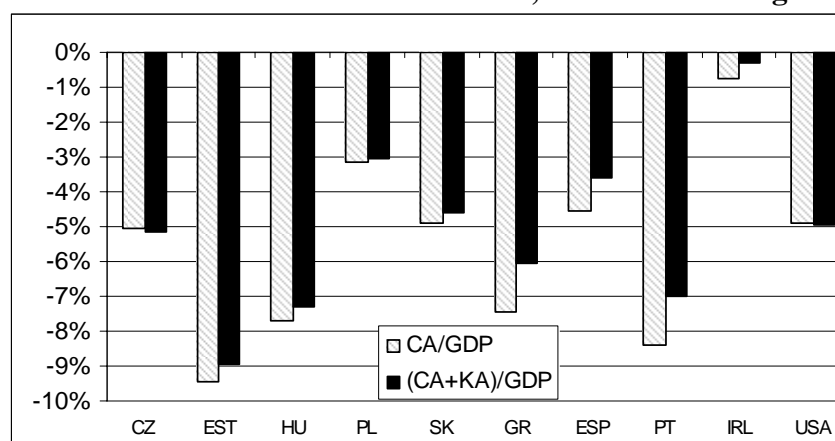
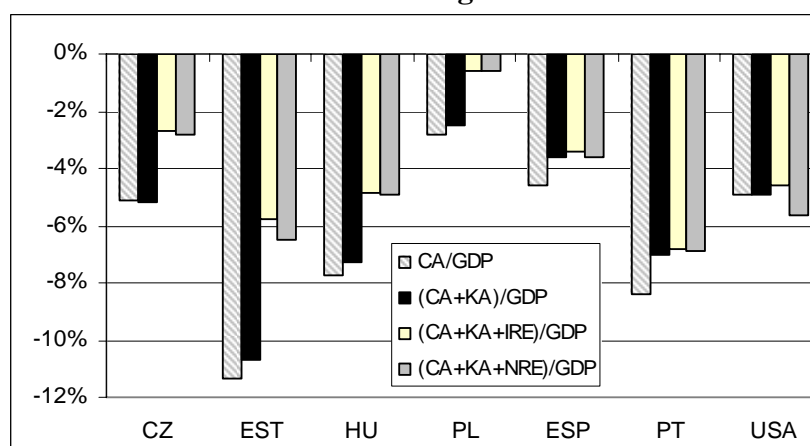


Chart 5 The current and the current *plus* capital account balance relative to GDP in nine EU-countries and the United States; 2000-2005 averages



Notations: CA: current account balance; KA: capital account balance

Chart 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*/



*/ CZ: 2001-2005; EST: 2002-2005; PL: 2004-2005

Notations: 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)

Chart 7: External (current +capital account) imbalances compared to GDP, exports of goods and services (Xgs) and current foreign revenues (CFR) (2000-2005 averages)

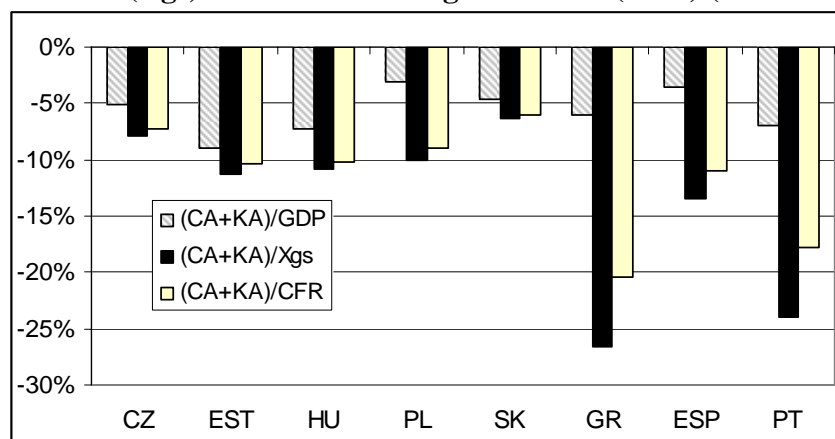
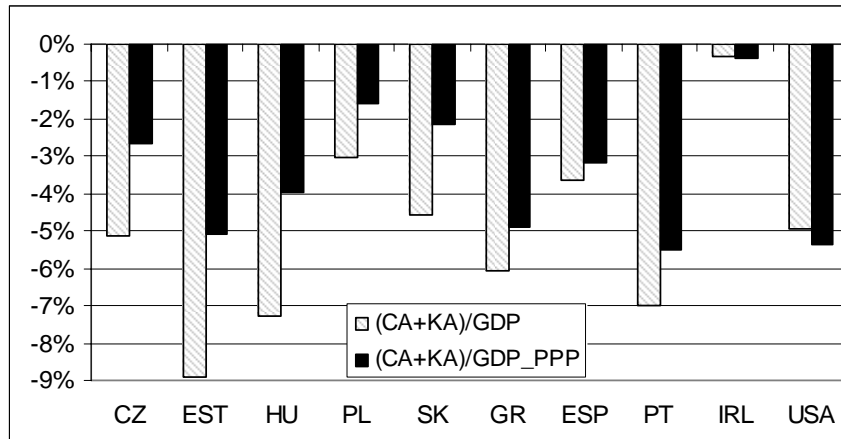


Chart 8: External (current + capital account) imbalances compared to nominal (exchange rate-based) and real (PPP-based) GDP-s (2000-2005 averages)



Sources:

Chart 1-3: own calculations based on AMECO; Chart 4-8: own calculations based on Eurostat