

Gergely Baksay and Gábor P. Kiss: Second Act – second thoughts: the Hungarian debt rule*, 1

If compliance with a fiscal rule in certain periods requires procyclical fiscal policy, it means that fiscal policy does not mitigate the cyclical fluctuations of the economy, but rather may amplify them, i.e. it is unable to perform its stabilisation function. On the basis of the analysis of the Hungarian debt rule, we found that the debt formula may result in procyclical fiscal policy at some points of the economic cycle. In this respect, an essential element of the rule is that it does not prohibit the general government from using financial assets for forming the debt differently from the deficit. This flexibility allows the avoidance of procyclical fiscal policy, but at the same time it may reduce the enforceability of disciplined fiscal policy.

INTRODUCTION

In Hungary, the Fundamental Law that entered into force in 2012 and Act CXCIV of 2011 on the Economic Stability of Hungary (hereinafter: Stability Act) created a new fiscal framework, which focuses on the annual change in debt and grants stronger authority to the restructured Fiscal Council. Our analysis intends to show that sometimes the strictness of the rule may result in procyclical fiscal policy, and focusing on debt may cause problems, because the change in debt can be a consequence of factors that are independent of the fiscal policy.

In an optimal case, the rules that limit fiscal policy cover all the factors that are influenced by fiscal decisions, but do not pertain to factors that are external to fiscal policy (Odor and P. Kiss, 2011). In other words, they hinder the cycles of fiscal policy in such a manner that they do not react to the effect of the economic cycle, i.e. the stabilisation function of fiscal policy prevails. In our opinion, fiscal rules that focus on debt are basically unable to comply with these criteria, or only under conditions that are disproportionately complicated and difficult to quantify. Therefore, they cannot be considered the best practice. Nevertheless, several countries and the European Union (EU) as well apply fiscal rules relating to the level of or change in debt, but in many cases only as a supplementary

rule and within a relatively flexible framework. Other studies have also noted that in certain cases the Hungarian debt rule does not react to the economic cycle properly (does not mitigate its impact) and may thus further amplify the cycle and may have a procyclical effect.² This is also presented in our article.

Fiscal analyses by the Hungarian central bank perform the necessary corrections at the level of the deficit, to be able to show the effects of fiscal decisions as precisely as possible (P. Kiss, 2011). First, they augment the official balance with the effect of the quasi-fiscal activities, and second, they exclude the impact of the economic cycle on tax revenues. At the level of the debt, however, it is problematic to exclude external factors, and so this is not done.

In terms of the feasibility of fiscal rules, it is important whether the uncertainty surrounding the forecasts can also be assessed. The deficit and the changes in debt may be different, for example as a result of fiscal measures taken in the future, but this cannot be taken into account in a rule-based projection. However, the deficit and the changes in debt may be different even under the current set of measures. The main underlying reason is developments in external factors (e.g. growth and inflation), but there is an uncertain 'grey zone' between fiscal measures and external

* The views expressed in this article are those of the author(s) and do not necessarily reflect the official view of the Magyar Nemzeti Bank.

¹ The authors thank Béla Simon for his valuable comments.

² Balatoni and Tóth (2012), P. Kiss (2012).

factors as well, such as the financial management of local governments, where fiscal measures do not prevail automatically. Earlier, the uncertainties surrounding the deficit were presented by the central bank in its fiscal fan chart. External factors have a significantly stronger impact on debt (P. Kiss, 2012), so the uncertainty bands are also much greater. The relevant methodology is being elaborated, but we cannot yet present it in this article.

The leeway that can be identified in the managing of certain financing items (e.g. deposits) represents an uncertainty that does not affect the deficit, but influences gross debt. Our article deals with the impact of this factor, because it may create an opportunity for the avoidance of procyclical fiscal policy occasionally stemming from the debt rule.

Further on in the analysis we present how the change in debt can be decomposed into factors and what debt rules may result from this. Then we discuss the deviation of the Hungarian debt formula from the above and the resulting procyclical effect. Finally, we present to what extent the leeway appearing on the financing side may offset this effect.

DECOMPOSITION OF THE CHANGE IN DEBT

In terms of the responsibility of fiscal policy, there are three clearly distinguishable groups of factors that have an impact on the change in the debt ratio.

- 1. Group of external factors that are independent of fiscal policy.** This includes changes in interest to be paid on government debt, revaluation of foreign currency debt, the economic cycle, economic growth and the effect of deflators. The joint influence of these factors may result in significant fluctuations in the debt ratio, which is not dealt with in our article.
- 2. Discretionary fiscal policy.** This can be captured through developments in the cyclically adjusted primary balance (CAPB), an indicator that excludes the impact of inflation and other external factors as well.
- 3. Change in financial assets.** In addition to financing the deficit and maturing debt, government debt management involves numerous discretionary operations. The consequence of these may be that the change in gross debt deviates from the deficit, and the difference is reflected in the change in financial assets (ΔFA). As a result of the possible differences between the changes in

deficit and debt, emphasising gross debt may be misleading in the assessment of fiscal policy.

Before discussing the stabilisation function of fiscal policy (i.e. the mitigation of the fluctuations of the economic cycle) and the factors determining the debt ratio over the medium term, first we briefly present how the actual change in debt in a given year can be decomposed into factors.

Factors influencing annual changes in the debt ratio

The fiscal balance and corresponding changes in debt can be determined according to two kinds of approaches. The first one sets out from the cash-based balance; this is typical of the Hungarian framework. The second one regulates the accrual-based balance, as done in the fiscal framework of the EU.

The *cash-based* deficit is consistent with the change in debt, in the sense that both take into account the transactions at the time of actual payment. The change in net government debt excluding revaluation equals the cash-based balance of the government sector calculated according to the earlier statistical system of the IMF (GFS86), which contains the sale and purchase of equities (shares) as well. However, according to the currently widespread definition of the cash-based balance, which is applied in Hungary as well, the change in financial assets is not a part of the deficit. Accordingly, it modifies debt in addition to the deficit. Moreover, the difference between gross debt and net debt is that the government deposit and loans extended by the state are not part of the former.

The change in gross debt-to-GDP ratio can be stated as follows:

$$\frac{D_t}{GDP_t} = \frac{D_{t-1} + F_t + \Delta FA_t + \Delta FX_t}{GDP_{t-1} * (1 + g_t + \pi_t)} \quad (1)$$

where:

D = gross debt (in domestic currency)

GDP = nominal gross domestic product

F = net financing requirement of the general government (cash-based deficit)

ΔFA = within the change in financial assets, the changes in deposits and loans extended

ΔFX = effect of the revaluation of foreign currency debt (in domestic currency)

g = economic growth in real terms (per cent)

π = deflator of gross value added (per cent).

Although changes in debt are more closely related to the cash-based deficit, it is worth presenting its deduction from the accrual-based balance as well, which is the focus of the general government statistics of the European Union. In contrast to the cash basis, the *accrual* basis takes into account all transactions at the time when economic value is produced, transformed, exchanged, transferred or such value is destroyed, and thus the time of accounting of the debt does not harmonise with the change in debt. In addition to the liabilities and assets in formula (1), the accrual-based balance also contains liabilities and assets (*OFA*) that do not have any effect on actual cash-flow of the budget, e.g. increasing accounts payable due to unpaid invoices (thus $B = F + \Delta OFA$).

$$\frac{D_t}{GDP_t} = \frac{D_{t-1} + B_t + \Delta FA_t + \Delta FX_t + \Delta OFA_t}{GDP_{t-1}^*(1+g_t+\pi_t)} \quad (2)$$

where:

B = accrual-based budget deficit

ΔOFA = the change in financial assets calculated without the ΔFA ; in other words, the change in assets other than deposits and loans extended and in liabilities other than debt.

Formulas (1) and (2) show that the change in gross debt (D) cannot exclusively be explained by developments in the deficit categories (F , B), because several other factors also change the debt (ΔFA , ΔFX). Jointly they are called *deficit-debt adjustment (DDA)*. At the same time, it can be established that in terms of fiscal policy these accounts usually have no additional information content compared to the balance. Accordingly, the change in gross debt does not reflect fiscal policy well, as it is also affected by revaluation and financing transactions, and the changes in non-debt liabilities (trade accounts, wages and taxes payable) do not appear in it. Consequently, upon formulating the numerical rules, it is more appropriate to focus on the balance instead of the change in debt, because the simultaneous application of the debt and balance rules results in inconsistency instead of additional information (P. Kiss, 2012).

However, experiences suggest that it is worth carrying out a further decomposition of deficit in order to separate the impact of external factors (economic cycle, yields) from the changes taking place due to the fiscal policy.

$$B = i\bar{D} + CAPB + C \quad (3)$$

where:

i = implicit nominal interest rate, annual interest expenditure divided by the average annual debt (\bar{D})

$CAPB$ = cyclically adjusted primary balance (excluding interest expenditure)

C = cyclical component of the fiscal balance (the effect of the economic cycle on the primary balance).

If we concentrate on the effect of the economic cycle when we examine the stabilisation function of fiscal policy, the deficit-to-GDP ratio of a given year can be stated as follows:

$$\frac{CAB_t + C_t}{GDP_t} = \frac{CAB_t + c \frac{GDP_t - GDP^*}{GDP^*}}{GDP_t} \quad (4)$$

where:

GDP^* = the potential level of the nominal gross domestic product

$\frac{GDP_t - GDP^*}{GDP^*}$ = the output gap

c = sensitivity of the primary balance to the output gap, i.e. cyclical component C divided by the output gap.

If the cyclically adjusted balance is constant, the deficit fluctuates around this value in line with the changes in the cyclical component, and thus the stabilising function of fiscal policy is effective. In this case, fiscal policy can be prevented from being procyclical, i.e. from adding to the cyclical fluctuation in the economy. (Due to subsequent revisions of potential GDP, procyclicality is not necessarily avoidable *ex post* in this way either.)

Determinants of the debt rate over the medium term

In international practice, it is the medium-term debt dynamics that enjoy special attention and not formulas (1) and (2), which describe the annual fluctuations in the gross

debt ratio. Over the medium term, the potential level of GDP (GDP^*) prevails, while the average growth rate equals the trend growth (g^*). In this case, the cyclical component of the primary balance is zero, i.e. $CAPB = PB$. Over the medium term, the interest expenditure component of the deficit also becomes stable in the sense that, depending on the maturity and renewal of the debt borrowed at the earlier yield level, the effect of permanent yield changes appears in the expenditure. Correcting the interest expenditure projected onto the debt with inflation results in the real interest rate (r^*). If the change in financial assets and the revaluation of the foreign currency debt do not have a trend, the medium-term effect of these factors is zero. Under these simplifying conditions, the size of the primary balance necessary for stabilising the debt can be stated.

$$\frac{PB_t}{GDP_t^*} = \frac{D_{t-1}}{GDP_{t-1}^*} \left(\frac{1+r^*}{1+g^*} - 1 \right) \quad (5)$$

However, it is not at all easy to determine the values shown in formula (5). This requires estimation of the potential level of GDP and the trend of the growth rate as well as of the cyclically adjusted primary balance; and the level of real yields thought to be permanent is also needed. The frequent revision of these estimates is a good indication of their inherent uncertainty.

By connecting formulas (4) and (5), a debt-stabilising cyclically adjusted primary balance can be established, around which the cyclical component fluctuates and as a result of which debt also moves around a stable level. In practice, many indebted countries cannot be satisfied with stabilising the debt; therefore, it is necessary to achieve a higher cyclically adjusted primary surplus than the one that would result from formula (5). Chart 1 compares a case like this with the hypothetical path stemming from the Hungarian debt rule.

THE HUNGARIAN FISCAL RULE

Description of the rule

The fiscal framework currently prevailing in Hungary was created by the Fundamental Law and the Stability Act. Pursuant to the rule, the gross government debt-to-GDP

ratio may not be higher than 50 per cent, or if it exceeds this upper limit, the Parliament may only adopt a budget bill that contains a reduction of the debt ratio. It is the Fiscal Council's responsibility to examine whether the bill is in compliance with the rule. The Council has a right of veto, if it forecasts that the debt rule would be breached. Pursuant to the Fundamental Law, any deviation from the expected debt reduction is possible only during a special legal order or if there is a significant, prolonged national economic recession.³ The Stability Act identifies a significant, prolonged recession as being a decline in real GDP in the given year.

The Stability Act contains the so-called debt formula, which determines the highest allowable size of debt and deficit depending on economic growth and inflation, i.e. it defines the fiscal path complying with the rule numerically as well. According to our simulations, fiscal policy that can be obtained from the debt formula depending on economic growth has procyclical effects (e.g. exacerbating the downturn) in some cases (P. Kiss, 2012), which is a disadvantageous feature in the case of a fiscal rule.⁴ It would be possible to transform this formula into a cyclically neutral one only if the Fundamental Law did not contain the requirement of a steady decline in the debt ratio – in the case of positive economic growth.

Based on a numerical example below (Chart 1), we examine whether the Hungarian framework is able to prevent procyclical fiscal policy. Formula (4) that presents a neutral fiscal policy is used as a base of comparison.

Procyclical nature of the Hungarian debt rule

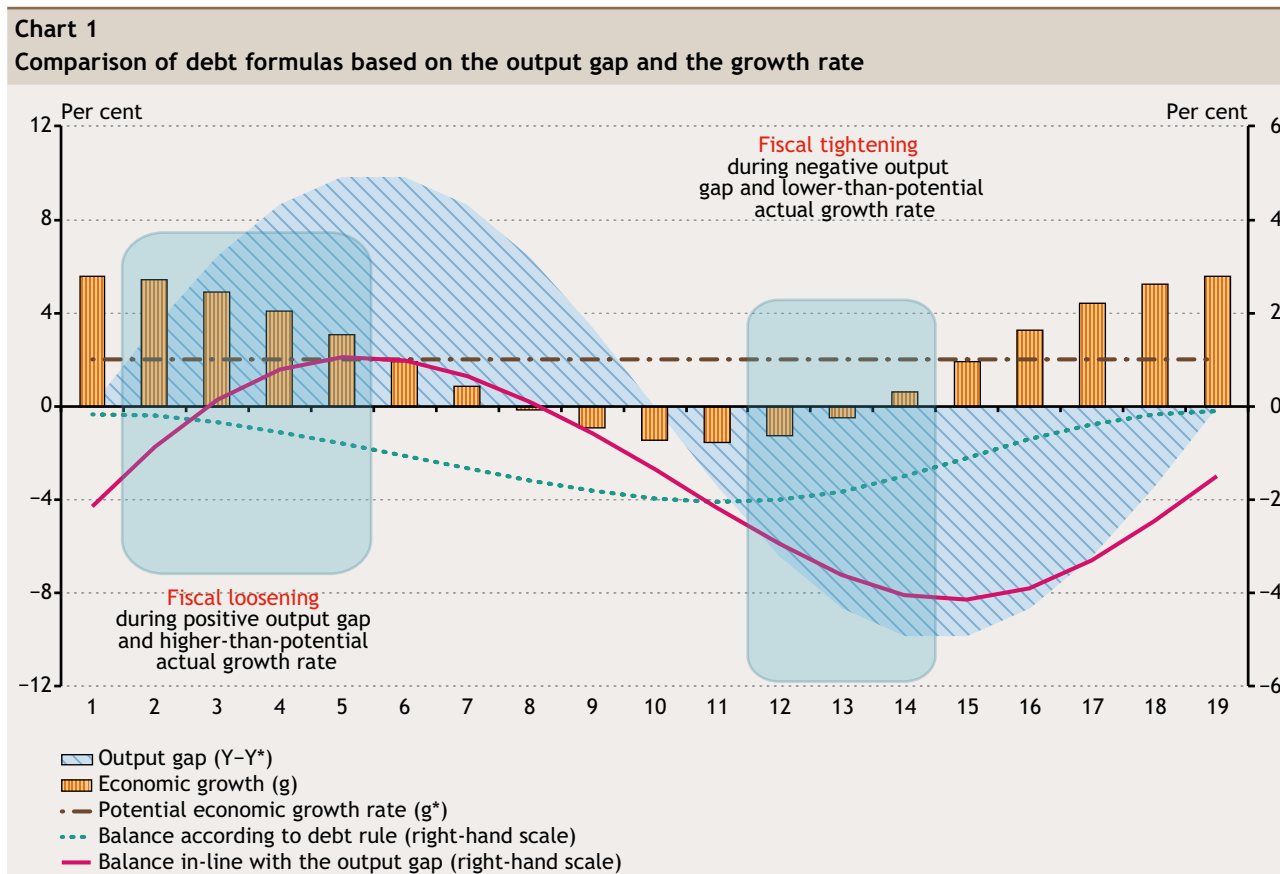
The Hungarian debt formula determines the maximum allowable nominal debt level and the deficit that can be deduced from it on the basis of the growth rate and inflation in the given year:

$$D_t = D_{t-1} * \left(1 + \pi_t - \frac{1}{2}g_t \right) \quad (6)$$

There are important consequences of the fact that formula (4) and formula (6) were stated for the output gap and for the economic growth rate, respectively. Our numerical example shows that while formula (4) results in a cyclically neutral fiscal policy, i.e. the cyclically adjusted balance (CAB) is constant, the CAB changes on the basis of formula

³ Pursuant to the Fundamental Law, deviation from the debt rule 'shall only be possible to the extent required for redressing the balance of the national economy'. Presumably, the intention here is that the rule should let the automatic stabilisers, which mitigate the economic downturn but do not restore the balance, operate. It is to be noted that depending on the nature of the economic shock, the size of the effect of the downturn on the balance may vary. Therefore, as a matter of course, it would not be possible to offset it automatically by rule-based fiscal reaction.

⁴ The debt formula will have to be applied as of the planning of the 2016 budget.



(6), and in some cases it leads to procyclical fiscal policy (Chart 1).

Procyclical periods occur when, in the case of a positive output gap, the growth rate exceeds the potential rate (periods 1–6 in Chart 1) and also when the growth rate is below the potential at a time of a negative output gap (periods 11–15 in Chart 1). This has an unfavourable effect, and is contrary to the flexibility criterion and the EU regulations entering into force as of 2014. Continuous countercyclical path results only from formula (4). From this, in turn, it can be deduced that there is no annual debt dynamics formula that could simultaneously ensure a steady decline in the debt ratio as well – this is required by the Fundamental Law for every year. In order to resolve this contradiction, the requirement of continuous debt ratio improvement should be changed in the Fundamental Law, for which there may be various possibilities.⁵

The Hungarian rule applies an explicit and an implicit tool against the harmful procyclical fiscal reaction. The explicit

escape clause prevents procyclicality if economic growth is below zero, but not in other phases of the economic cycle. For instance, in periods 11–13 of the numerical example, the rule is suspended due to the negative growth rate. The other tool is included in the rule only in an implicit manner: the budget is able to fine-tune the changes in debt with financial transactions in excess financing the deficit. The increase in gross debt can be avoided not only by changing the CAB, but also by changing the stock of financial assets (ΔFA), i.e. in parallel with rising net debt. However, this flexibility exists in the other direction as well, and may even allow for fiscal loosening, irrespective of the economic situation. This is mostly discussed in the next chapter.

THE IMPACT OF FINANCIAL TRANSACTIONS ON DEBT

If there is a difference between the size of the deficit and the net government debt issuance serving as cover for the former, the difference is reflected in the change in the financial assets (financing reserves) of the budget (ΔFA). In

⁵ The effect of the cycle emerging through the denominator can be excluded by doing the division with the potential output instead of the current output. However, the cyclical adjustment of the deficit should also exclude the effect emerging through the numerator. The simplest would be if not the Fundamental Law regulated the debt path leading to the 50 per cent, as this path is determined by the relevant EU rules anyway.

general, any two of these three factors determine the third one.⁶ Changes in gross government debt depend on financing and the newly issued debt components, and not only on the deficit.

The Hungarian fiscal framework allows financing effects as well to be taken into account in the expected developments in government debt.⁷ Therefore, during the approval of the budget bill prior to the final voting, the Fiscal Council faces the dilemma that in addition to the fiscal balance it must make assumptions regarding its financing or the changes in financial assets, which is equivalent to the former (for example, that net debt issuance equals the cash-based deficit, and thus the stock of financial assets remains unchanged).

There are numerous examples from the past years that the change in debt may deviate considerably from the deficit. Based on their magnitude, two factors may be highlighted: the borrowing and utilisation of EU/IMF loans and restructuring of the private pension fund system.⁸

In 2008, the Hungarian state drew down a higher amount from the credit line provided by the international organisations than it used over the short run. As a result, gross government debt increased by more than 5 per cent of GDP compared to what was justified by the deficit.⁹ Subsequently, when the state spent the foreign currency deposits on financing the deficit, it had to issue less new debt than the deficit. Accordingly, compared to the fiscal balance, gross government debt increased to a lesser extent in 2009 and 2010.

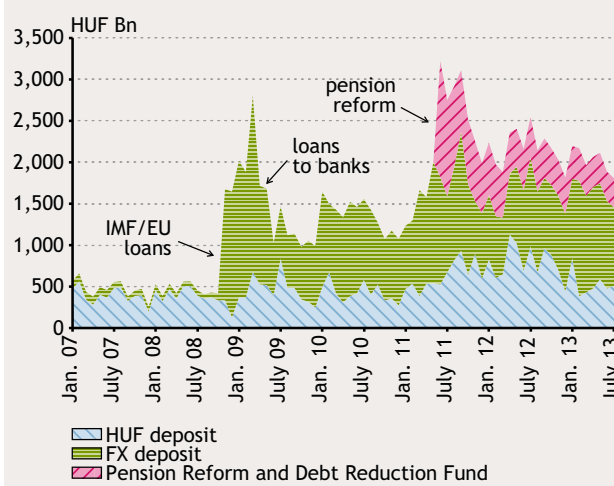
Restructuring of the fully funded private pension pillar reduced government debt in two phases compared to the path determined by the budget deficit. On the one hand, the debt management agency withdrew the Hungarian securities that had belonged to the portfolio of the funds but were transferred to the state; as a result, government debt declined by their sum immediately. In addition, prolonged effects are also perceived stemming from the use of other securities received by the Pension Reform and Debt Reduction Fund. The Fund has gradually sold these securities since 2011; the receipts have increased the deposits. The

debt manager can finance the deficit from this, and achieve debt issuance that is lower than the deficit. The extent of using this instrument is at the discretion of the Government Debt Management Agency (ÁKK), and the decision is primarily based on the debt management principles and market circumstances.

In addition to the deficit, numerous recurring and one-off elements have an effect on debt. They include the prefinancing of grants received from the European Union by the budget, the use of privatisation revenues for debt reduction or the replenishment of the central bank's revaluation reserves, if such become necessary. Finally, with its net issuance the ÁKK may depart from the fiscal deficit by using government deposits if it is suggested to be favourable by market circumstances or debt management considerations.

From the aspect of our analysis, it is of special importance that the developments in debt and deficit may deviate from one another for the sake of complying with the debt rule as well. If, for example, the debt rule resulted in procyclical developments in the deficit, compliance with the rule would also be possible by changing the financing side (e.g. utilisation of deposits).

Chart 2
Deposit accounts of the central budget held with the MNB and the portfolio of the Pension Reform and Debt Reduction Fund



⁶ Excluding the effects of the revaluation of government debt and the – typically less significant – effects of items that appear in the debt differently from the deficit.

⁷ Pursuant to Article 36(4) of the Fundamental Law, 'As long as state debt exceeds half of the Gross Domestic Product, Parliament may only adopt a State Budget Act which contains state debt reduction in proportion to the Gross Domestic Product.' Pursuant to the Stability Act, the value of the central subsystem of general government, the local government subsystem of general government and the debt of other organisations classified into the government sector planned for the last day of the fiscal year shall be determined numerically in the State Budget Act.

⁸ For more details see: MNB (2013).

⁹ At the same time, net government debt increased to a lesser extent, because a considerable portion of the loan taken in 2008 was placed in foreign currency deposits on the accounts of the state.

By using the deposits of the budget and the assets of the Pension Reform and Debt Reduction Fund, the ÁKK can also presently achieve a lower increase in debt than the fiscal deficit would imply. This leeway is determined by the sum of forint and foreign currency deposits as well as the assets of the Debt Reduction Fund. Foreign currency deposits surged as a result of international borrowing, whereas the Debt Reduction Fund was established during the restructuring of the pension system. As a result of these two effects, deposit accounts owned and securities held and to be sold by the central budget increased severalfold compared to the pre-crisis level. On 30 July 2013, deposits worth nearly HUF 1,500 billion and securities worth HUF 350 billion were available for the central budget. The pre-crisis level indicates the minimum financing reserve that the ÁKK presumably intends to maintain in the future as well. However, the level of reserves at the end of July 2013 exceeded it by at least HUF 1,000 billion. In addition to deposits and the portfolio of the Debt Reduction Fund, the government has other marketable securities and shares as well, but they are not used for debt management purposes. Their stock rather depends on the government's economic policy and ownership role (privatisation reduces, whereas the purchase of equities adds to this stock).

CONCLUSIONS

The aim of the Hungarian debt rule is to reduce the debt ratio every year, except when economic growth is negative. It can be illustrated with a numerical example that this may lead to procyclical fiscal policy in certain phases of the economic cycle. This means that instead of mitigating, fiscal policy may exacerbate the cyclical fluctuations of the economy, and is thus unable to perform its stabilisation function.

Our article has also discussed another important element of the debt rule. Namely, it allows flexibility in the application of the rule that, using financial assets, debt may be changed differently from the level of deficit. As a result, procyclical fiscal policy becomes avoidable. In parallel with that, however, the enforceability of a disciplined fiscal policy may decline.

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