How to Measure Public Finance Consolidation

Indicators used to assess the impact of government measures

Viktor Novysedlák, Erik Bugyi

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ABSTRACT

This discussion paper provides an overview of the analytical indicators used to evaluate fiscal policy in the short, medium and long term. It focuses on their clear definition and their advantages/disadvantages, and accentuates the importance of their clear interpretation. In addition to the commonly used indicators, such as the size of measures or change in the structural balance, the paper introduces a new indicator measuring the government's contribution to the sustainable change in fiscal position (government consolidation effort) in a given year. Despite their numerous advantages, short-term indicators do not necessarily reflect the long-term impacts of various measures. These should primarily be assessed using long-term indicators, such as fiscal gap indicators, or through the net worth concept. Despite the existence of several indicators, each and every one of them has its own *raison d'être* in fiscal analyses, because they all provide answers to important analytical questions. They should therefore be treated as mutually complementary. Some of the indicators assume the existence of a no-policy-change scenario, which is an essential element in the evaluation of measures implemented by the government. For this reason, such a scenario must have a detailed structure and all its underlying assumptions should be clearly spelled out.

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Contents

Summary

The fiscal policies of governments tend to generate deficits which increase debt. This shifts fiscal burden onto future generations. The role of independent fiscal institutions is to correctly evaluate these policies and communicate them to the public through analytical indicators. A distinct advantage of their use is that they simplify communication and enable the public at large to understand and evaluate the measures adopted by the government.

There are several fiscal policy indicators which are not always properly interpreted or tend to be mutually interchanged, including in professional discourse. This discussion paper therefore introduces their clear definition and categorisation, and raises the main questions to be answered.

Some indicators reflect short-term development, whereas the others take into consideration mostly long-term impacts. Generally speaking, **long-term indicators are more comprehensive and, as such, should play a more prominent role in formulating the evaluation of the long-term development of public finances.** They are nevertheless more demanding in terms of input data and calculation. On the other hand, they carry a higher degree of uncertainty due to the need to use numerous assumptions (discount rate) and the complexity of projecting economic development in the long term. Due to the availability of data and the need for speedy calculation, the use of **short-term indicators, which provide immediate information on fiscal performance over the period concerned, appears to be more appropriate** for evaluating the budget and its medium-term objectives. If expanded to encompass additional analytical adjustments, they may also correctly reflect certain long-term impacts.

From the viewpoint of fiscal policy evaluation, it is necessary to ensure, to the maximum extent possible, that **the indicators themselves (mainly the short-term ones) do not give improper incentives to politicians, i.e., by encouraging them to prefer short-term over long-term measures and vice versa.** By the same token, it would not be appropriate if short-term indicators provided a significantly different view on consolidation compared to long-term indicators. Hence the **methodology for the calculation of short-term indicators should be adjusted in a manner that ensures maximum possible convergence with the results obtained through long-term indicators.**

The **long-term indicators** include the net worth concept and fiscal gap indicators (in particular the long-term sustainability indicator and the S2 indicator).

- **Net worth** can be considered the most comprehensive indicator and its role in the future is bound to be more and more prominent. In contrast to the quantitative view offered by the fiscal gap indicators, the net worth concept also provides information on how achieving the long term sustainability of public finances influences the value of the government net worth or the provision of government services. In other words, there is a difference in whether long-term sustainability is achieved through net worth impairment (for example, disposal of assets, neglect of investments) which optically improves the
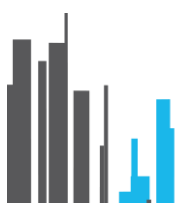
deficit and debt, or whether it is achieved whilst maintaining at least the net worth at its current level.

- The **long-term sustainability indicator** is an indicator defined in the constitutional Fiscal Responsibility Act, which analyses the development of public finances in the span of the next fifty years. Its undisputed advantage over short-term indicators is that it better captures the measures which have long-term impacts. Its disadvantage compared to the S2 indicator is that it is limited in time (50 years) and targets the debt level at 50 % of GDP. The time limitation may not correctly capture the measures which have differing impacts up to and beyond the horizon of fifty years. The targeting of debt falls short of providing information on whether the debt remains sustainable beyond that horizon.

- The **S2 indicator,** as used by the European Commission in its broadest definition, is currently probably the most suitable indicator for the assessment of the long term sustainability of public finances. It does not have a defined time horizon (uses infinity) and the calculation assumes a government debt level sustainable in the long term.

Among the **short- and medium-term indicators** the discussion paper includes the size of measures, structural balance change and the government consolidation effort. **Since each of these three short-term indicators provides a different type of information, they should not be interchanged but rather complement one another**. All these short-term indicators should be used in the *ex ante* evaluation of the general government budget. It is also true that these short-term indicators find their reflection, in one way or another, in the long-term indicators hence their evaluation enables us to identify shifts in the long-term sustainability which are typically reported only after a fiscal year has ended (*ex post*).

- **Size of measures** is an indicator used to quantify the overall impact of the measures needed to attain the budgetary objective or the magnitude of impact which these measures have had based on the actual fiscal performance of the government. It is quantified against the balance which the government would achieve assuming that no measures are adopted and government balance is influenced solely by the currently applicable legislation and macroeconomic development (no-policy-change scenario).

- **Structural balance and its change** shows to what extent the adopted measures have contributed towards putting fiscal performance on a sustainable footing. It takes into account the factors outside government control, as well as temporary and one-off measures, plus other factors. This indicator offers several possibilities of calculation. EU legislation defines the indicator for the purposes of reaching the medium-term budgetary objective and, given its uniform application across EU member states, it is the simplest one. National specificities can be reflected in the definition of calculation of the long-term sustainability indicator based on the Fiscal Responsibility Act. The balance is analytically adjusted for other items and, at the same time, the indicator can capture the entire public sector, i.e., including the balances of state corporations and the National Bank of Slovakia.

- **Government consolidation effort** is an indicator used to quantify the government's contribution to the permanent change of the structural balance. By taking into account the no-policy-change scenario the indicator can better reflect the actual effort of the government. Depending on how public finances develop and assuming no change in
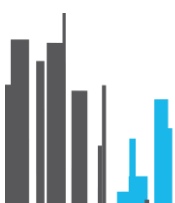
policies, the consolidation effort may even be converse to the change in the structural balance.

Apart from the effects of the economic cycle, as well as the temporary and one-off measures and debt interest payments, the structural balance and government consolidation effort are also adjusted for other items. The purpose of these adjustments is to reflect the **transactions which optically improve or worsen the budget balance by taking them out the general government sector** (e.g., investments through the National Highway Company, balance improvements at the expense of state corporations, PPP projects) or have a **demonstrably neutral impact on the budget in the long term**[1] (fully-funded pillar, nuclear decommissioning scheme). In line with the **principle of caution**, those measures which are not neutral in the long term but presently have a positive impact on the balance should also be deducted. **By the same token, these analytical adjustments enhance the neutrality of indicators vis-à-vis the adopted measures and their informative value nears that offered by long-term indicators.** For the government to "look good" it does not really matter whether it adopts short-term or long-term measures and vice versa; on the other hand, the government will "look worse" when – despite consolidation in the short term – it worsens long-term sustainability through changes in the pension system, for example.

The key role for the calculation of both short- and long-term indicators is played by the **no-policy-change scenario of public finance development.** It requires the definition of a larger number of assumptions and simplifications, which is something for a broader discussion. However, despite the uncertainty stemming from the methodology used to develop the no-policy-change scenario (mainly in the long-term horizon), the scenario provides valuable information on future trends and the nature of policies.

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[1] Including the impact of measures on macroeconomic scenario.
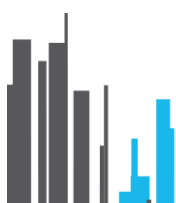
Introduction

The evaluation of Slovakia's fiscal policy is currently based on a number of indicators. From the quantification of the total amount of government measures, through changes in the structural balance and consolidation effort, to the long-term sustainability indicator, S2 indicator, and the latest 'net worth' concept. All these indicators have their advantages and disadvantages and their use depends largely on what it is that needs to be measured. While some indicators work with a large degree of simplification, the others provide a more comprehensive view on public finances.

The experience to date in the use of indicators in the evaluation of the condition of public finances and their subsequent media coverage suggests that some of these indicators have often been misinterpreted. The very existence of numerous indicators makes it difficult for general public to sort things out in that the absence of a sufficient and comprehensive explanation renders the information relayed to the public incorrect or incomplete. The purpose of this discussion paper is to summarise the body of knowledge on the available indicators and point out their drawbacks in order to give guidance for their proper use.

After delving into the reasons why consolidation should be measured, the paper provides an overview of the approaches used. Apart from the most commonly used approaches based on aggregate quantities (top-down), it discusses the ever-more-popular approach based on the identification of specific measures (bottom-up). The next part contains the definitions of indicators and points out their pros and cons. Their application and interpretation is subsequently illustrated by concrete examples.

Long-term indicators were described in a CBR discussion paper[2] focusing on the evaluation of the long-term sustainability of public finances. Hence this discussion paper contains only brief definitions of individual indicators without describing their calculation in detail; it focuses mainly on those indicators which evaluate policies in the short and medium term.

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[2]   CBR Discussion paper No.1/2012 "How to evaluate the long-term sustainability of public finances?"
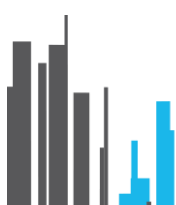
1. Motivation to measure consolidation

The measurement and evaluation of consolidation in public finances represents one of the key issues in discussions on government fiscal policies. It provides a basic picture of public finance development through analytical indicators. There are two main reasons to develop such indicators:

1. **To express the contribution of the government's fiscal policy towards making public finances sustainable; and**
2. **The existence of fiscal rules which are linked to the indicators used to measure consolidation**.

General government balance, as the basic fiscal policy indicator, is influenced by a number of factors which the government can influence to a varying degree. Some of the factors are outside the government's control. These, for example, include the impact of the economic cycle of public finances, the so-called automatic stabilisers (which reflect the economic development) and the existing setup of policies, mainly in the area of taxation. On the other hand, there are the current and future plans of the government whose nature in terms of time (temporary vs permanent) plays an important role. Such an analytical breakdown of impacts, captured by individual indicators, makes fiscal policy making and the underlying discussion more transparent. However, it hinges on the accurate interpretation of individual indicators, taking due account of their strengths and limitations.

The measuring of consolidation enables us to evaluate the fiscal policy of the government by comparing its development in time, or against the existing fiscal rules. Fiscal rules are currently set at both the national level, e.g., the Fiscal Compact[3], and at supranational level, as represented by the rules of the Stability and Growth Pact[4]. Their evaluation may lead to the formulation of fiscal policy recommendations into the future.

2. Ways to measure consolidation

The measuring of consolidation can be based on a number of indicators which generally differ in two aspects:

- The time span covered, and
- The degree of aggregation.

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[3] The structural balance rule, including the automatic correction mechanism in the case of significant deviations from the MTO or planned adjustment path, transposed into the national legislation based on the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union.

[4] The rules governing the balance and debt of general government, compliance with which should ensure sound public finances. They constitute a basis for fiscal surveillance at the EU level.
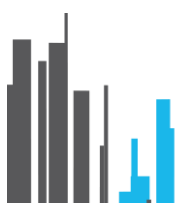
2.1 Time aspect

The **time aspect** represents the time horizon which the indicators cover. The **short-term and long-term indicators** include the measures which have immediate impact on public finances or whose impact will be felt across the three-year period of the general government budget. For this reason, they focus on the current impact of fiscal policy measures without necessarily capturing correctly their long-term impacts. The **long-term indicators** capture, in addition to the immediate impact of measures, also their impact in the medium- to long term (more specifically, beyond the three-year budget horizon of the government). These are comprehensive indicators based on the long term projections of public finances. They are thus better placed to reduce the risk of incorrect interpretation of impacts which a particular measure is likely to have.

Since they focus on the impacts of measures within the three-year budget span and are therefore readily quantifiable, the short -and medium-term indicators may create inadequate incentives for fiscal policy makers (by favouring short-term positive effects with potentially adverse impacts on public finances in the long run). At the same time, the impact of government measures is quantifiable more precisely on a one-year horizon than across several years (need for long-term projections, associated with a higher degree of uncertainty). Nonetheless, a one-year horizon may not be precise enough to capture all the impacts of these measures.

The differences between these measures can be illustrated by the following hypothetical example. The government decides to increase the social contributions payable towards social security insurance, which will increase government revenue on a permanent basis by 0.5 % of GDP by 2015; the following two situations may occur on a long-term horizon:

a) Future claims to the benefits payable from the scheme will change, causing gradual increase in expenditures from 2023 onwards and increasing their share by 1 % of GDP in 2060. The resulting impact on public finances of the combination of increased revenues and rising expenditures may be different, depending on the link between the contributions paid into and benefits paid from the scheme, i.e., actuarial fairness;

b) Future claims to benefits from the scheme will not change.
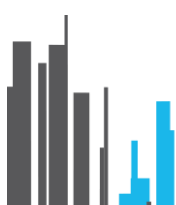
Figure 1: Time aspect of indicators (% of GDP)
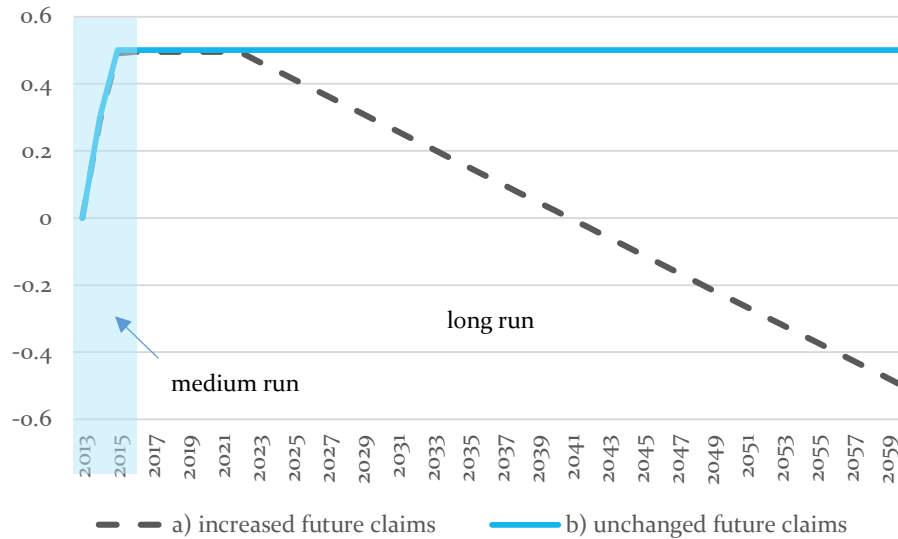
Source: CBR

In both situations, the medium-term indicators (covering the 2013-2016 horizon) suggest that consolidation has taken place and that the measure has improved fiscal position. However, a long-term perspective offers a somewhat different interpretation. If the increase in revenue from the contributions paid is accompanied by rising claims to benefits, which will transpire only later, the positive medium-term impact will be offset over time. Hence the role of the long-term indicator is to capture the resulting impact of the measure. If the amount of claimed benefits remains unchanged, both the medium- and long-term indicators should capture the effects of the measure identically.

The main misgiving about the use of the short- and medium-term indicators is that they do not necessarily capture all the effects of fiscal measures. Such a situation might encourage politicians to prefer measures which an indicator classifies as 'consolidation' even though it may have a negative impact on the balance in the future. In order to eliminate this shortcoming, these indicators should be analytically adjusted so as to disregard those transactions which have a demonstrably neutral impact on the balance in the long term[5]. By the same token, it is worthwhile adjusting them for those measures which do not have a neutral impact on the balance in the long term, but which presently influence the balance positively. Such an approach is capable of eliminating most of the disadvantages associated with the short- and medium-term indicators.

In contrast, long-term indicators capture longer time series, which eliminates the need for analytical adjustment, simply because long-term measures are directly reflected in their calculation. On the other hand, as they are based on long-term projections, long-term indicators carry a higher degree of uncertainty. At the same time, these projections are usually

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[5]   Including the impact of measures on the macroeconomic scenario.
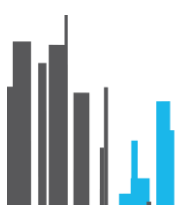
limited in time and, as such, do not necessarily capture all the impacts of the measures[6]. Another misgiving about long-term indicators stems from their sensitivity to the assumptions used, for example the discount rate.

2.2 Degree of aggregation

The **degree of aggregation** is connected with the sort of data on which individual indicators are based. Generally speaking, there are two approaches: the 'top-down' approach, which is based on summary aggregate data, and the 'bottom-up' approach, which is based on individual measures. Indicators may also combine both approaches.

The **top-down approach** reflects aggregate indicators, such as general government balance, subsequently adjusted for selected analytically-substantiated items (for example, impact of the economic cycle, one-off effects[7]). Typically analysed is the size of the thus adjusted balance and its year-on-year change. The resulting indicators are easy to interpret and they are based on economic theory[8]. At the same time, they are relevant for sustainability analyses and fiscal surveillance at the EU level due to the existence of a common methodology of calculation which makes them internationally comparable. On the other hand, they are susceptible to measurability issues, be it the estimate of potential output or the estimates of tax revenue and expenditures elasticities related to the economic cycle. As a consequence of these measurability issues, the resulting indicators may also be influenced by factors other than the actual government effort itself. These may, for example, include the impacts of changes in the composition of economic growth[9] on public finances, impacts of the financial sector, or the setup of economic policies in the past.

The **bottom-up approach** is based on the data for individual government measures which are summed up (or, where appropriate, analytically adjusted depending on whether measures are permanent or temporary). In this case, it is essential to quantify their size and set a benchmark against which they are assessed. This usually entails the development of a hypothetical scenario of public finance development based on the assumption of unchanged policies[10] (known as the no-policy-change scenario, or NPC scenario). Such an approach can better capture the actual impact of fiscal policy measures. However, the quality of the NPC scenario

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[6] This may, for example, include a situation where long-term projections cover the horizon until 2060 and, in the period after 2060 until infinity, they assume the same value of government revenues and expenditures as in the last year of projection. If changes in the pension system are significant, they may fully transpire only after the 2060-horizon. This means that even such a projection would not fully capture the changes made.

[7] Marčanová, M., Ódor, Ľ. (2014): The "True" Deficit. Improving structural budget balance estimation for Slovakia. CBR working paper no. 3/2014

[8] One of the examples is the definition of structural balance, which reflects the condition of public finances on the assumption that the economy is working at the level of its potential.

[9] The impact of economic growth on public finances may differ depending on its structure. If, for example, the economic growth is driven by exports, which are less tax intensive (exports are exempt from VAT), the impact will be less significant compared to a situation when the growth is fuelled by consumption.

[10] The assumption of unchanged policies means that neither the government nor the parliament adopts any new measures influencing the current economic policy setup. The development of public finances would thus be influenced solely by macroeconomic developments and the existing economic policy, including the presently applicable legislation.
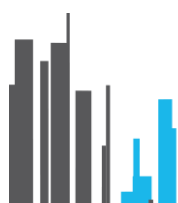
plays a key role in this, particularly transparency of the methodology applied and the type of institution responsible for its development (ideally an independent institution which is not motivated to influence the results). Problems occur mainly in setting the expenditure benchmark for those expenditures which are regularly subject to government's discretion. Due to the absence of a uniform methodology for the development of the NPC scenario, such indicators are not internationally comparable.

Figure 2: Differences between the two approaches (GG balance, % of GDP)
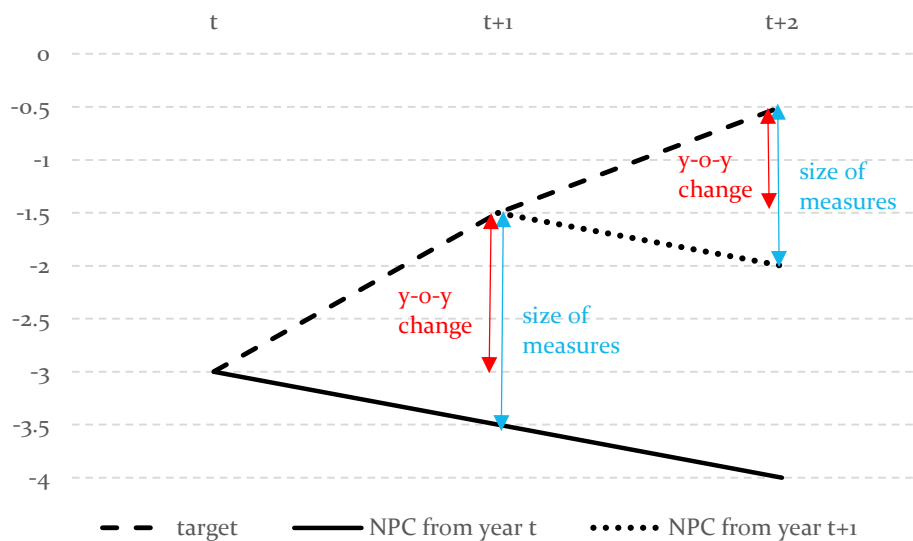
Source: EC

The differences between individual approaches can be illustrated using the following example depicted in Figure 2. In *year t* the general government deficit reaches 3 % of GDP[11] and the objective of the government is to reduce it in the following year to 1.5 % of GDP. On the assumption that the government does nothing to influence the balance, the deficit in *year t+1* would reach 3.5 % of GDP. In other to meet the target, the government would have to adopt measures amounting to 2 % of GDP (bottom-up approach), but the year-on-year aggregate indicators suggest that the balance would improve by only 1.5 % of GDP (top-down approach). A similar situation would also occur in *year t+1* with the government aiming to reduce the deficit in year *t+2*. In other words, the government's contribution to consolidation, measured through individual measures, is actually higher than the change in balance, because it is also influenced by other factors (the setup of economic policies in the past).

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[11]   For the sake of simplification, the impacts of the economic cycle and one-off measures are disregarded, which means that structural deficit in *year t* will reach 3 % of GDP.
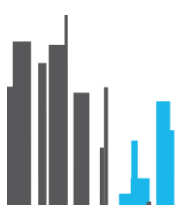
3. Indicators used to measure consolidation

There are seven basic indicators[12] which are used, with different variations and under various names, to measure consolidation (Annex 1 contains a scheme describing these indicators).

Long-term perspective:
- A. Net worth
- B. Fiscal gap (long-term sustainability indicator, indicators S1 and S2).

Short-term and medium-term perspective:
- C. Size of measures,
- D. Change in the structural balance,
- E. Government consolidation effort.

These indicators are used by the national institutions monitoring fiscal policy (Ministry of Finance of the Slovak Republic, National Bank of Slovakia, Council for Budget Responsibility), as well as by international institutions, such as the European Commission, Organisation of Economic Co-operation and Development, and the International Monetary Fund. Table 1 provides an overview of the use of all indicators.

Tab 1: Overview of approaches to measure consolidation in public finances

institution	indicator	application
Short-term and medium-term indicators		
EC	change in the structural balance	SGP (preventive and corrective arm)
	size of measures	SGP (corrective arm)
	discretionary fiscal effort*	experimentally (PF in EMU 2013)
OECD	change in cyclically adjusted balance	ekonomic reviews
IMF	change in the structural balance	monitoring of member states (Article IV missions)
	size of measures	monitoring of member states (Article IV missions)
MFSR	change in the structural balance	SGP, Fiscal Compact
	change in analytically adjusted balance	general government budget
	size of measures	general government budget
NBS	change in analytically adjusted balance	budget assessment
	change in the structural balance**	for ECB and its working groups
CBR	change in analytically adjusted balance	budget assessment
	change in the structural balance	Fiscal Compact
	structural primary balance of the public sector	long-term sustainability indicator
	government consolidation effort	budget assessment

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[12] All indicators are expressed as a share in gross domestic product (GDP), current prices.
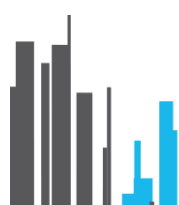
Long-term indicators

EC	S1 and S2 indicators	SGP (assessment of long-term sustainability)
MFSR	S1 and S2 indicators	SGP (assessment of long-term sustainability)
	net worth	national reporting
CBR	long-term sustainability indicator	assessment of long-term sustainability
	net worth	assessment of long-term sustainability

*Note: * described in more details in Annex 2*   *Source: EC, OECD, IMF, NBS, CBR, MFSR*

  *** not published*

3.1 Long-term indicators

Long-term indicators capture the development of public finances over a long-term horizon. Since they are able to comprehensively estimate the long-term impacts of a fiscal policy, they should play a prominent role in the evaluation of public finance development. Their major drawback is that they are based on long-term projections which carry a higher degree of uncertainty. Long-term projections are demanding in terms of the input data and assumptions used in the estimation of long-term development.

Long-term indicators are described in detail in a CBR discussion paper[13] focusing on the evaluation of the long-term sustainability of public finances. For this reason, the following chapter presents only their main features, including the definition.

3.1.1 Definition

A. Net worth (NW, also known as net wealth)

The Fiscal Responsibility Act defines net worth as the sum of the net worth[14] of general government entities, the National Bank of Slovakia, state corporations and corporations owned by municipalities and self-governing regions, adjusted for implicit liabilities and contingent liabilities, as well as other assets and liabilities. It answers the question of what value there would be left for "shareholders", meaning taxpayers, if, purely hypothetically, all the assets were sold and all the liabilities, including future commitments, were paid. It is a comprehensive indicator, also capturing the impact of those types of revenues and expenditures[15] which the government influences. What is particularly important from this point of view is its year-on-year change, since it enables a more detailed analysis of the impact of government's fiscal performance in a given year.

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[13]   CBR, 2012
[14]   The net worth concept is elaborated on in a discussion paper by Horváth and Ódor (2009)
[15]   For example, although capital expenditures worsen the general government balance and their financing may increase liabilities (if financed through debt), the value of assets increases commensurately. Hence net worth will practically not change.

Tab 2: Public sector balance sheet – net worth

ASSETS	LIABILITIES
A1 – buildings, land, etc.	P1 – explicit debt
A2 - infrastructure	P2 – implicit liabilities
A3 – net stock of capital	P3 – contingent liabilities
A4 – financial assets	P4 – other liabilities
A5 – net worth of the central bank	**Net worth**
A6 – net worth of state corporations	
A7 – natural resources*	
A8 – environmental wealth*	
A9 – other assets	

However, this indicator has its drawback connected with the measurability of certain items (such as environmental wealth) due to the lack of data and reliable valuation methods, which currently limits its use in Slovakia for the purposes of fiscal analyses. Given the difficulties in obtaining the necessary data, net worth is quantified solely based on the available figures and the CBR tries to identify potential risks during budget evaluation.

The qualitative perspective on net worth represents an equally as important dimension of sustainability as the sustainable debt development itself. There is a difference in whether long-term sustainability is achieved through the neglect of investment (e.g., deteriorating quality of roads and buildings) or whether it is achieved without the impairment of assets. And since it also contains implicit liabilities arising from the long-term impacts of policies (calculated either through long-term sustainability indicator or S2), it should belong to the most important indicators in the future.

B. Fiscal gap

Fiscal gap[16] shows the need for immediate and permanent improvement in the primary balance of general government (increase in revenues and/or reduction in primary expenditures) in order to attain a certain debt level in the future. It is based on the concept of long-term budget constraint[17].

Depending on the debt target value and the periods within which it should be reached, several indicators can be defined. The assessment of the long-term impacts of Slovakia's fiscal policy is typically based on the long-term sustainability indicator defined in the Fiscal Responsibility Act and indicators S1 and S2 defined by the European Commission.

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[16] This concept was defined for the first time in Auerbach (1994).

[17] The current debt level should be covered by the present value of future primary balances of the budget.
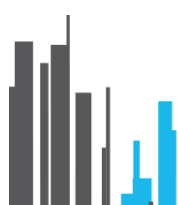
- **Long-term sustainability indicator (GAP)**

The long-term sustainability indicator was defined in connection with the adoption of the Fiscal Responsibility Act. It expresses by how much it is presently necessary to increase public revenues or reduce public expenditures on a permanent basis in order for public debt not to exceed 50 percent of GDP in the next fifty years, e.g., the upper limit defined by the Fiscal Responsibility Act. The contribution of government measures can be expressed through the year-on-year change of the indicator.

The calculation of this indicator is based on the balance of general government revenues and expenditures for the next 50 years assuming no change in policies (baseline scenario) and taking into account the anticipated changes in macroeconomic and demographic parameters. It includes the impact of population ageing on public finances, as well as the implicit and contingent liabilities arising from the need to decommission nuclear power facilities and finance major PPP projects. The long-term sustainability indicator then quantifies the need to improve structural balance against such a scenario (see Annex 5 for detailed description).

Although it is a long-term indicator, its major disadvantages include the limited time horizon of projections and the targeting of debt level at 50 % of GDP. This mainly applies to significant changes in public finances (for example, in pension systems), whose effect will be fully felt beyond the 50-year horizon. Such changes are thus not correctly reflected by the indicator despite their relatively lower weight due to discounting. At the same time, the indicator is silent about whether the debt itself is sustainable on a long-term basis once it has reached 50 % of GDP. The assumption is that once the limit is reached, the sanctions that come into play under the Fiscal Responsibility Act should stabilise the debt. An advantage in comparison with another long-term indicator, S2, is its easier interpretation.

BOX 1: Measures with long-term impact in individual indicators

In order to provide correct interpretation of the results of individual indicators, it is necessary to know how they capture those measures which have a long-term impact.

Short-term indicators, such as the change in the structural balance, are adjusted for the impact of the measures whose impact in the long term is more-or-less neutral. This means that such measures do not influence short-term indicators. Although long-term indicators capture their impacts, the resulting values of individual indicators may differ.

This is mainly due to the fact that long-term indicators have their time limits. The long-term sustainability indicator works with a horizon of 50 years and hence does not capture the impacts which stretch beyond that horizon. Although the S2 indicator works with an infinite horizon, it does have a final year of projection (currently 2060, as defined by the Commission) and anything beyond it is assumed as having the same impact as in the final year of projection.

The use of discount rate is another important reason for differences between short-term and long-term indicators. While in the case of short-term indicators a measure is assumed to have a more-or-less neutral long-term impact (specific discount rate does not have to be known), long-term impacts are discounted at specific rates to reflect their present value in time.

The figures below illustrate the differences between the results achieved through the use of individual indicators. They illustrate a neutral change in the long term, with an initial shortfall in revenues in the first years (negative impact on the balance) and, in subsequent years, declining government expenditures with an overall positive impact on the balance.

Figure 3: Measures with a long-term impact on GG balance (% of GDP)
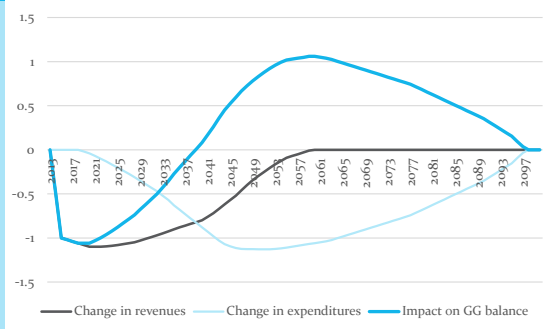
Source: CBR

Figure 4: Discounted balance – cumulative impacts (% of GDP)
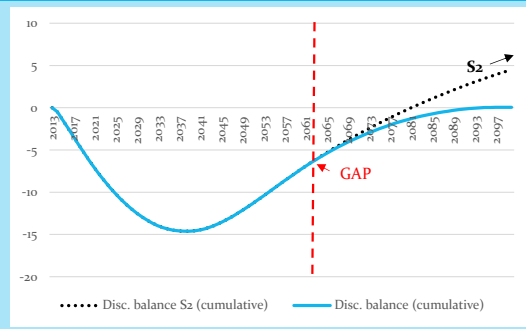
Source: CBR

Given the fact that these measures have a neutral impact in the long term (a zero cumulative discounted balance in the year 2100), short-term indicators would not be influenced.

On the other hand, the long-term indicators would be influenced to varying degrees. The long-term sustainability indicator (GAP) covers the period of the next 50 years, i.e. until 2062, which means that the resulting impact of this indicator would be negative (cumulative discounted balance in 2062 reaches a negative 6.6 % of GDP). In other words, the negative impacts caused by the shortfall in revenues would outweigh the positive impacts of reduced expenditures.

The results are different as far as the S2 indicator goes. S2 assumes that the post-2060 impacts of a measure remain unchanged (in a situation where its positive impacts peak at around 2060), which means that the ultimate impact of the measure on the infinite horizon would be distinctly positive.

- **Indicator S1**

The S1 indicator, compiled by the European Commission for the assessment of the long term sustainability of public finances, follows the same principle as the long-term sustainability indicator. The indicator expresses the need for a permanent change in structural primary balance to ensure that debt does not exceed a pre-defined value. The target value of debt is 60% of GDP (defined under the Maastricht Treaty) and the time by which it should be achieved is the year 2030. Unlike the long-term sustainability indicator, the S1 indicator only covers the general government sector (excluding the balances of state corporations and the NBS) and, as far as long-term projections are concerned, only those related to population ageing. Another difference is that the final value of the indicator assumes that the necessary change in the government balance is spread over several years.
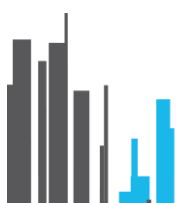
- **Indicator S2**

The S2 indicator is a value by which the structural primary balance must permanently change in order for the present value of future primary balances to equal the present level of gross debt. The size of the indicator (similarly to S1) is influenced in particular by the actual budgetary situation, i.e., debt and structural balance, and the anticipated increase in costs due to population ageing in the long-term horizon[18].

Unlike the long-term sustainability indicator and the S1 indicator, this indicator contemplates an infinite horizon. The projections prepared until the set year (2060, at the moment[19]) are extrapolated to infinity on the assumption that general government revenues and expenditures, expressed as a share of GDP, remain the same as in the final projection year. It means that even this indicator cannot capture the full extent of changes in public finances that occur beyond the final projection year.

The definition of the indicator is already partially limited in that, in the long-term horizon, it only considers the effects of demographic changes for which it forecasts development also for the nearest fifty years. The indicator alone, however, can also be used with respect to other measures, provided a long-term projection of their effects exists, e.g., labour market reforms with positive impact on macroeconomic development. The longer the available projection is, the better can the indicator capture long-term effects. The S2 indicator therefore offers much wider options of application than those used nowadays. It makes it one of the most suitable indicators to be presently used in analysing long-term sustainability of public finances.

On the other hand, the construction of the indicator assumes a zero debt level on infinite horizon, which may be an overly ambitious objective running counter to the political and economic reality. Also a non-zero debt level can be sustainable in the long-term.

3.2 Short-term and medium-term indicators

Short-term and medium-term indicators usually cover a three-year horizon of the general government budget. They thus primarily reflect the measures incorporated in the budget which have an immediate effect on balance. Where measures with a long-term impact have been adopted and their impact is reliably quantified, these indicators can cover such measures, as well. This would enhance comparability between the outcomes of short-term and long-term indicators, as well as the stability and consistency of fiscal policy evaluation. In addition, with long-term effects incorporated, indicators are more neutral in relation to the measures adopted. In other words, regardless of whether the government improves/worsens public finances in the short or long term, the indicator will capture both impacts.

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[18] On the revenue side, a projection of revenues from assets is also taken into account, but their amount is negligible in the case of Slovakia. However, no change in revenues related to ageing is considered, their shares in GDP are constant under the projection.

[19] European Commission (2012)
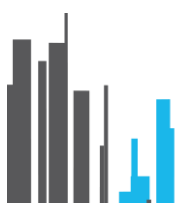
Each of the indicators defined below answers a different question. Therefore, it is impossible to say which one is worse or better and which one should be used the most. **They complement one another, providing the best information when applied simultaneously.**

3.2.1 Definition

C. Size of measures (SM, other names: bottom-up fiscal effort)
Currently used term: size of consolidation measures

The size of measures represents a **difference between the desired/actual[20] balance and the general government balance under a no-policy-change scenario** in a given year (NPC scenario is described in more detail in Annex 3). It says **how large the overall impact of government measures included in the budget is.**

$$SM_{(t)} = balance_{(t)} - NPC\ balance_{(t)} \tag{1}$$

The positive aspect of this indicator is that it captures hypothetical development in public finances over time without government interventions. Since balance may change under the NPC scenario compared to the previous year, it affects the need to adopt measures. However, it does not reflect impacts of the economic cycle or the quality of fiscal policy, i.e., whether the policy contains measures that will change the balance permanently or temporary, that is, whether or not it contributes to consolidation[21] of public finances.

As fiscal policy and macroeconomic development in the economy influence each other, the size of measures is also influenced. This indicator then consists of the sum of measures as such and their secondary (dynamic) effects reflected in the change of macroeconomic indicators[22], debt interest payments influenced by changes in general government balance, as well as their impact on other items of general government balance[23]. In other words, if individual measures quantified, for example, at 1.5 % of GDP weaken economic activity and have negative impact

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[20] The indicator can be used to quantify the size of planned measures (a planned general government balance is taken into account) or the size of measures implemented (an actual general government balance is taken into account).

[21] In the present document, the consolidation in public finance is understood as a government's contribution to a permanent improvement in the balance. It is not affected by the impacts of the economic cycle on the public finance or by one-off measures adopted by the government.

[22] A cut in government spending (consumption) that contributes to improvements in the general government balance can be given as an example. Such a measure, however, has a negative impact on the economic growth in the short term, as government consumption is a component of gross domestic product. As a result, the government needs to adopt measures (expressed as % of GDP) in a total amount exceeding the difference between the budgetary objective and the balance under the NPC scenario. The reason is that GDP decreases compared to that contained in the NPC scenario.

[23] A measure increasing the excise tax on diesel oil can be given as an example. Since general government/public authorities also use vehicles (e.g., police cars, etc.), a higher excise tax has a direct impact on the expenditures of the general government budget. A net amount of measures must therefore be higher in order to trade off impacts on affected budgetary expenditures.
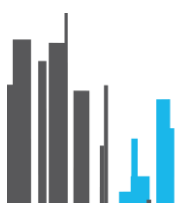
on other items of the general government balance with an aggregate contribution of 0.3 p.p., the indicator showing the size of measures will only amount to 1.2 % of GDP.

advantages	disadvantages
• simple presentation of the size of desired measures, • takes into account the development of public finances under unchanged policies,	• NPC scenario of high quality, including macroeconomic scenario, is a prerequisite (data-intensive and time-consuming), • ex post calculation is limited by the existence of NPC scenarios with different starting years, • does not take into account impacts outside the influence of the government, nor the type of adopted measures (one-off vs. permanent).

This indicator is currently quantified by the Ministry of Finance; the Commission also applies a similar concept in the context of fiscal surveillance (Annex 2).

D. Change in the structural balance (CSB, other names: structural adjustment, top down fiscal effort, structural consolidation effort)
Currently used term: consolidation effort

The change in the structural balance[24] compares annually the analytically adjusted actual/planned general government balances. The aim of these adjustments is to obtain a balance which the government influences directly and on a long-term basis[25]. It says **how big the permanent (sustainable) change in general government balance is.**

$$CSB_{(t)} = \text{adjusted balance}_{(t)} - \text{adjusted balance}_{(t-1)} \qquad (2)$$

This indicator can more accurately express government consolidation effort, as it distinguishes whether budgetary objectives are met through one-off measures and/or expenditure transfers to state corporations. It also takes into consideration, for example, most of the positive or negative developments in the economy, which automatically affects the general government balance.

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[24] The structural balance is a balance adjusted for the impact of the economic cycle on public finances and for one-off effects. If the balance is only adjusted for the impact of the economic cycle, the term usually used to describe it is a 'cyclically-adjusted balance'. If it is also adjusted for other factors beyond those mentioned, the term frequently used is an 'adjusted balance'. It holds, however, that irrespective of the items it is adjusted for, the method for calculating this indicator remains the same (it is a year-on-year change).

[25] Depending on an institution and/or purpose of its use, the balance is adjusted for various items. Their overview is included in Annex 4. Generally, the balance can be adjusted for items which are outside government's direct control, do not contribute to a change in the long-term economic performance of the general government, items not included in the general government balance (or included at a later time) which can considerably be controlled by the government at a given period.
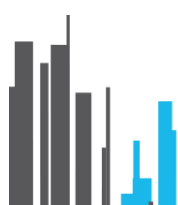
BOX 2: Analytical adjustments of general government balance

The general government balance is influenced by several factors, making it more difficult to interpret its development over time. Therefore, it is adjusted by analytically substantiated factors depending on the aim of the analysis. The balance is typically adjusted for factors that are beyond the government's direct control and which have temporary effects. It then enables to monitor development of that item of the balance which the government can influence through its fiscal policy in the long term.

In most cases, general government balance is adjusted for impacts of the economic cycle, i.e., how the economic development is automatically reflected in the development of balance (simply put, if economy thrives, it is reflected in higher tax revenues and lower unemployment-related expenditures, and vice-versa). The adjustment for the impact of the economic cycle gives the cyclically-adjusted balance.

The balance can also be adjusted for the impact of debt interest payments that are also beyond the government's direct control since they depend on the debt accrued in the past years and on the current situation on financial markets.

General government balance is also adjusted for one-off effects, that is, for those effects and government measures that are only temporary and do not induce long-term change in the balance. The result is called structural primary balance[26].

In addition to these factors, other analytically substantiated items can also be identified to prevent incorrect incentives in drafting a fiscal policy. The list of adjustments is based on currently available information and knowledge and can be extended in the future, especially if it is also be possible to quantify some transactions and impacts to the future (e.g., it is difficult to quantify long-term positive/negative macroeconomic impacts of measures). The purpose of the adjustments is to get as close as possible to the definition of long-term indicators and be consistent in time. The following adjustments are mainly involved:

- Inclusion of transactions outside the general government balance, state corporations and PPPs in particular, into the general government balance. Government's fiscal policy may also be implemented, for example, by transferring expenditures to such entities. Consequently, although the expenditures thus incurred do not affect the general government balance, they increase future risks (potential assumption of debts of such entities by the general government, or direct budgetary implications in the future). This analytical adjustment puts all public expenditures on equal footing, irrespective of whether they are funded from the general government budget or from other sources.

- Exclusion of measures with a long-term neutral effect - these are measures which may have a negative or positive impact on the general government balance at present, but these impacts will fully offset in the future. Since the long-term fiscal position does not change, such measures should not influence the size of consolidation effort.

- Prudent approach to measures with a non-zero long-term impact - these are measures which have impact also in the long-term, yet the neutrality of such impact cannot be clearly established (offset only partially). The balance should only be adjusted for measures which have a positive impact on the budget in the short term. On the other hand, in the interest of prudency, no adjustment should be made for measures with a negative impact.

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[26] Provided it is also adjusted for all impacts mentioned earlier (cycle, interest debt payments).

This approach does not take into consideration the development of balance under the NPC scenario. If balance automatically improves/worsens year-on-year without government having taken any new measures, the calculated contribution cannot be considered the government's contribution to consolidation effort. Hence the change in structural balance is also influenced by the setup of economic policies in the past.

advantages	disadvantages
• relatively simple calculation,	• does not take into account NPC scenario,
• existence of long time series for backward calculation,	• identification of items adjusting the balance might be complicated,
• tries to show the long-term impact of government policies (i. e. adjusted for the impacts that government does not control and factors with temporary impact),	• quality of historical data might be lower, since, in the past years, there was no systematic collection of data needed for its calculation,
	• includes immeasurable parameter (potential output) into the calculation.

The change in structural balance is quantified by the national authorities (MFSR, CBR, NBS), as well as the Commission. Two methodologies are applied: the **basic methodology** for the purposes of EU fiscal surveillance and Fiscal Compact, and the **national methodology.** The difference between the two mainly lies in the items for which the government balance is adjusted. The basic methodology uses adjustments for the impact of the economic cycle and one-off effects. It is used for the purposes of international comparability of data where the same fiscal rules apply to several countries. The national methodology, in addition, also adjusts the balance for debt interest payments, net costs of the fully-funded pillar of the pension system, net effect of the nuclear decommissioning scheme, and the impacts of motorway development outside the general government sector and through PPP projects (a more detailed description can be found in Annex 4). The underlying reason for the application of the national methodology is to obtain a more accurate picture of the effects of the government fiscal policy, as it captures the most relevant national specificities. **By expanding the focus from the general government sector to the entire public sector (including state corporations and the National Bank of Slovakia), the methodology tallies with the definition of the long-term sustainability indicator laid down the Fiscal Responsibility Act.**

BOX 3: Extending indicators to cover the entire public sector (link to GAP)

The entities belonging to the general government sector are defined by the European methodology on the compilation of national accounts (ESA95, ESA2010). It excludes corporations with government's equity participation that operate in a regular market environment and, under standard conditions, are able to generate reasonable profits. A narrower definition of general government is based on the assumption that corporations operate independently of the government, as their decision-making is driven by the market environment. The National Bank of Slovakia (NBS) is also excluded, as it has a specific status.

Nevertheless, there are several good reasons to look beyond the general government and include also state corporation into the assessment of consolidation effort:
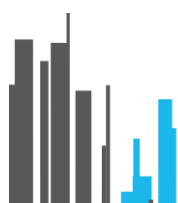
- The fiscal performance of state corporations affects the general government balance - if a corporation generates profits and pays out dividends, the impact on the balance is positive. On the contrary, if a corporation generates a loss, the loss has no impact on the general government balance in that year at all. If the corporation cannot cover the loss from its own resources, then the shareholder (government, in this case) has to adopt adjustment measures, including a possible bailout. Often, such problems have to be tackled by governments other than that during term of which the losses occurred.

- The government affects the way in which state corporations operate - in particular corporations where the state controls a majority stake have directors on their boards nominated by the government (through ministries). Since the state as a majority shareholder does have possibilities to the influence the fiscal performance of state corporations, they should be taken into account when calculating the size of consolidation effort.

- A state corporation is a part of government assets - sound and well-performing corporations increases the national wealth, while the loss-making ones decrease it.

An asymmetric approach under the national account methodology gives politicians unsound incentives to use corporations for the pursuit of their policies, mainly in the welfare area (cheap energy, public transport). Declared budgetary austerity measures in the form of cuts in direct subsidies can be offset by low prices charged by state-controlled corporations which, consequently, generate losses. The inclusion of corporations into the consolidation effort calculation may discourage such practices, as they will be reflected in a worsened indicator.

Similarly to budget transactions, the fiscal performance of corporations needs be monitored and analytically adjusted where necessary. First of all, it should be adjusted for the impact of the economic cycle, and/or cycle typical of the sector in which the corporation operates. Given the absence of a methodology for cycle estimates, it is not expressly included in calculations. Another adjustment involves those one-off transactions which have had a sizable impact on the corporation's balance, which is unlikely to recur in the years to come.

Also in the case of the central bank there are reasons to reflect its performance in fiscal indicators. The activities of the central bank generate profits or losses; if the accumulated loss is too high, a need may arise to cover it from the government budget in order to preserve the bank's operations. This is particularly relevant against the backdrop of the current unconventional monetary policy (for example, aggressive supply of liquidity to markets, direct purchases of private and government assets) when the balance sheets of central banks have considerably increased. When such policies are discontinued, sizeable losses may occur due to the sale of pooled assets of low value[27]. At the same time, the National Bank of Slovakia has a negative net worth due to the existence of unpaid losses accrued in the past. The NBS' economic performance can also be significantly affected by one-off transactions for which its balance should be analytically adjusted.

The aforementioned reasons had also led to a decision to include a broad definition of this indicator in the Fiscal Responsibility Act. The long-term sustainability indicator (GAP) is based on the structural primary balance which takes into account the performance of state corporations and the National Bank of Slovakia. A broader definition is also applied under the net worth concept, where corporations are included in the government balance.

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[27]   International Monetary Fund (2013, b)
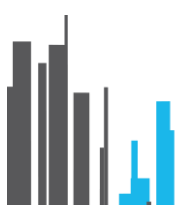
E. Government consolidation effort (GCE, consolidation effort of the government)
Currently used term: new consolidation effort

The government consolidation effort (GCE) represents the **difference between a year-on-year change in analytically adjusted[28] actual/planned balance and a year-on-year change in balance under the NPC scenario.** It combines the advantages of both aforementioned indicators as it takes into account development under the NPC scenario and, at the same time, only captures the impacts of government's permanent measures. In other words, it **expresses a contribution of the government's current effort to the permanent improvement of balance**.

$$GCE_{(t)} = \text{adjusted balance}_{(t)} - \text{adjusted balance}_{(t-1)} - (\text{adjusted NPC}_{(t)} - \text{adjusted NPC}_{(t-1)}) \quad (3)$$

The CBR uses government consolidation effort to evaluate the general government budget. The actual/budgeted general government balance and the NPC scenario balance are adjusted for the same factors as used in the quantification of a change in the structural balance under the national methodology and the result is the consolidation effort adjusted for the impact of a year-on-year change of the NPC scenario.

advantages	disadvantages
- better capturing the long-term impact of government policies, - takes into account also the fiscal balance in NPC scenario,	- sensitivity to the quality of the NPC scenario, including macroeconomic scenario, - calculation of time series is limited by the existence of NPC scenarios from the previous year, - identification of items adjusting the balance might be complicated, - includes immeasurable parameter (potential output) into the calculation.

Table 3 contains a summary of individual short- and medium-term indicators, including their interpretation.

Tab 3: Interpretation of individual indicators

new term used for the indicator	currently used term	question
1. size of measures	size of consolidation measures	What is the overall impact of government measures incorporated in the budget?

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[28] For the purposes of calculating the government consolidation effort, the balance is adjusted for the same items as in the case of a change in the structural balance according to national methodology (impact of the economic cycle, one-off effects, debt interest payments and other items depending on the methodology selected). The reason is that the values of these items for analytical adjustment may differ in the NPC scenario from those contained in the budget (for example, higher debt interest payments due to a worsened deficit in the NPC scenario).
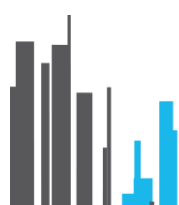
2. change in the structural balance	consolidation effort	What is the size of permanent/sustainable change in general government balance?
3. government consolidation effort	new consolidation effort	What is the contribution of the government to permanent/sustainable change in the general government balance? What is the size of government´s consolidation?

Source: CBR

3.2.2 Method of calculation

The calculation of short- and medium-term indicators is illustrated using the data from the government-approved general government budget proposal[29] for 2014-2016 (Table 4).

Tab 4: Comparison of individual approaches (% of GDP)

NPC scenario		2013	2014
1.	GG balance in NPC scenario	-3.0	-4.6
2.	Analytical adjustment:	-1.9	-2.9
	- Cyclical component	-0.4	-0.3
	- One-offs	1.0	0.0
	- Impact of the fully-funded pillar of pension scheme	-0.6	-0.6
	- Interest payments	-1.9	-1.8
	- Impact of highway construction (outside the GG sector) and PPP projects	-0.2	-0.2
	- Net impact of nuclear facilities´ decommissioning scheme	0.2	0.1
3.	Adjusted GG balance in NPC scenario (1-2)	-1.0	-1.8
Outcomes / budget		**2013 E**	**2014 B**
4.	GG balance	-3.0	-2.8
5.	Analytical adjustment:	-1.9	-1.1
	- Cyclical component	-0.4	-0.3
	- One-offs	1.0	1.6
	- Impact of the fully-funded pillar of pension scheme	-0.6	-0.6
	- Interest payments	-1.9	-1.8
	- Impact of highway construction (outside the GG sector) and PPP projects	-0.2	-0.1
	- Net impact of nuclear facilities´ decommissioning scheme	0.2	0.1
6.	Adjusted GG balance (4-5)	-1.0	-1.7
7.	**Size of measures** (4-1)		**1.8**
8.	**Change in structural balance** (y-o-y change of row 6)		**-0.7**
9.	**Government consolidation effort** (6_t-3_t-6_{t-1}+3_{t-1})		**0.1**
10.	GDP in current prices (EUR mill.)	72 987	75 773

Note: E – estimate, B - budget   *Source: CBR, MF SR*

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[29] The reason is that the NPC scenario was presented as part of the Draft Budget Plan for 2014, which reflected the government-approved budget proposal. When the budgetary objectives were updated at the stage of parliamentary reading of the proposal, the NPC scenario was not updated.
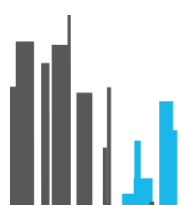
The differences between individual indicators are relatively big; a table of conversion from one indicator to another can also be compiled (Table 5), thus also illustrating their limitations.

The size of planned measures included in the 2014 budget represents 1.8% of GDP. This figure alone says nothing about the qualitative aspects of the fiscal policy. A large portion of measures (1.6% of GDP) are one-off measures that do not contribute to permanent improvements in the general government balance. In addition, secondary impacts of the adopted measures are felt here, namely in the form of moderate savings in debt interest payments (less than 0.1% of GDP) due to a lower deficit compared to the no-policy-change scenario[30]. It means that the measures of a permanent nature included in the budget amounted to 0.2% of GDP. If we consider the government's permanent measures that are not reflected in the general government balance (in this case, 0.1% of GDP higher expenditure on the motorway development incurred by national motorway company, NDS), these measures will amount to 0.1% of GDP in 2014. Compared to the permanent measures with impacts felt in 2013 already, i.e., the measures taken in the 2014 budget with impacts in 2013 (zero in this case), we arrive at the **government consolidation effort of 0.1% of GDP**.

On the other hand, **the change in structural balance represents -0.7% of GDP**, which can be interpreted as fiscal expansion. In terms of the current government consolidation effort, however, this is somewhat distorted information, because the analytically adjusted balance deteriorated by as much as 0.8% of GDP, year-on-year, under the no-policy-change scenario[31]. In other words, with no new intervention by the government at all, the adjusted deficit would have deteriorated by that amount. But with the measures factored in, the deficit only deteriorated by 0.7 % of GDP. The net contribution by the government to the permanent improvement in the balance thus amounts to **0.1% of GDP** in 204; the figure represents the size of **government consolidation effort**.

Tab 5: Table of conversion between individual indicators (% of GDP)

		2013	2014
1.	**Size of measures in the budget**	**0.0**	**1.8**
2.	- one-offs	0.0	1.6
3.	- impact on interest payments	0.0	0.0
4.	- impact on GDP in current prices*	-	-
5.	- permanent measures included in the budget (1-2-3-4)	0.0	0.2
6.	Permanent measures not included in the budget (construction of highways through NDS)	0.0	-0.1
7.	Total permanent measures of the government (5+6)	0.0	0.1
8.	**Government consolidation effort (y-o-y change of row 7)**	**-**	**0.1**
9.	Y-o-y change in the adjusted balance in NPC scenario	-	-0.8
10.	**Change in structural balance (8+9)**	**-**	**-0.7**

* NPC scenario did not contain macroeconomic scenario under unchanged policies   *Source: CBR*

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[30] The impact of the change in nominal GDP is zero in this case, as the NPC scenario did not consider changed macroeconomic indicators.

[31] The main reason for the worsened NPC scenario is a planned year-on-year increase in the use of EU funds which requires proportionate co-financing from the state budget (a negative contribution of 0.5% of GDP).
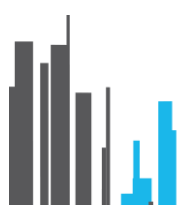
This perspective on the individual indicators can be supplemented by examples of changes in the selected items. They can give a picture of certain situations which need to be taken into account when interpreting the indicator results. The balance for 2013 and 2014 as shown in Table 3 is taken as the baseline, with the following changes (Table 5):

- **The drawing of EU funds will accelerate year-on-year; as a result, the expenditures related to co-financing will increase by 0.2% of GDP in 2014** Assuming that the other components of the budget remain unchanged, the deficit will worsen to 3.0% of GDP in 2014, as will be the case with balance under the NPC scenario (more on EU funds under the NPC scenario in Box 1) which will worsen to 4.8% of GDP. **There will be no change in the size of measures or government consolidation effort, although the structural balance will worsen**.

- **The expenditures associated with population ageing will rise 0.1% of GDP year-on-year without the government adopting any new measures** (i.e., this development is already part of the NPC scenario). In terms of the impact on individual indicators, this case is analogous to co-financing. The change in the structural balance will worsen while the other indicators will remain unchanged. Even though the government has not taken any measure in the given year, the current development is the result of how the policies have been set in the past. Although it is a measure, it had been adopted in the past. There might be a situation where the measure is not captured by the **'government consolidation effort' indicator, neither at the time of making the decision, nor at the time when it affects the general government balance**[32]. **In this case, it is advisable to supplement this perspective with the trends in long-term indicators.**

- **The government adopts a permanent measure with an impact of 0.1 % of GDP in 2013 and 0.2% of GDP in 2014.** Such a measure is not included in the NPC scenario because it is new. It means that the NPC balance will remain unchanged. The size of measures will increase by 0.2% of GDP in 2014, **but the change in the structural balance and government consolidation effort** will improve by 0.1 % of GDP. The reason is that, unlike in the case of the size of measures, these two indicators are capturing **year-on-year changes**.

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[32] A measure adopted in 2010 with an impact on the balance in 2014 could be presented as illustrative example. Because indicators are capturing only the period for which the budget is compiled (in this case, 2011-2013), this change will not be visible at the time of the decision. Also, the government consolidation effort will not change in 2013 (the year preceding the impact of the measure), because the measure is part of the NPC scenario. There will only be a change in the structural balance.
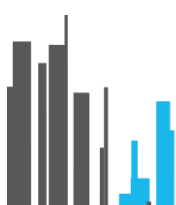
Tab 6: Examples of changes (% of GDP)

		baseline scenario		increased co-fin.		impact of ageing		measure in 2013	
		2013	2014	2013	2014	2013	2014	2013	2014
1.	GG balance in NPC scenario	-3.0	-4.6	-3.0	-4.8	-3.0	-4.7	-3.0	-4.6
2.	Analytical adjustment	-1.9	-2.9	-1.9	-2.9	-1.9	-2.9	-1.9	-2.9
3.	Adjusted GG balance in NPC (1-2)	-1.0	-1.8	-1.0	-2.0	-1.0	-1.9	-1.0	-1.8
4.	GG balance	-3.0	-2.8	-3.0	-3.0	-3.0	-2.9	-2.9	-2.6
5.	Analytical adjustment	-1.9	-1.1	-1.9	-2.9	-1.9	-2.9	-1.9	-2.9
6.	Adjusted GG balance (4-5)	-1.0	-1.7	-1.0	-2.0	-1.0	-1.9	-0.9	-1.5
7.	SM (4-1)		1.8		1.8		1.8		2.0
8.	CSB (y-o-y change in row 6)		-0.7		-0.9		-0.8		-0.6
9.	GCE ($6_t - 3_t - 6_{t-1} + 3_{t-1}$)		0.1		0.1		0.1		0.2

Source: CBR

> **BOX 4: Assumptions for the drawing of EU funds under the NPC scenario**
>
> The method used to record the drawing of EU funds and the related co-financing expenditure in the NPC scenario is not unequivocal. The fundamental question is whether any change in these items can be identified as a government measure.
>
> The government creates conditions for the drawing of EU funds, which are spent by general government entities on the one hand, and by other economic operators (such as state corporations, private companies) on the other hand; therefore, it is quite difficult to separate one from the other. In this context, one might ask whether there would be any changes in the country's expenditures had these funds not been available. Based on the additionality principle[33] which governs the drawing of EU funds, these funds should not be substituting the national expenditures of a Member State. From this perspective, there should not be any overlap between expenditures. On the other hand, we cannot say with utmost certainty whether and to what extent the projects that are currently financed from EU funds would actually be implemented. Considering the existing budgetary constraints, the projects could be implemented on a selective basis.
>
> This implies that the general government expenditures could be projected in the NPC scenario in two ways:
>
> - setting the rules separately for national expenditures and for expenditures related to EU funds including co-financing, which means adhering to the principle of additionality,
>
> - setting the rules for total expenditures regardless of the source of their financing. In this case, the assumption is made that public goods will continue to be provided at a certain level.
>
> As regards the estimate of revenues from EU funds alone under the NPC scenario, there are two extreme options and their combinations:
>
> - drawing of funds at the budgeted or actual level – the government does not have any influence on the amount drawn, i.e., neither lower nor higher amounts drawn will affect its

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[33] Compliance with the additionality principle with respect to the drawing of EU funds is demonstrated by the Member State, if it fails to do so, it may face financial corrections.
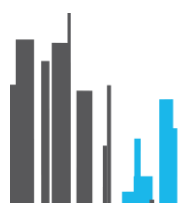
consolidation effort

- zero drawing of funds – the government influences the drawing of these funds to the full extent. Because the drawing of these funds has a negative impact on the general government balance (due to co-financing expenditures), individual indicators will be negatively affected as well,

- a combination of both approaches based on setting a certain benchmark for funds drawing. This approach is difficult in that it requires setting an optimal benchmark. This could be done with the use of estimates based on the available funds and on the historical drawing trends.

The issue of how the drawing of EU funds should be recorded in the NPC scenario will be addressed by the CBR when preparing the description of the methodology for compiling the baseline scenario of development in public finances which serves as the basis for the calculation of the long-term sustainability indicator (Part 3.2). Subsequently, the interpretation of individual indicators will depend on the method chosen.
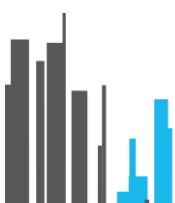
Conclusion

The study contains the categorisation of key indicators for measuring consolidation in public finances and discusses their upsides and downsides. Along with the standard indicators used, it also introduces a new indicator – government consolidation effort.

Government consolidation effort expresses the government's contribution to a permanent change in the general government balance. This indicator has been missing in the fiscal policy analysis so far; it was often substituted by other, less appropriate indicators in professional discourse. Along with indicators that have been published to date, the CBR will be regularly publishing this indicator as part of evaluating the budgetary objectives (medium-term budget outline) and the approved general government budget.
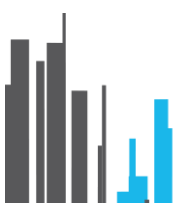
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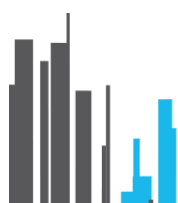
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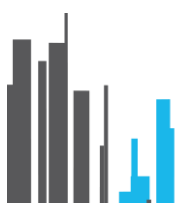
Annex 1: Consolidation indicators - scheme
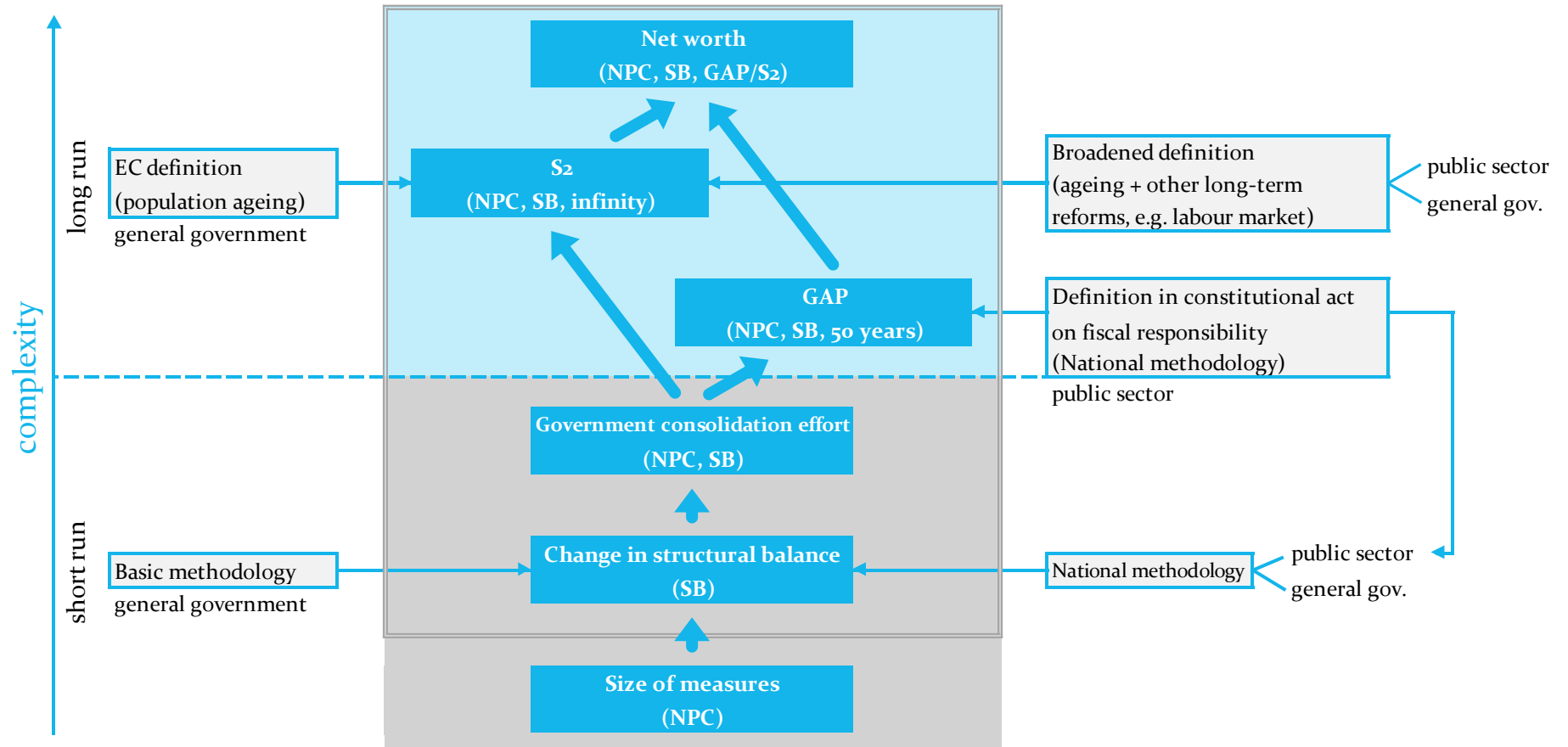
Legend: | Long-term impact (fully-funded pillar, PPP, nuclear facilities) |, NPC - no-policy-change scenario, SB - structural balance, GAP - long-term sustainabilty indicator

Annex 2: Discretionary fiscal effort

This indicator was introduced by the European Commission in its report on public finances in the euro area in 2013 (Public finances in EMU in 2013) and is not part of the standard indicators used within fiscal surveillance. This indicator combines both approaches (top-down and bottom-up) and aims at overcoming their shortcomings.

The bottom-up approach is applied on the revenue side, which means that the fiscal effort is estimated on the basis of data on individual measures, in particular in the area of taxes. This eliminates the need for cyclical adjustment of the balance, because the economic cycle is primarily reflected in tax revenues.

The top-down approach is applied on the expenditure side where the growth in expenditures[34] is projected in accordance with the long-term average pace of potential output growth (10-year average covering the period of previous five years, the current year, and the following five years). Therefore, the deviation of the actual development from this pace reflects the fiscal effort on the expenditure side. The above method eliminates the need to compile a no-policy-change scenario, which can be a problem with respect to those expenditure items that are subject to regular decisions by the government.

This indicator can better reflect fiscal effort in comparison with the change in structural balance, particularly in cases where there are changes in the structure of the economic growth or potential output.

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[34] Specifically, these entail total expenditures adjusted for debt interest payments and non-discretionary changes in unemployment-related expenditures.

Annex 3: Compilation of the NPC scenario

The calculation of the "size of measures" indicator is based on the compilation of the NPC scenario of development in public finances. Although NPC scenarios are currently compiled by the Ministry of Finance, the CBR and the EC, they serve different purposes.

The Ministry of Finance compiles the NPC scenario on the basis of EU's fiscal surveillance requirements. The NPC scenario is part of the stability programmes[35] and draft budgetary plans[36] submitted to the EC. As there is no uniform procedure defined for compiling this scenario, every Member States can choose its own approach which should be published (on the Ministry's website, in the case of Slovakia, available only in Slovak). The NPC scenario is compiled for the most recent general government budget, as well as in order to assess the actual situation based on the data released by the Statistical Office of the Slovak Republic. This makes it possible to quantify the actual and planned size of measures.

The CBR is currently compiling its NPC scenario for other purposes, without quantifying the size of measures. This entails the compilation of the baseline scenario of public finance development[37] in order to calculate the long-term sustainability indicator. The CBR intends to publish a detailed methodology for the compilation of the baseline scenario of public finance development soon.

The EC uses the NPC scenario of public finance development for the purposes of its own forecasts, because Member States do not always specify the measures for the upcoming fiscal year or two years in sufficient detail. The EC does not publish the methodology for compiling the NPC scenario. At the same time, it also applies a concept similar to the size of measures. Within the so-called careful analysis[38] in the corrective arm of the Stability and Growth Pact, the EC examines the impacts of individual measures adopted by a particular country as an additional indicator in the event of non-compliance with the recommended improvement in the structural balance[39] within the excessive deficit procedure.

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[35] Preparation of the NPC scenario in the stability programme is enshrined in Article 3 (2)(a) of Council Regulation (EC) No 1466/97 on the strengthening of the surveillance of budgetary positions and the surveillance and coordination of economic policies, as amended. This obligation is further detailed in the document entitled "Specifications on the implementation of the Stability and Growth Pact (Code of conduct)" of 3 September 2012, pg. 15. At the same time, Council Directive 2011/85/EU on requirements for budgetary frameworks of the Member States stipulates, in Article 9(2)(b), an obligation that a no-policy change scenario be included in the medium-term budgetary frameworks.

[36] Article 6(3)(b) of Regulation (EU) No 473/2013 of the European Parliament and of the Council stipulates that draft budgetary plans should contain no-policy change scenario for the forthcoming year. The document entitled "Specifications on the implementation of the Two Pack" contains the structure of required data (pg. 35).

[37] The baseline scenario of development in public finances is defined in Article 2 (b) of Act No 493/2011 Coll. on fiscal responsibility as "a long-term forecast of general government revenues and expenditures which takes into account future economic and demographic developments and the current legislative framework in the Slovak Republic; liabilities of the general government also include implicit liabilities of the general government and contingent liabilities of the general government".

[38] The document entitled "Specifications on the implementation of the Stability and Growth Pact (Code of conduct)" of 3 September 2012 includes a reference to careful analysis. It is further detailed in the "Vade mecum on the Stability and Growth Pact, Occasional Papers 151, May 2013", pg. 65-69.

[39] The actual or planned improvement in the structural balance is examined against the recommended values as well as the recommended values adjusted particularly for the difference in projections at the commencement date of the excessive deficit procedure and the current values.
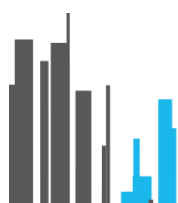
Annex 4: Change in the structural balance

The change in the structural balance (originally: consolidation effort) is calculated by both the national institutions (Ministry of Finance, CBR[40], NBS) and international institutions (EC, OECD, IMF). There are two methodologies used: basic methodology and national methodology.

Tab 7: Overview of items used for adjustment of the GG balance

GG balance	
(-) cyclical component	
(-) one-offs	**basic methodology**
Structural GG balance	
(-) net impact of the fully-funded pillar of pension scheme	
(-) interest payments	
(-) impact of highway construction (outside the GG sector) and PPPs	**national methodology**
(-) net impact of nuclear facilities´ decommissioning scheme	
Ajdusted primary GG balance	

Source: CBR

The **basic methodology** consists of the so-called year-on-year change in the structural balance of the general government, i.e., general government balance adjusted for the economic cycle and one-off effects. The **impact of the economic cycle** on the balance, the so-called cyclical component of the balance, reflects the influence of automatic stabilizers and expresses the response of general government revenues and expenditures to changes in the output gap. The size of the cyclical component depends on the size of the output gap and on elasticities of selected revenue (taxes) and expenditure (unemployment benefits) categories sensitive to fluctuations in economic activity. Within the EU's fiscal surveillance, the EC estimates the sensitivity of general government balance to changes in output gap for all Member States and applies the OECD methodology[41]. **One-off effects** are affecting the balance only temporarily and do not change the fiscal position of a country in the long-term. The EC's accompanying documents for fiscal surveillance provide examples of one-off effects[42] and the principles[43] followed within their identification.

The change in the structural balance is part of the preventive and corrective arm of the Stability and Growth Pact. In the preventive arm, a benchmark has been set at 0.5% of GDP a year for countries[44] that are not meeting their medium-term budgetary objectives. In the

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[40] The procedure for estimating the change in the structural balance by the CBR is presented in the study by Marčanová, Ódor (2014).

[41] Girouard, André (2005)

[42] The "Specifications on the implementation of the Stability and Growth Pact (Code of conduct)" of 3 September 2012 contains, on pg. 4, the following examples of one-off effects: sales of nonfinancial assets; receipts of auctions of publicly owned licenses; short-term emergency costs emerging from natural disasters; tax amnesties and revenues resulting from the transfers of pension obligations and assets.

[43] The principles are summarised in the Commission document "Public finances in EMU 2006" on pg. 110-115, such as the impact on the balance in one or a very limited number of years; this includes non-recurrent impacts and measures having a significant impact.

[44] Article 5 (2)(a) and Article 9(2) of Council Regulation (EC) No 1466/97 on the strengthening of the surveillance of budgetary positions and the surveillance and coordination of economic policies, as amended.
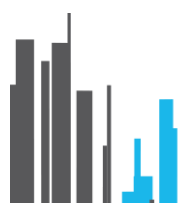
corrective arm, the values of changes in the structural balance are recommended for countries subject to excessive deficit procedure for the individual years[45]. This indicator is also part of the **so-called Fiscal Compact**[46] which the states signatory to the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union should implement within their national legislation.

Compared to the basic methodology, the structural balance is further adjusted, in the **national methodology**, for net costs associated with the implementation of the fully-funded pension system pillar, costs of the government debt service, expenditures incurred in connection with the funding of motorways and expressways under PPP projects and by the National Motorway Company (NDS), and the net effects of the nuclear decommissioning scheme. These items take into account the national specificities and are included in the calculations because they better reflect the changes in government policies.

Interest payments are expenditures not directly related to the current development in public finances, but come as a consequence of the existing debt that has accumulated due to past deficits and reflects the current situation on financial markets.

The net effect[47] of the **fully-funded pension system pillar** is also part of the adjustment. The assumption is that, from the perspective of long term sustainability, the existence of this pillar has a neutral impact, which means that an immediate improvement in the budgetary balance through higher revenues will automatically rise expenditures in the future, and vice-versa.

The **road infrastructure** is built both through PPP projects and by the NDS. In the case of PPP projects, there is a time mismatch between the investment itself and the negative effects it has on the general government balance (in the form of payments by a government entity). However, in terms of how the government influences this item, it is the time when the decision is taken rather than the time when the payments fall due. For this reason, the general government balance is adjusted so that the impact on the balance occurs during the construction rather than during the repayment of a PPP project. Analytically adjusted balance is also adjusted for the accrued debt of the NDS which formally falls outside the general government sector, but represents an alternative to the financing of motorway construction directly from the budget. The purpose of this approach is to include those activities of the government which may generate debt, but are reported outside the general government

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[45] "Specifications on the implementation of the Stability and Growth Pact (Code of conduct)" of 3 September 2012, p. 10-11.

[46] The Treaty on Stability, Coordination and Governance in the Economic and Monetary Union contains minimum structural deficit values to be achieved by a country within the set deadline. In addition to the structural balance value, the consolidation effort is also examined. A significant deviation from the planned values should trigger a corrective mechanism containing measures designed for eliminating the deviation.

[47] The net effect on the general government balance includes a shortfall in revenues as a result of redirecting the social contributions from the pay-as-you-go pillar (general government sector) to the fully-funded pillar (outside the general government sector), as well as savings in expenditures due to pension benefits being also paid from the fully-funded pillar.

sector[48]. By including such items, these expenditures are put on equal footing with the other expenditures funded from the general government budget, and no distinction is made as to whether they contribute to the long-term economic growth more than other expenditures (more details in Box 5).

Adjustments are also made with respect to the net effect of the **nuclear decommissioning scheme** because it affects the general government balance each year, although the scheme is designed[49] as having a neutral impact in the long run. This means that the accumulated funds (from the period during which nuclear facilities are in operation) should cover the future costs associated with the decommissioning of nuclear facilities and the building of storage facilities for spent fuel.

It should be noted that the list of items for which the balance is adjusted is not final. Other relevant items may arise over time. However, the precondition is that their effects must be quantifiable in a reliable manner.

The perspective on analytically adjusted general government balance could be extended to the **public sector** which, in addition to general government entities, also covers state corporations and the National Bank of Slovakia. In that case the adjustment of the general government balance would be as follows:

Tab 8: Transition to the adjusted balance of public sector

GG balance
(-) cyclical component
(-) one-offs
(-) net impact of the fully-funded pillar of pension scheme
(-) interest payments
(-) impact of PPP projects
(-) net impact of nuclear facilities´ decommissioning scheme
(+) economic performance of state corporations and the central bank
(-) dividends from state corporations and profit levy from the central bank
Adjusted primary balance of the public sector

On top of previous adjustments, the balance will be adjusted for economic performance of state corporations while excluding the flows of dividends and profit levies.

There are also slight differences between the Ministry of Finance and the CBR calculations of the change in the general government structural balance under the national methodology. These differences are attributable to the identification of one-off effects and the fact whether the fully-funded pension system pillar alone is an item for which the analytically adjusted balance should be adjusted.

---

[48] This problem is largely addressed by a shift in the national accounts methodology from ESA95 to ESA2010 where these aspects are taken into account to a greater extent. NDS should be one of those entities which will become part of the general government sector after the change in methodology.

[49] The Government of the Slovak Republic (2014)

BOX 5: Change in the structural balance and economic growth

One of the basic features of short-term and medium-term indicators (including a change in the structural balance) is that they typically make no distinction between individual types expenditures in terms of whether or not they contribute to economic growth in the long term.

This means that in a situation where the government decides to substitute less productive current expenditures by capital expenditures, such a change will not affect the structural balance (unless there is a change in the overall general government balance and one-off effects). However, in terms of the future economic growth, this measure may be important. At the same time, if the government decides to implement a fiscal stimulus through an increase in capital expenditures financed from an increase in the deficit, the structural balance will worsen.

The drawing of EU funds is an analogous example. Higher year-on-year drawing of EU funds will have a negative impact on this indicator due to higher co-financing expenditures. However, assuming that such funds stimulate economic growth, the question is whether it would be reasonable to penalise the government for it. In the case of the 'government consolidation effort' indicator, the situation may be different, depending on how these funds are recorded in the NPC scenario (Box 4).
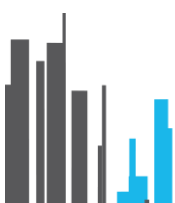
Annex 5: Definition of the long-term sustainability indicator

The *GAP* indicator shows the size of the immediate change in the primary structural balance guaranteeing that the general government debt would not exceed 50% of GDP at the end of the reporting period. In terms of its calculation, the indicator can be broken down to three parts. The first part (A) reflects the current budgetary position adjusted for the current value of discounted revenues from assets. This guarantees that the debt-to-GDP ratio would remain stable without deteriorating further if the changes attributable to ageing-sensitive expenditures and revenues are not taken into account. In other words, the first part (A) maintains the debt at a constant level, provided that $\Delta PB(ageing)_t$ is zero in every year of the projection.

The second part (B) represents a change in the structural primary balance that is necessary for complying with the criterion of reaching the 50% debt-to-GDP level at the end of the reporting period. In the case of a high initial debt and low target limit D_T, this part surges to high values and, on the contrary, for countries with a low initial debt, it pushes the value of GAP indicator down.

The last part (C) reflects the future trends in the ageing-sensitive revenues and expenditures. The more adverse the expected trend in the development of these revenues and expenditures is, the higher immediate consolidation effort will be necessary to stabilise public finances in the long-term.

Legend:
t_0: the year preceding the consolidation
t_{0+1}: the first year of the long-term projection
T: the last year of the long-term projection
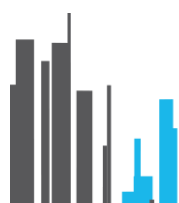D_t: gross debt in time t expressed as a proportion of GDP
PB_t: structural primary balance in time t expressed as a proportion of GDP
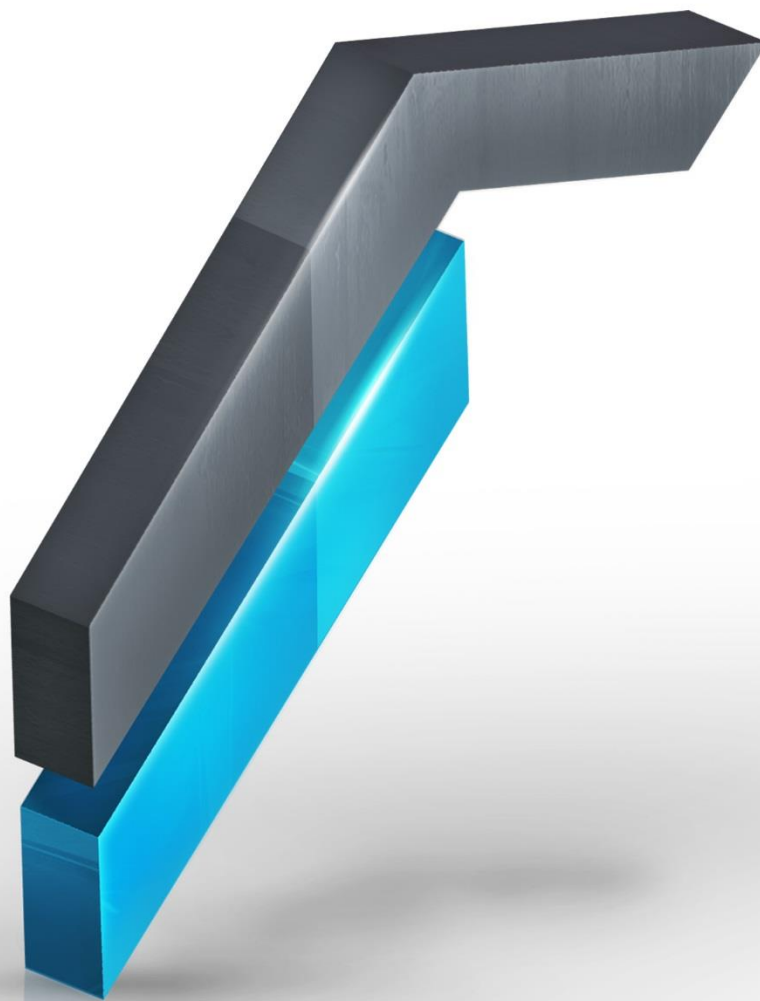$\Delta PB(ageing)_t$: change in the structural primary balance against the baseline year due to the development in ageing-sensitive expenditures $(PB(ageing)_t = PB(ageing)_0 + \Delta PB(ageing)_t)$
ΔPI_t: change in the structural primary balance due to the development in revenues from assets
r: nominal interest rate (R) above nominal growth HDP(G); $1 + r = \frac{1+R}{1+G}$

$$GAP = rD_{t_0} - PB_{t_0} - \underbrace{\frac{\sum_{i=t_0+1}^{T} \frac{\Delta PI_i}{(1+r)^{i-t_0}}}{\sum_{i=t_0+1}^{T} \frac{1}{(1+r)^{i-t_0}}}}_{A} + \underbrace{\frac{r(D_{t_0} - D_T)}{(1+r)^T - 1}}_{B} - \underbrace{\frac{\sum_{i=t_0+1}^{T} \frac{\Delta PB(ageing)_i}{(1+r)^{i-t_0}}}{\sum_{i=t_0+1}^{T} \frac{1}{(1+r)^{i-t_0}}}}_{C}$$

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