There and Back Again – Six Fiscal Tales from the Past Decades*

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A phenomenon known in the international literature that is nevertheless unaddressed is that the standard indicators used for analysing fiscal policy can yield misleading results. Creative accounting can distort basic statistics, dividing data into groups of "revenue" and "expenditure" leads to the same distorted results, and the common indicators of the cyclically adjusted balance are also misleading. Based on the indicators adjusted for the impact of these distortions, six fiscal episodes are defined in Hungary between 1995 and 2016. The first episode is the adjustment in 1995–1996. The structure of spending changed then between 1997 and 2001. In 2002–2006, consolidation was delayed after a sudden, major round of fiscal expansion. After this, several approaches were tried to ensure consolidation, in two steps, between 2007 and 2009 and then between 2010 and 2012. Finally, between 2013 and 2016 the structure of spending was changed once again.

Journal of Economic Literature (JEL) codes: E30, H10, H60

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1. Introduction

The four points in the introduction summarise the issues where the international literature maintains that standard indicators are unsuitable for fiscal analysis as well as the reasons behind this.

The first issue concerns the distortion of statistical indicators. Creative accounting exerts first a positive and then a negative distortion effect on the balance (that zero out each other overall), such as the so-called self-reversing measures (*Hoffmann – P. Kiss 2010*). The period of reversal can last for a few years or even decades, such as in the case of the public infrastructure built and maintained by the private sector (PPP[1] projects). This would require a direct adjustment to the statistics, as seen in

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[1] PPP: Public-Private-Partnership

the *Methodological Annex* (*the Annex*).[2] However, in practice attempts are usually made at the level of the medium-term analytical indicator, the structural deficit, considered the second line of defence, by filtering out temporary items. *P. Kiss* (*2011*) notes that in international practice (e.g. *Kremer et al. 2006*) the definition of temporary items is misleading, as it is often combined with partial, asymmetrical and often individual items.[3] The simple time series filtering (e.g. *Joumard et al. 2008*) of these is no substitute for the solutions using background information (*Hoffmann – P. Kiss 2010*; *P. Kiss 2011*).

The second set of issues concerns the assumed size of the general government balance in a given year if the cyclical fluctuation of the economy did not divert it from the structural balance. The response of the standard approach (European Commission, IMF, OECD) deduces the structural deficit mechanically, based on the output gap, and the tax revenues included in the cyclical adjustment also include the tax content of government expenditure. The mechanical approach assumes constant elasticity between the output gap and the gaps of the macroeconomic variables that comprise the tax base. This assumption is not realistic, neither in theory nor in practice; after this mechanical adjustment of the macroeconomic variables, the tax bases which underlie the estimate of the structural deficit are very far from what might be called trend. The separate estimation of the macroeconomic tax bases is attempted by the so-called disaggregated methods (*Bouthevillain et al. 2001; P. Kiss – Vadas 2005a, 2005b; P. Kiss – Reppa 2010*). Macroeconomic variables do not include the public part, comprising only the private wage bill and consumption. Accordingly, taxes also do not include the public wage bill and the tax content of consumption/investment, and therefore this spending can also be interpreted in net terms (*Kremer et al. 2006; P. Kiss et al. 2009*). However, experience has shown that the above methods of cyclical adjustment do not filter out the fluctuations of every exogenous factor. According to *Morris et al.* (*2007*), corporate tax revenues were much more volatile than the cyclical fluctuations in GDP and operating surplus. It was also found that the housing market bubble entailed a greater volatility in indirect taxes than deduced based on the tax base considered during the cyclical adjustment of indirect taxes, namely household consumption. This shows that the disaggregated method of adjustment should have included housing investment, that tax revenues and expenditure can be affected not only by real economy

[2] The Methodological Annex can be accessed online: https://en-hitelintezetiszemle.mnb.hu/letoltes/fer-21-3-st3-kiss-ma.pdf

[3] Individual items are extraordinary investments implemented very rarely, such as the construction of nuclear power plants. The aggregate investment spending usually includes a few individual items, but these can simply crowd out other investment plans, therefore they do not lead to major peaks. Accordingly, they should not be mechanically deducted.

developments but also inflation and asset prices,[4] and finally that instead of the business cycles that last for 8 years on average, the financial cycles lasting twice as long should be filtered. The right question does not concern the size of the deficit while the effect of the business cycle phases out over a horizon of a couple of years, but the size of the deficit with the disappearance of the financial cycle over decades.

The third set of issues examines how the *change* in the *levels* of structural deficit, tax revenues and net expenditure derived after addressing the first two criticisms can be divided into explanatory factors.[5] Three adjustments can be derived from the disaggregated method.[6] First, at the level of real tax bases, the GDP trend and the trends of the macroeconomic variables included in the adjustment are decoupled. Second, nominal tax bases evolve on two different paths because wages and consumption are related to the consumer price index, while the price index of the rest of the variables is tied to the GDP deflator. Finally, private tax revenues also mean that the direct tax content of expenditure should also be netted.

The fourth set of issues is related to the trend GDP used above. This is important not only for establishing the private tax and net expenditure rates where a given structural deficit emerges, but also because estimating trend GDP is crucial for determining the neutral, no-policy-change, spending path, as per the definition. Expenditure following the GDP trend stabilises the economy, and any fiscal impulse can be expansionary or contractionary for aggregate demand if calculated as a difference from this neutral budget path (*Chand 1993*). A major problem is that determining the trend GDP in the ratio and thus real-time cyclical adjustment can differ markedly from subsequent estimates. Therefore, the ex-post estimates of spending measures also differ from what fiscal policy sought to achieve in real time. The evaluation of potential growth can often deteriorate later, and therefore a spending path intended as neutral and following the real-time estimate of trend GDP may prove to be expansionary in retrospect. It has been demonstrated in several countries that fiscal policy was unintentionally procyclical in the 1990s and 2000s (*Caudal et al. 2013; Forni – Momigliano 2005; Cimadomo 2008; P. Kiss 2017, 2020*). The Hungarian estimates are presented in the Methodological Annex. Subsequent revisions are reduced to a minimum if a method is used that takes into account the build-up of financial cycles through the rise in property prices and credit aggregates (*Borio et al. 2013; Bernhofer et al. 2014*). According to their results, while business cycles last no more than 8 years, financial cycles can last up to 16–20 years.

[4] For example, while analysing the United States, cyclical adjustment does not filter out the impact of asset price volatility (*CBO 2013*), and the same distortion can also be detected among OECD countries (*Price – Dang 2011*). Since the positive effect of asset prices on taxes was not filtered out by cyclical adjustment, the methods that used the change in the cyclically adjusted primary balance to determine the discretionary measure misclassified this effect as measure having improved the balance (i.e. a tax increase) (*Guajardo et al. 2011*).

[5] Trivial mistakes include when the spending and revenue measures are defined as a shift in rates relative to GDP (e.g. *Alesina et al. 2018*), instead of using trend GDP for comparison.

[6] This is presented in detail in the Methodological Annex, available online.

The methodological solutions presented in the online Annex are used to identify and analyse the key episodes in Hungarian fiscal policy between 1995 and 2016. Since this is the first paper to compile the numbers from 1994 for comparison, it enables a consistent analysis of the adjustment in 1995–1996 for the first time. The examination ends with 2016 for several reasons. First, the events in recent years (the pandemic, the war in Ukraine) may change the evaluation of potential growth (and other real economy trends) to such an extent that would be visible not only in 2020–2022 but, to a decreasing extent, also in earlier years, changing the entire analysis based on an estimated trend and private tax and net expenditure. Second, after the spring of 2017 a portion of creative accounting, unknown to the author, was adjusted in national accounts statistics going back years, and therefore the adjustments made by the author would duplicate them in the analysis. Finally, funds received as part of the 2014–2020 EU Multiannual Financial Framework became significant from 2017 and had sizeable impact on the net expenditure thereafter. This results in a break in developments and analysis.

2. The economic policy adjustment in 1995–1996

One of the main functions of the state is to contribute to macroeconomic stability through the countercyclical policy reflected in the budget (*Musgrave 1959; Benczes – Kutasi 2010*). This can be achieved by pursuing a tight, debt-reducing fiscal policy in times of an economic upswing, which can reduce the overheating of the economy and also enables the mitigation of the effects of an economic downturn by increasing the budget deficit during a crisis. This is because a precondition for stimulating demand is having fiscal space, in other words the deficit and the debt should allow a temporary expansion.

However, this was not possible in Hungary in the early 1990s, because economic policy faced not only a downturn but serious structural problems as well. The period following the political transition implied a heavy burden. As a result of the transformation crisis, GDP contracted by 18 per cent between 1989 and 1993 (*Ecostat 2010*). This is because the development of the institutional system necessary for the operation of the market economy, infrastructure developments and the creation and liberalisation of money and capital markets (*Neményi – Halpern 2000*) exerted a massive fiscal impact. The amortisation rates of the fixed assets that became more realistic thanks to the Accounting Act and the Bankruptcy Act allowed the full extent of the crisis to be evident. The appearance of the previously hidden unemployment required general government expenditure amounting to 3 per cent of GDP (in the form of municipal social support and unemployment benefits). Employment declined by close to 1 million until the middle of the decade, so while in the mid-1980s each economically active person supported one economically inactive, ten years later this figure was already 1.5. Meanwhile, the number of

entrepreneurs surged from 30,000 to over 700,000, and the number of employees registered at the minimum wage also spiked, and tax evasion also became a major factor: tax revenues fell much more than the contraction in GDP.[7] In effect, one economically active person actually paying taxes supported almost 2 economically inactive or minimum tax-paying persons. In parallel with the decline in tax revenue, fiscal policymakers tried to cut government expenditure, but these efforts were not successful,[8] because it was only sufficient to offset the additional spending generated by unemployment. This created a sizeable deficit, and government debt gradually climbed from 70 to 90 per cent of GDP. And because unlike most transforming countries Hungary inherited a huge amount of debt mostly owned by non-residents, the growing interest burden also contributed to the imbalances.

GDP output and domestic absorption became decoupled. Output decreased until 1993, mainly in industry and agriculture that had an outdated structure. The inflow of FDI created competitive export capacities in industry, so this sector contributed the most to the gradual recovery of production from 1994. During the initial shock, investments declined in line with output, but within that the share of public investment remained high until 1994. By contrast, the share of government absorption[9] (collective consumption and public consumption provided to households in kind) and households' purchased consumption increased after 1991 and remained stable until 1995. Although households experienced a shock in the labour market, real wages responded slower, and this was partly offset by cash benefits from the government; therefore, consumption was initially not affected much by the drop in economic output. As regards external economic developments, just when Hungarian exports started to be oriented from Eastern markets towards Western ones, the temporary and substantial rise in oil prices and the interest rate increase following the inflationary impact of German reunification caused a recession in Western Europe. The negative effect of the recession was mainly felt in 1993, however, after this, Hungary successfully joined the European growth, and the economic policy adjustment of 1995–1996 that contracted demand in the economy was implemented in a favourable external environment. The adjustment was necessary because the effective (augmented SNA) general government deficit and the current account deficit were both over 9 per cent of GDP in 1994, and after

[7] Entrepreneurs typically paid only the minimum required taxes and contributions. In the meantime, the VAT chain was broken in the case of services, because it made more sense to forgo the VAT refund than to pay the taxes and contributions related to wages in the formal economy. According to the estimate prepared based on this aspect of tax evasion, the taxes and contributions that went unreported by the self-employed accounted for half of the VAT tax base lost (*Krekó – P. Kiss 2008*).

[8] In the 1980s and the early 1990s a decentralised general government system emerged where the central government only controlled a portion of spending. Even if it cut intra-governmental transfers, local governments could be indebted, use their deposits, and the central budgetary chapters and units were able to offset the cuts by using carry-overs from the previous year. Therefore, the central government only had an indirect impact on wages, the purchase of goods and services and some of the investments.

[9] This mostly referred to the spending of the decentralised general government, which did not coincide with the intentions of the central government.

the Mexican crisis erupted in 1994 it was argued that *"the upsetting of the external financial balance became a genuine threat"* (*Kornai 1996*).[10]

In response to the dramatic deterioration in external balance, measures were first introduced in March 1995 (*Bokros Package*), which was continued in several stages until 1996. A turnaround in monetary policy was marked by the immediate devaluation of the forint by 9 per cent, which led to unexpected inflation, as well as the announced introduction of the crawling peg. Fiscal policymakers first introduced a temporary surcharge on imports for consumption (1.7 per cent of GDP), which reversed the revenue-decreasing effect of the customs duty-reduction process stipulated in international agreement.[11] This generated revenues for the government and also lowered imports, and, along with the devaluating exchange rate policy and the dramatic increase in administered prices (pharmaceuticals and energy), it also caused an unexpected additional inflation of 9–10 percentage points in 1995, followed by another 4-percentage point unexpected rise in 1996. Most public sector spending did not follow inflation for the remainder of the year, and therefore it was reduced in real terms and declined as a percentage of GDP.[12] The extraordinary contraction in public investments was somewhat offset by other capital transfers, for example the increase in housing subsidies (*Table 1*). But social benefits shrank by even more, as the measures affecting sick pay and the family allowance resulted in cuts amounting to 0.7 per cent of GDP. In 1995, pension increases were linked to the wage index of the current year, and thus the rise in wages that did not offset inflation reduced pension expenditure relative to GDP. Starting from 1996, pension increases were based on the previous year's wage index, so the pension rate was reduced again as wages were not raised in line with inflation. In two years, this expenditure-decreasing effect amounted to 1.3 per cent of GDP. In addition to the reduction in the pension rate, previous developments continued after the adoption and implementation of the budget for 1996. Inflation was slightly underestimated for that year, and the effect of the reduced real value exerted on spending (together

[10] The panic that spread throughout the international money market and exchanges following the devaluation of the Mexican peso was called the Tequila Effect. According to an analysis in the 6 February 1995 issue of *Time* magazine, Hungary seemed to be the most vulnerable in the Eastern European region, because its external debt exceeded that of Mexico, which was coupled with a major twin deficit. Yet there was no negative effect because most financial investments were long-term. In the first half of 1995, some also predicted a potential temporary and highly risky situation. The 13 February issue of *Newsweek* cited economists and market-watchers while claiming that Hungary's vulnerability was similar to that of Mexico, but that Hungary could change its economic policy to improve the situation (*Pethő 1995*).

[11] The announcements clearly focused on revenues. The expenditure appropriations for 1995 were hardly planned to be reduced in nominal terms, and only some of the plans were actually realised, because the implementation of the measures cutting family benefits was delayed due to the decision of the Constitutional Court (*P. Kiss 1998*).

[12] Half of the non-payment of compensation for inflation (1.7 per cent of GDP) was the decision of the independent, decentralised general government (local governments and central institutions) (*P. Kiss 2007*). In 1995–1996, the central government reduced the intra-governmental transfers to the decentralised general government by 1.8 per cent of GDP. In contrast to previous years, this could not be offset by the affected group, who reduced their spending by another 1 per cent of GDP, although 0.6 per cent of this was caused by the usual adjustment following the typical peak in municipal investments prior to elections. The largest reduction was realised in wages and the purchase of goods and services (totalling 3.7 per cent of GDP), reflecting the already reduced intra-governmental transfers as well as the absence of compensation for inflation.

with the effect of pensions for 1996) may have been as high as 1.7 per cent of GDP in that year, too. In addition, the measures affecting sick pay, social benefits and the family allowance reduced spending by 1.1 per cent, and capital expenditure also contracted more (by 0.5 per cent) than what would have been caused by the drop in real value.

Table 1
Main taxes and expenditure as a percentage of trend GDP in 1994–1996

	1994	1995	1996	1994–1996
Cyclically adjusted private taxes	**31.3**	**32.8**	**32.5**	**1.2**
Cyclically adjusted private indirect taxes	13.8	15.4	15.1	1.2
Cyclically adjusted net primary expenditure	**37.6**	**32.6**	**29.0**	**–8.6**
Cyclically adjusted net social benefits	20.0	18.1	15.7	–4.3
Net wages	6.4	5.6	4.8	–1.6
Net purchase of goods and services	7.2	6.1	5.6	–1.6
Net investments and capital transfers	6.2	5.7	4.9	–1.3
Cyclically adjusted primary balance	**–6.3**	**0.1**	**3.5**	**9.8**

Note: The table does not include items with lower dynamics such as current corporate subsidies and sales revenue and fee income. These would influence the shifts across individual years, but have a minimal effect overall among the changes in two years.

The economic policy consolidation reduced the general government deficit and also mitigated government debt with the rising, albeit controversially assessed, proceeds from privatisation. On the other hand, it brought the domestic absorption of the national economy closer to economic output in such a way that it led to a huge fall in households' disposable income, consumption and standard of living. While the private wage bill and consumption were 3 per cent higher than their trend in 1994, the wage bill and consumption had fallen below the trend by 8 and 5 per cent, respectively, by 1996.[13] A partial analysis has shown that the unexpected inflation, as the quickest way to enforce adjustment, actually proved to be costly from a fiscal perspective. As households' wages and consumption represents the largest tax base, their reduction in real terms also considerably decreased tax revenues.[14] Surprisingly, according to methodology used for inflation as shown in *Tables 4* and *5 of the Methodological Annex*, savings of 0.5 per cent were seen on the expenditure side, while a loss of 2.1 per cent was detected on the tax side due to the price gap, as shown in *Tables 6* and *7 of the Methodological Annex*.[15] This is partly because the lost tax revenue arising from the decoupling of the real trends of consumption

[13] The methodology for establishing the trend values used in the paper can be found in the online *Annex*.
[14] According to the estimate by *P. Kiss* (*2007*), the tax revenues lost in 1995–1996 amounted to 1.5 per cent of GDP, contrasted with the loss in real value due to the improvement of the balance (2.8 per cent of GDP).
[15] The deviation of actual nominal GDP from the trend (*Figure 9 of the Methodological Annex*) means that the same improvement in the balance is reflected in a different distribution of expenditure and revenue rates if the nominal values are divided by actual nominal GDP rather than trend values.

and wages from GDP amounted to 0.9 per cent of GDP, and the cyclical gap in consumption and the wage bill changed more than the output gap; therefore, the cyclical component deteriorated by 1.3 per cent of GDP on account of the composition effect. In other words, decoupling along with the composition effect resulted in lost tax revenues of 2.1 per cent.

3. Restructuring on the expenditure side: 1997–2001

From 1997, economic growth stabilised in a more favourable structure. First, investment became the driver of growth, which only started to rely on household consumption growth towards the turn of the millennium. While consumption fell short of its trend by 5–6 per cent between 1996 and 1998, it did so by only 2–3 per cent in 1999–2001. This was facilitated by the gradual increase in the private wage bill, which was also well below its trend. And by 2001 the wage bill had reached its trend value. Confidence in economic policy and the exchange rate regime increased in tandem with the improving economic performance. Besides the disinflationary developments on the global market, this also contributed to the reduction in consumer price inflation, which had been over 30 per cent in the middle of the decade, to below 10 per cent by the turn of the millennium. Although the improvement in the balance of payments deficit proved to be temporary after the consolidation, its structure changed considerably. Although the trade deficit was markedly reduced, this was offset by the deterioration of the income balance, which can be primarily attributed to the repatriation of profits linked to increased FDI and other income outflows. This was the period when the domestic product (GDP) and national income (GNI) gradually became decoupled. Although the direct impact of the Southeast Asian crisis that started in 1997 was minimal (the share of Asian exports was below 3 per cent), there were indirect effects as the affected countries were Hungary's competitors on the export market and they achieved competitiveness gains through devaluation. In 1998, the effect of the Russian crisis was felt acutely, as the share of Russian exports decreased from 5 to 3 per cent between 1997 and 1998. This negative effect was offset by the drop in oil prices. A significant boom began in the external economic environment in 1999, the positive implications of which were mitigated by the massive rise in energy prices in the second half of 1999. By the turn of the millennium, steady economic growth and the fiscal developments that had entered a sustainable path had significantly improved Hungary's competitiveness. In the IMD Competitiveness Ranking, the country moved up 10 places between 1997 and 2000 to secure the 27th position, overtaking the Czech Republic (37th) and Poland (40th). In terms of the indicator measuring economic performance within the index, Hungary performed even better: by the turn of the millennium, the country's rank had changed from 38th to 20th.

In 1997, fiscal policy was still only concerned with preserving the achieved balance, and this goal was later complemented by the support of sustained economic growth.

The countercyclical fiscal policy as an objective was not mentioned in draft laws, although it was referenced in the preliminary EU accession document in 2001.[16]

The structural problems should have been resolved to ensure sustainable growth. The most important issue was low employment, which should have been addressed since the transformation crisis, as many of the 1 million people who lost their jobs after the political transition permanently left the labour market. Some of them tried to take advantage of the various options for early retirement. However, many people found themselves without any meaningful social benefits and were unable to find employment in the absence of skills. This was part of the reason why Hungarian society became highly polarised towards the turn of the millennium.[17] However, tensions were caused in connection with government duties by the gradually widening gap between the private and the public sector in terms of efficiency and the wages of employees. Another important aspect was to raise the number of births, which was one of the objectives of the new family policy programme, under which family benefits were no longer means-tested from 1999 (exerting a fiscal effect of 0.3 per cent of GDP), changing a system introduced in 1996. This is because the ageing of society can be slowed by raising the number of births, although the pension system will still reflect the additional costs arising from ageing. The pay-as-you-go system is flexible in terms of distributing the burden between the currently active contribution payers, those just retiring and pensioners. In a funded system (which was introduced in Hungary as a second pillar with Act LXXXII of 1997), the balance is achieved because along with the slowdown in economic growth due to ageing, the return on capital also diminishes (and the fund fees should also be deducted from this), therefore the pension of retirees is increasingly decoupled from wages. Between 1998 and 2010, the official deficit and government debt were both steadily increased by the transfers of those that changed to the second pillar, but this did not affect household demand, and therefore it is reclassified to among the government's contribution revenues in our analytical approach.

The sustainability of the consolidation in 1995–1996 is difficult to assess simply based on the subsequent evolution of the deficit and debt. Thanks to the continuous improvement of the budget balance, the proceeds from privatisation and economic growth, the debt-to-GDP ratio fell from 90 per cent by 30 percentage points in a few years, reaching 55 per cent in 2000. Meanwhile, the deficit of 6.4 per cent in 1996 decreased to 4.4 per cent in 2001, but only the structure of revenues and expenditure can reflect whether the situation was sustainable.

[16] *"By nature, the Hungarian fiscal system is countercyclical, as a major portion of expenditure is set in nominal terms, while revenues adjust to nominal GDP growth if output or inflation differ from the forecasts."* (*Government of the Republic of Hungary 2001*).

[17] The Gini coefficient, which captures income differences and stood at 0.25 at the time of the political transition, rose to around 0.3 by the early 2000s, which was nevertheless still low by international standards.

The 2-percentage point improvement in the balance is fully attributable to the fact that the interest balance improved from 8.3 per cent to 4.4 per cent between 1996 and 2001. Meanwhile, the primary balance changed in the opposite direction, as the 2-per cent primary surplus in 1996 had disappeared by 2001. This is attributable to the 1.8-per cent growth in the GDP ratio of investment expenditure. For years, the unsustainably low investment rate of 1995–1996 fell short of the levels necessary for replacing fixed assets, and it only started to cover for amortisation in 2001. In other words, consolidation was not sustainable in investments, but the additional expenditure attributable to this was more than offset by the gradual improvement in the interest balance.

However, according to the assessment by *Hornok et al.* (*2008*), apart from the extraordinary change in interest and investment expenditure, most fiscal policy variables remained fairly stable between 1997 and the turn of the millennium (*Table 2*). The trend-like changes of most fiscal variables remained steady in 1997–2000, and the general trend was that cuts of tax rates (for example customs duties) were offset by measures broadening the tax base. The public wage bill did not change much either, because most pay rises were offset by cuts in the number of employees.

Table 2
Main taxes and expenditure as a percentage of trend GDP in 1997–2001

	1997	1998	1999	2000	2001
Cyclically adjusted private taxes	**30.9**	**31.3**	**31.7**	**32.3**	**30.9**
Cyclically adjusted profit taxes	1.9	2.1	2.3	2.3	2.3
Cyclically adjusted private wage taxes and contributions	15.3	15.4	15.0	15.2	14.8
Cyclically adjusted private indirect taxes	13.7	13.8	14.4	14.8	13.7
Cyclically adjusted net primary expenditure	**28.8**	**29.6**	**29.8**	**29.2**	**30.6**
Cyclically adjusted net social benefits	15.3	15.8	16.1	15.7	15.7
Net wages	4.9	4.9	4.9	4.8	5.0
Net purchase of goods and services	5.6	5.5	5.4	5.4	5.4
Net investment	2.3	2.5	2.8	2.9	3.3
Cyclically adjusted primary balance	**2.1**	**1.7**	**2.0**	**3.1**	**0.2**

4. Fiscal expansion and delayed adjustment: 2002–2006

The Hungarian economy and the general government were in a favourable position at the turn of the millennium. That was the only year after the economic transition when the official debt-to-GDP ratio did not exceed the 3-per cent Maastricht threshold, and the debt ratio was lower than 60 per cent of GDP. Corporate and household indebtedness was among the lowest in the European Union. In the

early 2000s, the growth rate of the Hungarian economy was steadily around 4 per cent. In 2000–2001, net exports and domestic demand, especially consumption and investments, increased GDP. In 2002–2003, the entire euro area, in particular Germany, one of Hungary's most important trading partners, was in a crisis. This reduced the growth rate of Hungarian exports, and *per se* this would have reduced economic growth. That was the time when growth financed from credit, based on domestic demand and resulting in a current account deficit, began, which temporarily concealed the economic and structural issues. All economic actors accumulated debt at the same time, and fiscal policy played a key role in this.[18] Meanwhile, the private sector also failed to assess the risks and became increasingly indebted as lending conditions were gradually eased. The sector's indebtedness was at the EU's average when the global financial crisis hit. Owing to the fiscal expansion and private indebtedness, consumption, which had been 2 per cent below its trend in 2001, was 6–7 per cent above its trend in 2003–2006. In the meantime, the private wage bill that had been in line with the trend in 2001 was 5–9 per cent above its trend in 2002–2006.

Table 3
Main taxes and expenditure as a percentage of trend GDP in 2002–2006

	2002	2003	2004	2005	2006
Cyclically adjusted private taxes	**29.2**	**28.3**	**28.8**	**28.8**	**29.5**
Cyclically adjusted profit taxes	2.4	2.2	2.0	2.0	2.3
Cyclically adjusted private wage taxes and contributions	13.8	12.6	12.8	13.2	13.5
Cyclically adjusted private indirect taxes	12.9	13.4	13.9	13.6	13.6
Cyclically adjusted net primary expenditure	**35.3**	**34.1**	**32.9**	**35.3**	**36.9**
Cyclically adjusted net social benefits	17.0	17.9	18.4	19.6	20.4
Net wages	5.7	6.4	6.2	6.3	6.1
Net purchase of goods and services	5.6	5.6	4.9	5.2	5.6
Net investment	4.4	3.8	3.6	4.2	4.5
Capital transfers	3.3	1.8	1.1	1.2	1.7
Cyclically adjusted primary balance	**–6.2**	**–5.8**	**–4.0**	**–6.4**	**–7.4**

The fiscal expansion offset the negative impact that the slump in external demand had on growth. However, this was motivated by the electoral cycle, rather than a countercyclical fiscal policy. In 2002, taxes were cut (personal income tax, tax-free minimum wage), and in a few years public wages were raised by one-third,[19] and social benefits steadily increased after 2001 (e.g. the gradual introduction of the

[18] Monetary policy failed to offset the dominance of fiscal policy (*Matolcsy – Palotai 2016*).
[19] As mentioned above, public wages did in fact fall short of private wages, but this was addressed without dealing with the shortfall in efficiency; a structural problem.

13th-month pension) (*Table 3*). In 2002–2003, investments and capital transfers (e.g. housing subsidies) reached record highs. All in all, the size of the expansion caused an unsustainable deficit and growing debt. Since 2004, convergence programmes have included an estimate for the output gap, but stabilisation of the economic cycle could not be included among the objectives, due to the high deficit and indebtedness. In 2004, the balance was temporarily improved, mostly due to curbed investments and capital transfers, and the rise in social benefits was halted. After this, in 2005–2006, capital items reached their earlier levels and social benefits also started to rise rapidly. This was once again the end of an electoral cycle.

The economic impact of the fiscal expansion was estimated by *Hornok et al.* (*2008*) using a model and two scenarios. The baseline for the estimation was established with a no-policy-change, neutral scenario, covering the revenue and expenditure variables listed at the end of *1.3 section of the Methodological Annex*.[20] The differences between the actual and the neutral values of these variables were considered individual shocks.

According to the results, without the shocks (expansion), economic growth in 2001–2003 would have been lower by 1 per cent in each year. In this period, the stronger growth was partly attributable to consumption, which came in 1.8 per cent higher than the neutral fiscal path. This was due to the fiscal measures boosting households' income, cash transfers, public wages and higher net private wages (PIT cuts). Growth was also stimulated by the above-neutral growth in household and public investments and the increase in government consumption. Of course, domestic demand also had an import content, and therefore only two-thirds of that had any impact on growth.

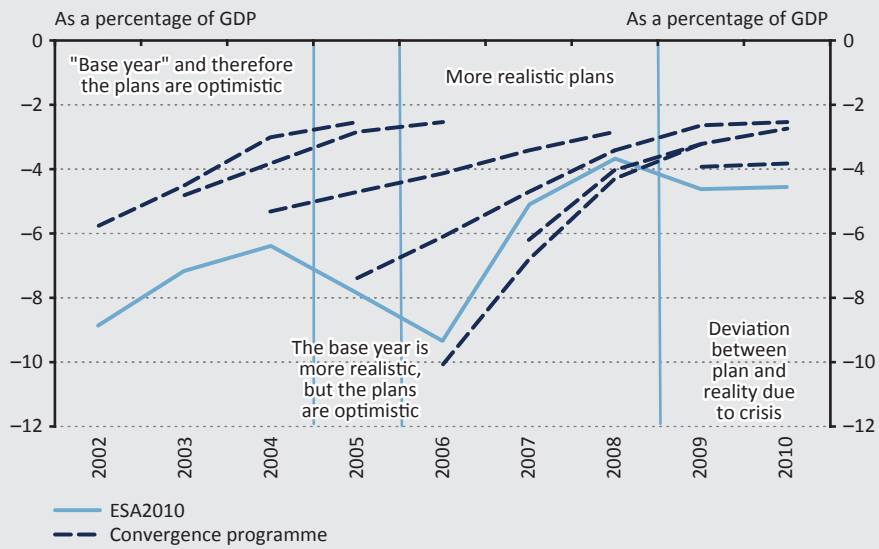
According to *Hornok et al*. (*2008*), GDP levels in the two scenarios continued to diverge by 2.5–3 per cent in 2004–2006. Their results showed that in 2004–2006 the growth rate would have been similar to the path not continuing the fiscal expansion that was actually realised due to the earlier shock, and for example in the case of a no-shock baseline scenario the decline in investments was the result of the trends from earlier years, namely the expansion in housing investments.

The consolidation of the unsustainably high deficit did not begin until 2006. Tax increases or cuts to household expenditure (wages, transfers) were out of the question, and only investments were curbed temporarily. The actual size of the deficit and the absence of the measures genuinely reducing the deficit were sought to be concealed with creative accounting and the planning errors in the Budget Act.

[20] A publication of the *MNB* from *2007* discusses in detail the scenario of a lower potential growth rate arising from a neutral fiscal path. The actual evolution of the neutral expenditure scenario differed from what the authors would believe recently based on the latest estimate of potential GDP, because potential GDP, the basis for the neutral path, was assessed differently in past convergence programmes (see *Methodological Annex, Table 3*).

In order to understand how the Hungarian budget deficit could remain exceptionally high for years and why the debt ratio increased, the planning process should be reviewed, just like the differences between the various accounting methods. In principle, there was a need for consolidation because Hungary had been under the so-called Excessive Deficit Procedure (EDP) since its accession to the EU in 2004.[21] Accordingly, the government could only determine a gradually decreasing deficit path each year in the period under review, but it failed to meet its objectives until 2007. This was not attributable to negative exogenous factors, as GDP growth, which determines tax revenues, was relatively high, and interest expenditure slightly declined due to investors' large risk appetite. The deficit was above the target partly because of the errors in planning, and partly because of the measures implemented during the year that increased the deficit,[22] and also because "loopholes" in fiscal statistics were sought.

Figure 1
Convergence programmes and meeting the deficit targets



Source: HCSO and convergence programmes

[21] For more on this unsustainable fiscal policy, see: *Győrffy* (*2007*); *Orbán – Szapáry* (*2006*).
[22] An example for the deficit-increasing measures implemented during the year is that in 2002, following the elections, public employees' wages were increased by 50 per cent, and the personal income tax was reduced.

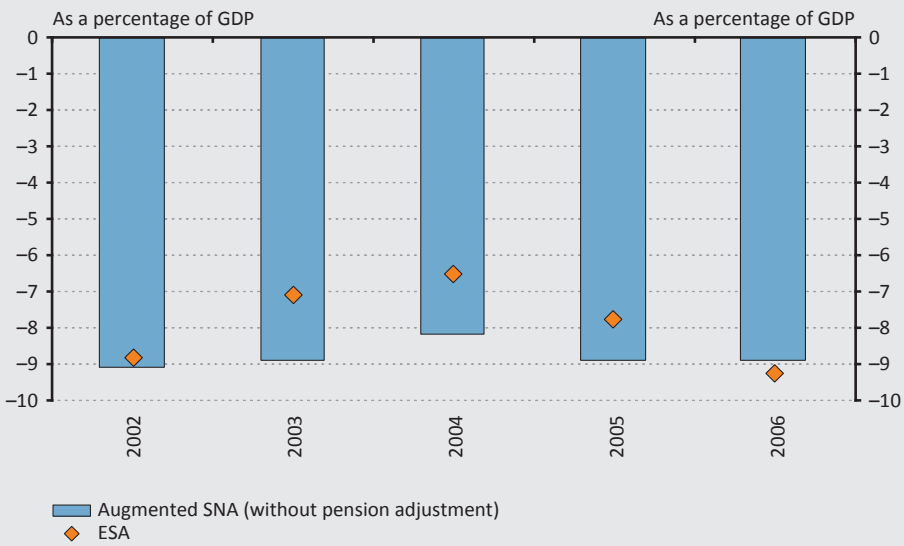
First, between 2002, when the extra spending measures started, and 2004 the deficit-to-GDP ratio of the "base year" used for planning was underestimated by 2 percentage points (*Figure 1*). Second, there were also errors regarding the developments and measures of the next year. Between 2003 and 2005 the deficit slippage was largely caused by the revenues falling short of their targeted values by 1.1–1.5 per cent of GDP. In 2005, the foreseen values finally became more realistic, because it was admitted in the Convergence Programme that the government's balance deteriorated in the base year of the planning. Nevertheless, the difference between the plans and the actual figures was of record proportions: instead of an almost 2-percentage point improvement, the deficit grew by almost 2 percentage points.[23]

The difference between the plans and the actual figures was also influenced by the fact that until 2006 decision-makers sought to reduce the deficit by using methodological loopholes that turned out to be unfeasible. Overall, these statistical adjustments increased the deficit by 1–2 per cent of GDP each year, and so they explain much of the difference between the plans and the actual figures:

- Between 2003 and 2005, Eurostat temporarily allowed private pension funds to be shown under the government sector, and so the temporary, so-called "national balance" was improved by 0.9–1.4 per cent, but later this option expired.
- Road construction would have been outsourced to public corporations outside the general government in a legal sense, but in line with EU statistics rules, Nemzeti Autópálya (National Motorway) Rt. had to be included in the statistical government sector from 2004, and the same applied for Állami Autópálya Kezelő (Public Motorway Management) Rt. from 2006, so no "savings" were realised from this after that.
- In 2005, the transformation of the 13th-month wage to a "0th-month" wage was not a success, as it had to be recorded in 2004 instead of 2005 in statistics, contrary to the original intention of the government.
- The government sometimes held back the VAT refunds to temporarily improve the budget balance, but in line with EU rules the statistical methodology was soon amended so that this could not impact the ESA balance.

[23] Between 2006 and 2008, the much-delayed adjustment was partly completed, and the plans became more realistic. After this, the crisis resulted in another negative surprise, but the balance still improved by almost 5 per cent until 2010. But within that, as demonstrated later, investments realised from own funds (rather than EU funds) were reduced by 2.5 per cent, which is an unsustainable and unfavourable way to improve the balance when investments fall short of amortisation.

Figure 2
Augmented SNA balance and ESA indicator in 2002–2006



Note: Without adjusting for the loss of pension contributions
Source: MNB

However, even after the statistical adjustments made at that time, some improving factors remained in the budget, such as the lump-sum concession revenues, "savings on investment" arising from public investments outsourced to private firms (e.g. the form of PPP) or the quasi-fiscal deficit of public transportation, caused by underfunding. The augmented (SNA) indicator calculated by the MNB also filters these distortive effects (*Figure 2*). Based on this, in the period between 2002 and 2006, only 2004 saw a minor, temporary deficit reduction, due to curbing investments.

5. Adjustment in two phases: 2007–2008 and 2009

In the middle of the decade, the global economy became overheated, without any countercyclical response from fiscal policymakers in the individual countries to restrict demand. When this is examined in real time (when the decisions were made), it can be seen that they often failed to realise even the signs of economic growth, falsely identifying a cyclical upswing as trend growth (*Forni – Momigliano 2005; Cimadomo 2008; Caudal et al. 2013; P. Kiss 2017, 2020*). Due to the subsequent downward adjustment of estimated potential growth after the crisis, the fiscal policies that were intended to be countercyclical only turned out to have contributed to overheating in a procyclical manner later on.

In Hungary, net exports once again became one of the drivers of domestic growth thanks to the favourable economic developments in Europe. But the economy's performance after 2008 was mainly influenced by the reduction of the debt accumulated prior to the crisis. The MNB's estimates show that by that time lending processes had become decoupled from the economy's performance, meaning that a credit bubble had formed. According to the estimates, unsustainable indebtedness was most typical of households (*Bauer et al. 2013; Endrész et al. 2014; Kiss et al. 2006; MNB 2010a*). As all economic actors (including the government) increasingly financed their consumption from loans, by 2008–2009 the amount of outstanding borrowing was 16–18 per cent higher than the equilibrium level of debt relative to GDP (*Matolcsy 2015*). The resulting vulnerability was exacerbated by the fact that the indebtedness was partly linked to real estate investments and occurred in FX. Therefore, the unexpected international financial crisis of 2008 hit Hungary in a vulnerable position.

The combined debt reduction of households, companies and the government persistently reduced domestic consumption and investments. Consumption was 6–7 per cent above its trend in 2007–2008, but in 2009 it was 1 per cent below the trend. The effects on the labour market were similarly negative: while private wages gradually declined from a 2-per cent surplus to the trend value between 2007 and 2009, unemployment decreased from 1–2 per cent above the trend to 3 per cent below it in 2009.

The fiscal adjustment announced after the elections in 2006 (*New Balance Programme*) increased inflation from 3.6 per cent in 2005 to 6–8 per cent in 2007–2008 through tax hikes,[24] and it also contracted domestic demand (consumption and investments). As a result, economic growth declined to less than 1 per cent in the next two years. Some of the measures relied on tax increases (VAT, simplified business tax (eva), contributions, solidarity tax, contributions by the financial, energy and pharmaceutical sectors), but a large portion of expenditure was also reduced (wages, purchase of goods and services and especially investments). The neutral expenditure path used as a reference point for expenditure measures could not be established in real time due to the estimation error of potential GDP (*Table 3 in the Methodological Annex*).

When the crisis hit, government debt stood at 72 per cent of GDP (according to 2021 data), and the ESA deficit of the budget was still relatively high, at 3.8 per cent, despite the ongoing fiscal adjustment underway from the second half of 2006. In that situation, the economic downturn was not offset by countercyclical fiscal policy; on the contrary, further deficit-reducing measures had to be implemented in the absence of market financing and as a condition for the immediate financial assistance requested from the International Monetary Fund. These measures reduced the

[24] The partly unexpected inflation improved the balance by 0.2–0.3 per cent each year, in particular on the expenditure side (methodology: *P. Kiss 2007*).

disposable income of the private sector, just like the demand of the government sector from companies, thereby deepening the recession. Since consumption and wages represent the largest tax base, their contraction in 2009 meant that the cyclical component deteriorated to a great extent, which *per se* increased the financing requirement of the general government. Since the economic impact of the crisis was gradually exerted on consumption and wages, the negative fiscal effect resulting from the smaller tax bases reached its trough in 2010. The employment rate of 57.4 per cent among 15–64-year-olds measured in 2006 dropped to 54.9 per cent by 2010 due to the crisis, which was the lowest among EU countries.[25]

In 2009, another mid-year VAT increase took place, which had a full-year effect in 2010. In parallel with this, contributions were cut, first applied to those earning up to twice the minimum wage in 2009, and then to everyone, regardless of wage levels, in 2010. While the combined effect of the two tax measures in 2009 pointed towards consolidation, it had a neutral effect in 2010. On the expenditure side, wages (13th-month wage) and investments were cut further, and household transfers were also markedly reduced (phase-out of the 13th-month pension, cuts to sick pay, tightened family benefits) (*Table 4*).

Table 4
Main taxes and expenditure as a percentage of trend GDP in 2006–2009

	2006*	2007	2008	2009	2006–2009
Cyclically adjusted private taxes	**29.5**	**32.5**	**33.1**	**31.6**	**2.1**
Cyclically adjusted profit taxes	2.3	2.5	2.4	2.0	–0.3
Cyclically adjusted private wage taxes and contributions	13.5	15.6	16.4	15.2	1.7
Cyclically adjusted private indirect taxes	13.6	14.3	14.2	14.4	0.8
Cyclically adjusted net primary expenditure	**36.9**	**34.3**	**33.4**	**31.3**	**–5.6**
Cyclically adjusted net social benefits	20.4	19.8	20.3	19.3	–1.1
Net wages	6.1	5.4	5.3	4.9	–1.2
Net purchase of goods and services	5.9	5.3	5.9	5.7	–0.2
Net investment	4.5	3.4	2.9	2.5	–2.0
Capital transfers	1.7	1.5	0.7	0.9	–0.8
Other current expenditures	1.9	2.1	1.6	1.1	–0.8
Cyclically adjusted primary balance	**–7.4**	**–1.8**	**–0.2**	**0.2**	**7.6**

*Note: *2006 differs from the values shown in earlier tables, as in mid-2007 the passenger services of MÁV (Hungarian State Railways) were reclassified to outside the statistical government. As a result, other expenditures declined, as the subsidy had to be consolidated within the sector. But at the same time wage expenditure and the purchase of goods and services increased due to the classification. To ensure the analytical comparability of the time series, the effect of this being realised already in 2006 was also calculated, which can be seen in this column.*

[25] For more on the employment situation, see: *Kátai* (*2009*); *Scharle et al.* (*2010*); *Fazekas – Scharle* (*2012*).

6. A new approach to consolidation: 2010–2012

The international conditions seemed to suggest that a recovery cycle would follow the crisis in 2010, but in 2011 another international economic downturn occurred. Accordingly, Hungarian exports temporarily increased in 2010, followed by another decline. Private sector demand was also unfavourable, largely because the pre-crisis indebtedness was followed by protracted debt reduction. While private borrowing increased by 14 per cent of GDP on average annually between 2002 and 2009, it fell by 6.5 per cent of GDP on average each year between 2009 and 2013. All factors in private sector demand declined: the investment rate reached its lowest point in 2012, even though the EU funds received for private investments increased by 0.3 per cent of GDP in that year. Household consumption reached its first trough in 2010, by dropping 4 per cent below its trend. It fell short of the trend by only 3 per cent temporarily in 2011, before falling short by 6 per cent again in 2012–2013. Private employment was persistently 4–5 per cent below the trend, while private wages were 1 per cent lower than the trend in 2010, before returning to it in 2011, only to fall below it by 4 per cent for several years.

Since from the perspective of the major tax bases (wage and consumption) the budget reached its cyclical trough in 2010, this was a difficult starting position. Regarding 2010, it is hard to distinguish between the consequences of the original appropriations and tax laws (balance-neutral tax shift between VAT and contributions) and the impact of the measures implemented during the year. For example, the forecast in the *MNB's* (*2010b*) Inflation Report did not assume that the original appropriations in expenditure would be realised based on what had been achieved up to that point during the year.[26]

Fundamental structural measures were implemented in this period. The *Széll Kálmán Plan* sought to reduce the debt ratio, through a series of measures aimed at transforming the labour market, the structure of society, the entrepreneurial environment and the operation of the government. Several measures were implemented based on a tax reform consistent with the employment policy objectives and reducing the taxes on labour[27] as well as on reducing certain transfers to households.[28] This is because the labour market participation rate was partly

[26] The expenditure cuts foreseen for budgetary authorities did not seem to be realistic, and they estimated an additional deficit amounting to 0.3 per cent of GDP (ultimately they overshot the target by even more). Budgetary transfers provided to local governments were also underestimated by 0.3 per cent of GDP, and that was also exceeded by the end of the year.

[27] According to official ESA statistics, wage taxes and contributions were reduced less because of an apparent increasing effect, when the contributions paid to the private pension funds in the funded system were channelled back into the public pillar. This is only apparent because it did not increase the tax burden, as this contribution revenue was always included in our analytical figures presented so far, albeit statistically it is shown somewhere else (see the *Methodological Annex*).

[28] Furthermore, social benefits were also reduced relative to GDP by pension parameters, such as the gradual increase in the retirement age from early 2010, the missing valorisation of the family support expenditure, related to the fact that family support increased considerably among tax allowances.

raised by the fact that instead of unemployment benefits, job opportunities were provided in public employment schemes, and sick pay and early retirement and disability retirement benefits were cut. In addition, the tax reform also included tax cuts to support businesses, and a new system of family tax allowances to promote family policy objectives. During the transformation of the government's operation, savings were also realised in the purchase of goods and services (*Table 5*).

Table 5
Main taxes and expenditure as a percentage of trend GDP in 2009–2012

	2009	2010	2011	2012	2009–2012
Cyclically adjusted private taxes	**31.6**	**31.0**	**30.1**	**31.4**	**–0.2**
Cyclically adjusted profit taxes	2.0	1.3	1.2	1.3	–0.7
Cyclically adjusted private wage taxes and contributions	15.2	14.0	13.2	13.5	–1.7
Cyclically adjusted private indirect taxes	14.4	15.6	15.7	16.6	2.2
Cyclically adjusted net primary expenditure	**31.3**	**29.9**	**30.8**	**28.0**	**–3.3**
Cyclically adjusted net social benefits	19.3	18.4	18.3	17.2	–2.1
Net wages	4.9	5.2	5.3	5.0	0.1
Net purchase of goods and services	5.7	5.4	5.3	4.9	–0.8
Net investment	2.5	2.0	1.1	1.5	–1.0
Cyclically adjusted primary balance	**0.2**	**1.1**	**–0.7**	**3.3**	**3.1**

The expenditure cuts were not enough to offset the tax reduction, and therefore it was mainly covered by raising the consumption taxes and the crisis taxes levied in the retail, telecommunication and energy sectors. The shift in taxes from production to consumption improved Hungary's competitiveness in trade. The results of the measures – an increase in employment – were gradually felt on the labour market, making the steps taken to improve the balance sustainable. After 2010, the employment rate gradually converged to the EU average, and looking at the first period of this process up to 2016 the number of people in employment increased by 600,000.

Estimates show that the immediate real economy impact of tax cuts and tax hikes partly offset each other, and they exerted a positive effect on the economy in the long run (*Baksay – Csomós 2014; Palotai 2017*). According to the simulation of *Szoboszlai et al.* (*2018*) examining major tax measures and changes in transfers (without other expenditure items), the introduction of the 16-per cent PIT increased the effective labour supply by 3 per cent in the long run, largely due to intensive-side adjustment, while 0.6 per cent was the result of employment growth. As a result, the negative fiscal effect could fall to one-fifth of its original value in the

long run. The phase-out of the super gross tax base (gross wage plus employer's social contribution) reduced the tax burden to a similar extent, and this measure was able to increase employment by 1.5 per cent in the long run, and its immediate negative effect on the deficit dropped to two-thirds. The phase-out of the tax credit system had a positive fiscal impact, but in the long run it can reduce employment by 1.9 per cent as a combined result of several effects: it decreases the labour supply through the rise in the effective tax rates, while increasing it due to the fall in the marginal tax rate. The simulation did not find any significant long-term effect of those measures implemented in 2010–2014, which affected the corporate tax, special taxes and turnover taxes.

The reduction of the debt ratio was achieved, and the decreasing debt, coupled with a credible economic policy and the low financing requirement, steadily reduced the interest expenditure relative to GDP. Between 2012 and 2016 the net interest expenditure as a ratio of the GDP improved by almost 1.5 per cent of GDP, which created room for manoeuvre that allowed a structural transformation and an increase in primary expenditure items in the next period.

7. Restructuring on the expenditure side: 2013–2016

The global economic environment started to improve in 2013, but growth was somewhat delayed in the EU. In 2015 the process slowed down, but the sluggish recovery from the crisis continued in the developed region, while emerging economies faced declining growth prospects once again. In 2016, the global economy expanded at a moderate rate, even slowing down temporarily and, emerging markets showed a mixed picture.

After 2012, Hungarian growth converged to the Visegrád region and started deviating from the heavily indebted countries as external debt was reduced. Domestic indebtedness contracted, while not only government debt but also household indebtedness decreased. By 2013, in aggregate, this probably approached the equilibrium level which was in line with the income and wealth situation (*Bauer et al. 2013*). After this, there was an upswing in housing loans, and by mid-2016 lending exceeded repayments for the first time since 2008. Due to the deleveraging of the accumulated debt and the slowly improving credit conditions,[29] the propensity to save was high, and consumption was low. In 2013, consumption was still below its trend by 6 per cent, but it gradually converged to it until 2016, at which point it only fell short of the trend by 1 per cent.

[29] The central bank launched the Funding for Growth Scheme to avoid a credit crunch, and after that was terminated the bank used the Market-Based Lending Scheme from 2015 to facilitate risk management and liquidity management, improving banks' willingness to lend (*Matolcsy – Palotai 2019*).

Corporate investments also started to pick up after the trough in 2012, and so its adjustment ended around 2013, and the capital stock achieved levels consistent with current output and capital costs (*MNB 2014*). In 2013–2015, EU capital transfers for corporate investments fluctuated at 1–1.3 per cent of GDP, before declining to 0.3 per cent of GDP due to the phase-out of the earlier programmes in 2016. However, the effect of the central bank's programmes appeared in the year when EU funds declined, and therefore SME lending expanded by the targeted 5–10 per cent.

Favourable developments were seen on the labour market as well, as private employment, which had been 4 per cent below its trend in 2013, was 2 per cent above its trend in 2016. Meanwhile, between 2012 and 2015, the average private wage was 3.5–4 per cent lower than the trend in real terms, with this negative gap falling to below 2 per cent by 2016. To some extent, this may have been affected by the unexpected disinflation, during which inflation came in 2 percentage points lower than market analysts' expectations in both 2013 and 2014, and the actual figures also fell short of expectations by 0.6–0.9 percentage points in 2015–2016.

Overall, fiscal policy was neutral or marginally loosening. Minor demand-expanding and demand-tightening years alternated, with the focus on the continued transformation of the tax structure and greater realignment of expenditure.

Developments in the labour market were also significantly affected by government measures. The elimination of the personal income tax (PIT) credit would have led to a loss in households' income, and therefore the government provided a compensation in contributions in 2012, which was gradually decreased in 2013, to protect the net value of lower wages. This general compensation was replaced by the *Job protection Action Plan* in 2013–2014, which provided an employer's social contribution allowance for the employment of disadvantaged groups exhibiting low levels of employment. As a result, the affected groups, otherwise characterised by a low propensity to work, adjusted flexibly to the situation, which boosted employment by 0.7 per cent. According to estimates, the immediate loss in contributions is almost fully recovered in the long run (*Szoboszlai et al. 2018*). However, with respect to private wage taxes and contributions, the larger loss in 2013 was also more or less offset by the gradual phase-out of the 2012 compensation and the elimination of the cap on the pension contribution, which benefitted higher wage earners (*Table 6*). Another reduction in PIT was implemented in 2016.

Table 6
Main taxes and expenditure as a percentage of trend GDP in 2013-2016

	2013	2014	2015	2016	2012–2016
Cyclically adjusted private taxes	**31.2**	**31.3**	**32.0**	**32.1**	**0.7**
Cyclically adjusted profit taxes	1.5	1.7	1.9	2.3	1.0
Cyclically adjusted private wage taxes and contributions	13.3	13.1	13.4	13.3	–0.2
Cyclically adjusted private indirect taxes	16.4	16.4	16.7	16.5	–0.1
Cyclically adjusted net primary expenditure	**28.3**	**29.0**	**29.3**	**29.7**	**1.7**
Cyclically adjusted net social benefits	16.9	16.3	15.8	15.6	–1.6
Net wages	5.2	5.5	5.8	6.0	0.9
Net purchase of goods and services	4.6	5.1	5.3	5.3	0.4
Net investment	1.3	1.8	2.0	2.4	0.9
Capital transfers	1.6	1.6	2.0	1.8	0.6
Other current expenditures	1.9	1.9	1.9	2.2	1.0
Cyclically adjusted primary balance	**2.9**	**2.3**	**2.7**	**2.4**	**–1.0**

In the case of profit taxes, temporary windfall revenues were generated in 2016. All in all, the aggregate result of various changes was that the sum of indirect taxes hardly changed. The crisis taxes affecting the financial, retail, telecommunication and energy sectors were partly replaced by new, turnover-type taxes, and some of them were also reduced. In the case of VAT, the rates were reduced in a targeted manner, but this was probably exceeded by the whitening of the tax base resulting from the introduction of online cash registers (*Lovics et al. 2019*).

As expenditure increased, its focus shifted from social benefits towards other items. Social benefits were reduced, while effects increasing and decreasing these transfers took hold at the same time. Pensions were raised by the allowance in women's service time and the unexpected disinflation, because the pension increase based on the inflation projection and performed at the beginning of the year turned out to be higher than the actual inflation. However, the pension parameters (e.g. the gradual increase in the retirement age from 2010) reduced expenditure, as did the tightening of the eligibility conditions for disability retirement and the absence of the valorisation of the family subsidy (in parallel with which families' tax and contribution allowance expanded to a larger degree).

Net wages were increased by the growth in public work schemes, as well as a larger pay increase in education and a smaller one in healthcare. In 2013–2015, the effect of the unexpected disinflation could also be felt, due to which appropriations for wages and purchases of goods and services were overestimated by 2–2.5 per cent. As this surprise was smaller in the case of the GDP deflator, no downward

denominator effect occurred in the GDP ratio (*Tables 4 and 5 in the Methodological Annex*).

Investment from own funds and EU funds exceeded the depreciation of state-owned fixed assets in 2012, and in 2013–2015 investments financed by either own funds or EU funds continued to grow. The size of the EU capital transfers absorbed by the government increased from 1.6 per cent of GDP in 2012 to 3.6 per cent in 2015, which allowed fiscal policy to stimulate the economy without increasing the deficit. However, in 2016 EU capital transfers temporarily declined to 0.2 per cent of GDP, and this was offset by the growth in government-financed public investments only to a small extent (0.4 per cent of GDP). This was the lowest level of investment in the past period, but it still more or less covered the depreciation of fixed assets, in other words it was not unsustainable.

Capital transfers and other current expenditure items exhibited significant growth. This broad group of expenditure items comprises corporate transfers, the capital injections to public enterprises, the funds provided to agriculture, public transport, sport, research, churches and the non-resident sector (Homeland Fund) as well as the active labour market subsidies. This item continuously fluctuates due to idiosyncratic factors, so it was not presented in most episodes, only when the extent of the shift was significant for the episode as a whole.[30] Other current expenditures relative to GDP exceeded their value compared to the previous period. The volume of capital transfers stabilised in 2013–2014 from their earlier lower levels, before increasing substantially in 2016 due to idiosyncratic factors, such as spending items decided at the end of the year, some of which comprised investment grants given for religious and, to a smaller extent, sport-related objectives. Some of these transfers would be represented in a later period of the actual effect on demand in our adjusted analytical indicator, but that falls outside the scope of this study.

8. Conclusion

In line with the aim of the paper, the most important episodes of Hungarian fiscal policy were determined. In connection with the methodological solutions of the analysis, four sets of issues were identified in the literature.

Two of these focused on the method used for filtering the exogenous factors from tax revenues, and removing the impact of temporary items on the revenue and the expenditure side. This problem was solved by creating a fiscal indicator divided by a nominal trend GDP that filters the effects of exogenous factors (business cycle) and creative accounting.

[30] *Szemere* and *P. Kiss* (*2011*) applied a 4-year backward-looking average for these items to smooth out the effect of idiosyncratic factors.

The third question concerned the factors that could explain the change in tax revenues. To this end, the content of the individual tax revenue and public expenditure categories was clarified: for example, the affected taxes and expenditure items were adjusted for the tax content of expenditures. Based on the characteristics of the annual revenue-expenditure structure adjusted in line with the three questions, six episodes can be distinguished. Following the fiscal adjustment in 1995–1996, the structure of spending was changed between 1997 and 2001. In 2002–2006, adjustment was delayed after a major round of fiscal expansion. After this, the situation was consolidated in several stages and using different approaches (2007–2009 and 2010–2012, of which only the latter yielded lasting results). Finally, between 2013 and 2016 the structure of spending was changed once again.

The fourth methodological question concerns the stability over time of the estimation of the trend GDP used as a reference point for expenditure-side measures. The filtering of the financial cycle produces a more stable estimate. Based on this, the paper used an updated, subsequently revised estimate, but the real-time estimate in the given years based on the adjustment with the business cycle deviated from the result. It can be stated that the output gaps included in the convergence programmes since 2004 were significantly revised, similar to the experience of other countries, and the real-time perception about potential GDP was different. This could have introduced a distortion to the definition of the neutral expenditure level and the trend tax revenue level. However, fiscal policy did not explicitly include these indicators. This may be attributable to the fact that the countercyclical fiscal policy smoothing economic shocks was not in the focus during the expansionary period, nor when the budget was consolidated or when the structural transformation was implemented.

It would be worthwhile to expand the six fiscal episodes analysed in the article by examining the episodes since then. This could be done in the future, if the methodological problems mentioned at the end of the introduction are solved.

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