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JOANNA TRĘBSKA

joanna.trebska@uni.lodz.pl
University of Łódź. Faculty of Economics and Sociology
3/5 P.O.W. St., 90-255 Łódź, Poland
ORCID ID: https://orcid.org/0000-0002-0398-5867

OLGA SZOŁNO

olga.szolno@mail.umcs.pl
Maria Curie-Skłodowska University. Faculty of Economics
5 M. Curie-Skłodowskiej Sq., 20-031 Lublin, Poland
ORCID ID: https://orcid.org/0000-0002-0766-6935

Determinants of Expenditure Planned According to the Stabilizing Expenditure Rule. Evidence from Poland

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Abstract

Theoretical background: The main objective of expenditure rules is to limit expenditure growth to prevent excessive deficits and increases in public debt and to maintain long-term fiscal sustainability. In addition, their application stems from the obligation imposed on EU member states to comply with supranational rules by the Stability and Growth Pact (SGP). Expenditure rules at the national level complement the SGP (2024) requirements in place in 16 EU countries. A stabilizing expenditure rule (SRW) has been in place in Poland since 2015.

Purpose of the article: The purpose of the analysis presented here is to verify the fulfillment of the requirements for the SRW. Its implementation consists primarily of identifying the mechanism of action and the impact of the various determinants highlighted in SRW on the expenditure planned in the draft budget laws for 2015–2024.
Research methods: Appropriate research methods were used to achieve the objective: analysis of Polish and foreign literature (publications, journals, scientific studies, reports of international institutions) and legal acts (Polish, EU, and selected countries' norms). In addition, the databases of the European Commission and the International Monetary Fund on fiscal rules were used. The impact of individual components of the expenditure fiscal rule on changes in expenditure was assessed using the method of indexed decomposition analysis. The application of this method makes it possible to determine to what extent the observed changes in expenditure planned according to the SRW between 2015 and 2024 are caused by their determinants. The empirical analysis is based on data officially published by the Ministry of Finance in Poland.
Main findings: Changes in expenditure planned under the SRW for 2015–2024 were, to the greatest extent, due to assumptions on inflation (inflation forecasts or inflation target) and medium-term GDP dynamics and, to a lesser extent, due to discretionary actions. They were constrained by the correction mechanism for public finance imbalances applied in selected years and other methodological changes related to the SRW. The analysis of historical data, parliamentary documents, and the decomposition analysis results indicate that the SRW meets most of its requirements. However, the numerous changes in the scope of the rule and other changes of methodological nature may raise some doubts as to whether the condition of not being subject to sibilant influences is met.

Introduction

The stabilizing expenditure rule (SRW) was put into the Polish legal order by the Act of 8 November 2013, amending the Act on public finance and certain other acts (Journal of Laws, item 1646, as amended). According to the assumptions of the draft Act on amending the Public Finance Act in the context of the SRW,[1] it aims to ensure the stability of public finances in Poland. It is necessary to realize fiscal policy's basic socio-economic goals, including allocative, redistributive, and stabilization functions. Its introduction resulted from the fact that the previously binding fiscal rule system proved insufficient in ensuring fiscal discipline and the imbalance in public finance registered in public statistics was permanent (the deficit exceeded 3% of GDP in 1995–2014, excluding 1999 and 2007). Hence, since it acceded to the European Union, Poland has been subject to excessive deficit procedures almost continuously until 2015.

The SRW was supposed to meet several criteria, including, first and foremost, a precisely defined objective, scope, and consequences in the event of its non-fulfilment, consistency with the requirements set out in Chapter IV of Council Directive (Directive 2011/85/EU), consistency of national rules with the requirements of the Stability and Growth Pact, stabilization of public finances and correction of excessive imbalances, but at the same time not causing excessive fiscal tightening, countercyclical nature, being beyond subjective influences, not relying on unobservable

[1] Document dated 16 July 2013, available at: https://legislacja.rcl.gov.pl/docs//1/165461/165493/165494/dokument80762.pdf

categories. In theory, all these criteria are met, meaning the SRW requirements are fulfilled. However, there is a reasonable suspicion of certain weaknesses of this rule. Their identification was the primary motivation for undertaking the empirical analysis in this paper. This part of the study, i.e. the modification of the SRW formula by introducing elements not explicitly included in it and estimating their impact on public expenditure, represents the most significant contribution to the literature on the national expenditure rule and the principles of its operation in recent years in Poland.

The article aims to identify the determinants of public finance sector expenditures planned by applying the SRW, officially published in the draft Budget Acts for 2015–2024. The empirical analysis is based on publicly available data contained in the justifications for the Budget Acts. The method of indexed decomposition analysis was applied, which makes it possible to determine to what extent the observed changes in the expenditure planned according to the SRW between 2015 and 2024 are the result of the impact of their determinants. Particular attention has been paid to those determinants that are potentially characterized by the limited objectivity of decision-makers. A description of the method of indexed decomposition analysis is included in the third part of the article (after the introduction and literature review). Its results are described in the fourth section and discussed in the next. This part also refers to the second part of the article, which describes the assumptions of expenditure rules in EU countries regarding their object (target/constraint), coverage of general government finances, and other determinants. The last part contains conclusions from the results, a summary, and recommendations.

National expenditure rules in the EU

Supranational and national fiscal rules shape EU member states' public finances. The first two supranational rules – the deficit rule and the general government debt rule – were defined in the Maastricht Treaty (1992). A third rule based on the structural budget balance was added in 2005, and a fourth one – the expenditure rule – in the next SGP reform (2010–2011) (the assumptions of the SGP are described in more detail, e.g. Marchewka-Bartkowiak, 2011). The consensus on the need to comply with these rules and to implement any changes recommended by the European Commission is based on the understanding that, with such an advanced degree of economic integration among EU member states, national governments cannot ignore the cross-border implications of their budgetary decisions (Larch et al., 2023).

Compliance with supranational rules is to be assisted by national fiscal rules implemented in individual countries. Depending on the country, these take an individual shape (Eyraud et al., 2018; Schaechter et al., 2012). Expenditure rule is one of the rules used by many countries worldwide, including the European Union. Usually, expenditure rules complement other fiscal rules, which are determined by the need for governments to make efforts to rationalize spending within the national

budget (Kumar et al., 2009). The use of expenditure and other rules stems from the realization that the operation of a set of rules has a better effect on the consolidation of public finances (Hallerberg et al., 2007). Authors of academic studies point out that maintaining a sustainable trend of reducing the budget deficit primarily requires expenditure restraint by introducing appropriate limits (expenditure rules) in the short and long term (e.g. Alesina et al., 1998; Marattin et al., 2022).

On the one hand, expenditure rules are designed to limit the pro-cyclical loosening of fiscal policy, assuming that pro-cyclicality is primarily linked to the expenditure side of the budget (Turrini, 2008). On the other hand, expenditure rules should prevent the size of budget expenditures from exceeding the level that a country can finance on its own. They are seen as tools to discipline public finances (Perotti & Alesina, 1996), to correct the incentives of policymakers to overspend (Apeti et al., 2024), as a mechanism to discipline authorities (Gaspar & Amaglobeli, 2019), which, without the restrictions imposed, could lead to excessive debt (Buchanan, 1997). Through national expenditure rules, budget makers curb excessive increases in public spending that threaten a country's financial stability (Begg, 2017; Schick, 2003). At the same time, they can limit spending following pro-cyclical actions during a period of revenue enhancement resulting from economic growth in the country (Bergman & Hutchison, 2015; Manescu & Bova, 2020).

Over 35 years, the number of European countries applying expenditure rules has increased. In the 1990s, only seven countries had such rules (Denmark, Germany, Belgium, the Netherlands, Sweden, Finland, Italy). The largest increase occurred between 2008 and 2011, likely due to the 2007–2008 economic crisis, which worsened fiscal impalances and public debt, prompting many EU countries to adopt fiscal rules (Budzyński, 2016; Franek & Postuła, 2021; Moździerz, 2019). The crisis also highlighted the need for fiscal sustainability, leading to legal and institutional reforms (Barnes et al., 2012; Panfil, 2021; Poniatowicz, 2012). A key driver of new national fiscal rules was the 2011 "six-pack" legislation, which strengthened EU fiscal governance by requiring member states to apply fiscal rules ensuring long-term public finance sustainability (Moździerz, 2015; Postuła & Kawarska, 2020; Thygesen et al., 2019). This legislation formally shaped expenditure rules, mandating numerical limits in budget laws (Directive 2011/85/EU). Another factor behind the rise of national expenditure rules was the need for better spending planning in difficult economic conditions, especially during and after the COVID-19 crisis (Cepparulo et al., 2024; Davoodi et al., 2022).

The European Commission does not indicate requirements for the construction of expenditure rules. It only indicates that country-specific numerical fiscal rules should contain elements such as the purpose and scope of the rules, effective and timely monitoring of compliance with the rules based on a reliable and independent analysis by independent bodies or bodies that are functionally independent of the budgetary authorities of the Member States and consequences of non-compliance with the rules. In addition, a rule containing an exit clause must specify precisely the circumstances

and procedures under which a rule breach is permitted (Council Directive 2011/85/EU). In the literature, many items can be found detailing the design features of the expenditure rules of individual EU countries (see, e.g. Ayuso-i-Casals, 2012; Debrun & Kumar, 2009; IMF, 2009; Ter-Minassian, 2010). Rules are differentiated by several criteria and the requirements they should meet (see more extensively, Ardanaz et al., 2023; Ayuso-i-Casals et al., 2009; Banaszewska, 2013; Kopits, 2001, 2004). These include the legal anchoring of expenditure rules and their scope (rules may cover the whole general government sector or its subsectors), the aggregate purpose of the applied expenditure rules (nominal/real values) and the planning period of expenditure restrictions (annual or multi-year limits), the frequency of changes in the design of expenditure rules, and the monitoring and consequences of non-compliance (formal enforcement mechanisms, i.e. financial or reputation-based sanctions) and deviation (shock absorbers; escape clauses).

Detailed information on current fiscal rules and their characteristics is contained in the Fiscal governance database, in the document Numerical Fiscal Rules database – 2024 update.[2] Currently (2025), expenditure rules are in force in 16 EU countries, i.e. Denmark, Belgium, the Netherlands, Sweden, Finland, Italy, France, Bulgaria, Lithuania, Austria, Spain, Latvia, Poland, Romania, Hungary and Slovakia. In 2009, expenditure rules were in place in 18 countries. However, since then, four countries have abandoned the application of expenditure rules (Germany, Ireland, Slovakia, Slovenia), while in 2022, France decided to introduce an expenditure rule at a national level and in 2023, Slovakia returned to expenditure rule application. Countries that have never implemented national expenditure rules can also be identified: Malta, Portugal, Luxembourg, Hungary, Greece, Estonia, the Czech Republic and Cyprus. These 16 countries have 22 expenditure rules, as one country may have several rules for different parts of the general government sector (GG) or rules formulated for different targets (cf. Table 1). Bulgaria has three rules (two for the GG and one for the local government subsector), two in Italy and Lithuania. Most often, the rules apply to the expenditure of GG (11 of those operating in ten countries), less often to one or more subsectors simultaneously. The expenditure rule most often regulates nominal expenditure – its level (in six countries) or the growth rate of nominal expenditure (in seven countries), less often the growth rate or the level of real expenditure.

More in-depth analyses of the target/constraint and scope of expenditure rules in the EU can be found, *inter alia*, in Vammalle and Bambalaite (2021) or Sutherland et al. (2018). Real limits as a target seem to be a more sensible solution in annual expenditure planning (e.g. due to taking into account growth or inflation slowdowns), while in a multi-year perspective in nominal values (at the implementation stage to avoid procyclicality) (Ayuso-i-Casals, 2012).

[2] Database available at: https://economy-finance.ec.europa.eu/economic-research-and-databases/economic-databases/fiscal-governance-database_en

Table 1. National expenditure rules in EU countries by purpose and coverage

Sector/subsector Target	General government sector	Subsectors			
		Central government	Regional government	Local government	Social security
Nominal expenditure (absolute term)	DK, PL*, SK	SE	IT, LT		LT, SE
Nominal expenditure (% of GDP)	BG				
Nominal expenditure growth	AT, BG, LV, HR, RO	ES, LT	ES	BG, ES	LT
Real expenditure (absolute term)	NL	FI			
Real expenditure growth	IT				BE
Budget balance (nominal terms)	FR				

*according to Numerical Fiscal Rules database – 2024 update three institutional subsectors (all operating within the GG in Poland) are listed as being covered by the Polish expenditure rule. However, since only one rule is in place, it should be considered as a rule for the GG (as a whole) rather than for its individual subsectors

AT – Austria, BE – Belgium, BG – Bulgaria, DK – Denmark, ES – Spain, FI – Finland, FR – France, HR – Croatia, IT – Italy, LT – Lituania, LV – Latvia, NL – Netherlands, PL – Poland, RO – Romania, SE – Sweden, SK – Slovakia

Source: Authors' own study based on Numerical Fiscal Rules database – 2024.

To summarize, the adoption of expenditure rules was motivated by the following reasons (see extensively, Cordes et al., 2015): EU membership and the associated obligation to comply with Community regulations; support for the achievement of other supranational fiscal objectives (Postuła, 2018); external factors that were the result of accepted legal obligations under Community provisions (Lotko & Zawadzka-Pąk, 2018); the effectiveness of numerical fiscal rules in reducing budget deficits (Dahan & Strawczynski, 2013); treating expenditure rules as part of a comprehensive fiscal policy strategy (Franek, 2016), i.e. complementing and supporting each other with other fiscal rules (Kumar et al., 2009); linking by coalition governments to electoral period targets (e.g. Finland, Luxembourg, the Netherlands, Sweden) (Cordes et al., 2015); helping to reduce spending (support for fiscal consolidation) (Andersen, 2013); reducing budget deficits (Alesina et al., 1998; Marattin et al., 2022).

Research methods

The numerical expenditure rule (enshrined in the Act of 8 November 2013, Journal of Laws, item 1646, as amended, Article 112aa[3]) in its original formulation was as follows:

$$WYD_n = WYD^*_{n-1} \cdot E_n(CPI_n) \cdot [WPKB_n + K_n] + E_n \Delta DD_n \,, \quad (1)$$

where:

WYD_n – planned expenditure for year n,

$E_n(CPI_n)$ – the annual average consumer price index (CPI) for year n, as forecast in the Explanatory Memorandum to the Budget Act for year n, $E_n(CPI_{n-1})$ is anal-

[3] https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20130001646/O/D20131646.pdf

ogously defined as the annual average consumer price index in year *n-1* projected in the justification to the Budget Act for year *n,* and so on,

$$WPKB_n = \sqrt[8]{\frac{PKB_{n-2}}{PKB_{n-8}} \cdot E_n\left(\frac{PKB_{n-1}}{PKB_{n-2}}\right) \cdot E_n\left(\frac{PKB_n}{PKB_{n-1}}\right)} \quad (2)$$

is an indicator of the average annual dynamics of GDP at constant prices over the last 8 years, with the dynamics in the periods from year *n-7* to *n-2* derived from historical data and in the last 2 years from forecasts,

K_n – correction for public finance imbalances,

$E_n \Delta DD_n$ – the projected value of discretionary actions, which value exceeds 0.03% of GDP,

WYD^*_{n-1} is the revised amount of expenditure planned in the previous year, with the original adjustment to result from an update of the forecasts of CPI, i.e:

$$WYD^*_{n-1} = WYD_{n-1} \cdot \frac{CPI_{n-2}}{E_{n-1}(CPI_{n-2})} \cdot \frac{E_n(CPI_{n-1})}{E_{n-1}(CPI_{n-1})}. \quad (3)$$

However, how the amount of expenditure planned in the previous year was adjusted varied from year to year. The calculation of *WYD** consisted of updating the forecasts of CPI only in 2015 and 2023; in the remaining years, the inflation forecast was replaced by the inflation target, so updates to the forecasts were not needed. However, only in 2017–2019, *WYD** was equal to the amount planned in the previous year. In the remaining years, the previous year's amount was adjusted due to methodological changes resulting from a change in the scope of the SRW or a change in the method of expenditure calculation (2015–2016, 2021–2023). The component related to this adjustment is not formally included in the numerical formula of the expenditure rule.

The Act of 13 July 2023 amending the Public Finance Act and some other acts[4] (Journal of Laws, item 1641) introduced some modifications to the SRW:

$$WYD_n = WYD^*_{n-1} \cdot E_n(CPI_n) \cdot WPKB_n + K_n + E_n \Delta DD_n \,, \quad (4)$$

where:

$$K_n = -DF_n \cdot E_n PKB_n, \quad (5)$$

DF_n – fiscal adjustments which are required when the European Commission's most recent forecasts project the value of the ratio of the general government headline balance to GDP in year *n-1*, or year *n*, to be below -3%, or the value of the ratio of general government debt to GDP in year *n-1*, or year *n*, to be above 60%,

[4] https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20230001641

E_nPKB_n– the nominal gross domestic product forecast in the explanatory memorandum to the draft budget law for year *n*,

other symbols as in formula (1).

In 2024 (Act of 28 June 2024, Journal of Laws, item 1089), i.e. when planning the 2025 budget, the CPI was replaced with the GDP deflator. A mechanism for correcting forecast errors in the real GDP growth rate was introduced (abandoning the correction of the CPI forecast errors).

The application of index decomposition method (De Boer & Rodrigues, 2020) makes it possible to determine to what extent the changes observed between 2015 and 2025 in the amounts of expenditure planned according to the SRW are the result of the impact of their determinants, in particular: projected inflation and the forecast update rate, average annual GDP dynamics, planned discretionary measures, the correction mechanism for public finance imbalances or changes of a methodological nature, mainly related to the scope of entities covered by the SRW.

This method involves determining a series of hypothetical values of the analyzed variable in a manner that makes it possible to identify the impact of particular determinants on changes in its level. In this case, the formula describing changes in expenditure planned according to the SRW is decomposed:

$$\Delta WYD_n = WYD_n - WYD_{n-1}, \tag{6}$$

and after substituting formula 1 (for 2015–2023) or 5 (for 2024) to 6:

$$\begin{aligned} \Delta WYD_n &= WYD_{n-1} \cdot ACPI \cdot MET \cdot E_n(CPI_n) \cdot [WPKB_n + K_n] + E_n\Delta DD_n - WYD_{n-1} \\ \Delta WYD_n &= WYD_{n-1} \cdot ACPI \cdot MET \cdot E_n(CPI_n) \cdot WPKB_n + E_n\Delta DD_n + K_n - WYD_{n-1} \end{aligned} \tag{7}$$

and a simple transformation:

$$\begin{aligned} \Delta WYD_n &= WYD_{n-1}(ACPI \cdot MET \cdot E_n(CPI_n) \cdot [WPKB_n + K_n] - 1) + E_n\Delta DD_n \\ \Delta WYD_n &= WYD_{n-1}(ACPI \cdot MET \cdot E_n(CPI_n) \cdot WPKB_n - 1) + E_n\Delta DD_n + K_n, \end{aligned} \tag{8}$$

where: $WYD^*_{n-1} = WYD_{n-1} \cdot ACPI \cdot MET$, $ACPI$ – inflation forecast update index, MET – previous year expenditure update index due to SRW methodological changes (element which is not explicitly included in SRW), other symbols as in equation (1).

Hypothetical changes in expenditure are determined on the assumption that the factors influencing changes in expenditure in a given period compared to the previous period do not occur, i.e. the determinants changing the level of expenditure in a multiplicative manner take the value 1 ($ACPI$, MET, $E_n(CPI_n)$, $WPKB_n$), while determinants of expenditure changing its level in an additive manner will take the value 0 ($K_n, E_n\Delta DD_n$):

$$\Delta WYD^{I} = WYD_{n-1}(1 \cdot 1 \cdot 1 \cdot [1+0]-1)+0$$
$$\Delta WYD^{II} = WYD_{n-1}(1 \cdot 1 \cdot 1 \cdot [1+0]-1)+E_n\Delta DD_n$$
$$\Delta WYD^{III} = WYD_{n-1}(1 \cdot 1 \cdot 1 \cdot [1+K_n]-1)+E_n\Delta DD_n$$
$$\ldots \quad (9a)$$
$$\Delta WYD^{k} = WYD_{n-1}(1 \cdot MET \cdot E_n(CPI_n) \cdot [WPKB_n+K_n]-1)+E_n\Delta DD_n$$
$$\Delta WYD^{k+1} = WYD_{n-1}(ACPI \cdot MET \cdot E_n(CPI_n) \cdot [WPKB_n+K_n]-1)+E_n\Delta DD_n$$

and

$$\Delta WYD^{k+1} = WYD_{n-1}(ACPI \cdot MET \cdot E_n(CPI_n) \cdot [WPKB_n+K_n]-1)+E_n\Delta DD_n$$
$$\Delta WYD^{k} = WYD_{n-1}(ACPI \cdot MET \cdot E_n(CPI_n) \cdot [WPKB_n+K_n]-1)+0$$
$$\Delta WYD^{k-1} = WYD_{n-1}(ACPI \cdot MET \cdot E_n(CPI_n) \cdot [WPKB_n+0]-1)+0$$
$$\Delta WYD^{II} = WYD_{n-1}(ACPI \cdot 1 \cdot 1 \cdot [1+0]-1)+0 \quad (9b)$$
$$\Delta WYD^{I} = WYD_{n-1}(1 \cdot 1 \cdot 1 \cdot [1+0]-1)+0$$

where: $\Delta WYD^{I} = 0$, $\Delta WYD^{k+1} = \Delta WYD_n$ while the others $\Delta WYD^{II}, \Delta WYD^{III}, \ldots, \Delta WYD^{k}$ are the hypothetical values of the expenditure increments over period *n*.

By performing an additive decomposition,[5] for both successive values of the analyzed variable determined according to formulas 9a and 9b, the increment in expenditure can be written as the sum of hypothetical increments, each of which shows the effect of isolated changes in individual determinants:

$$WYD_n - WYD_{n-1} = (\Delta WYD^{k+1} - \Delta WYD^{k}) + (\Delta WYD^{k} - \Delta WYD^{k-1}) + \cdots$$
$$+(\Delta WYD^{III} - \Delta WYD^{II}) + (\Delta WYD^{II} - \Delta WYD^{I}) \quad (10)$$

For example, the difference $(\Delta WYD^{k+1} - \Delta WYD^{k})$ for the first form of the decomposition (determined from equation 9a) shows how expenditure would have changed in period *n* compared to *n-1* if all expenditure determinants, except for $ACPI$, would have taken on the values of period *n*. This is, therefore, the change in expenditure resulting from an isolated change in the variable $ACPI$. In turn, the difference $(\Delta WYD^{k} - \Delta WYD^{k-1})$ shows how expenditure would change due to an

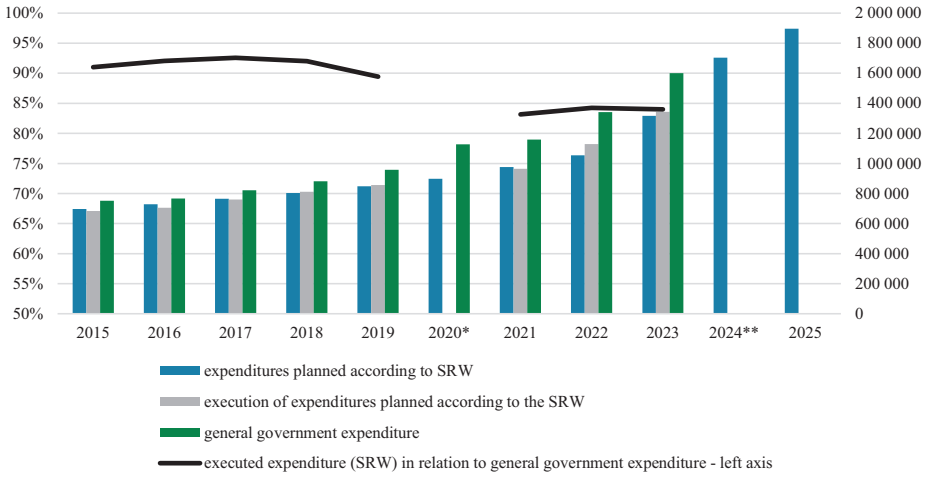
[5] In this case, it is the only feasible form of decomposition. It is based on absolute increments, and its results are interpreted in units of measurement, such as the economic variable under study. The results of multiplicative decomposition are indices and are expressed as percentages. Since the variable analysed is expenditure growth, which can take positive or negative values, neither multiplicative nor logarithmic decomposition can be used (Ang, 2015; Dietzenbacher & Los, 2000; Skolka, 1989).

isolated change in a variable MET. The elements determined from the second form of decomposition (equation 9b) are interpreted similarly, but in reverse order, i.e. $(\Delta WYD^{k+1} - \Delta WYD^{k})$ shows the change in expenditure resulting from an isolated change in the last determinant (in this formula, it is $E\Delta DD$), i.e. assuming that the other determinants take their values from period n. Thus, it can be seen that, for example, the value of the expression $(\Delta WYD^{k+1} - \Delta WYD^{k})$ determined from formula 9a and $(\Delta WYD^{II} - \Delta WYD^{I})$ determined from formula 9b would have the same interpretation, as the change in expenditure resulting from the $ACPI$, the difference would lie only in the assumptions about the values of the other determinants. This problem is referred to as the ambiguity of the decomposition form, the essence of which is analogous to the Laspeyres and Paasche formula problem of aggregate indices. Note that formulas 9a and 9b show only two forms of decomposition, while the number of possible orders of such a procedure equals the number of permutations of elements of the set $\{1,...,n\}$, that is, $n!$ As written earlier, all these decomposition forms are equivalent from the point of view of interpretation, while the results of the different decomposition forms may differ. The problem of choosing one form of decomposition can be circumvented by calculating the averages of the results from the different forms of decomposition, which can be very labour-intensive when the number of arguments of the function describing the variable under study is large (there are seven determinants in the SRW, so the number of possible forms of decomposition is 5,040). As an alternative, Dietzenbacher and Los (1998) suggest calculating the average of the two forms of decomposition, described by formulas 9a and 9b; in the case of the additive form of decomposition, the arithmetic mean should be calculated. This is the approach taken in this analysis; the results are presented in the next section of the article.

Results

The expenditure determined under the SRW grew at an average annual rate of 10.5% in 2015–2025 (until 2022, it was only 6.1%). It is worth noting here that the expenditure rule is binding at the stage of expenditure planning, while its execution may differ from the planned amount or be changed during the year.[6] However, the discrepancies between planned and incurred expenses were relatively small – usually, they did not exceed 2%, only in 2022, incurred expenditure was 7% higher than planned. At the same time, the ratio between the expenditure of entities covered by the SRW and the general government expenditure decreased to 84% in 2021–2023 from around 90% in earlier years (cf. Figure 1).

[6] The amount of expenditure planned for 2023 was updated by the Act of 7 July 2023, amending the Finance Act for the year 2023.



*in 2020, the expenditure rule has been suspended, although they were planned in the Budget Act
**amount of expenditure planned for 2024 in the Finance Bill updated in December 2023

Figure 1. Expenditure by SRW against general government expenditure (million PLN)

Source: Authors' own study based on data from the Ministry of Finance and Eurostat Database.

The increase in the expenditure amounts planned for subsequent years was driven by the inflation target for 2016–2022 or inflation forecasts in 2015, 2023, and 2024 replaced by GDP deflator in 2025, assumptions on the average annual GDP growth rate (cf. Figure 2), forecasts for discretionary measures (cf. Figure 3), as well as by the adjustment for public finance imbalances imposed on GDP dynamics in selected years and the inflation forecast update rate and other methodological changes in the SRW (cf. formula (1) and (8)).

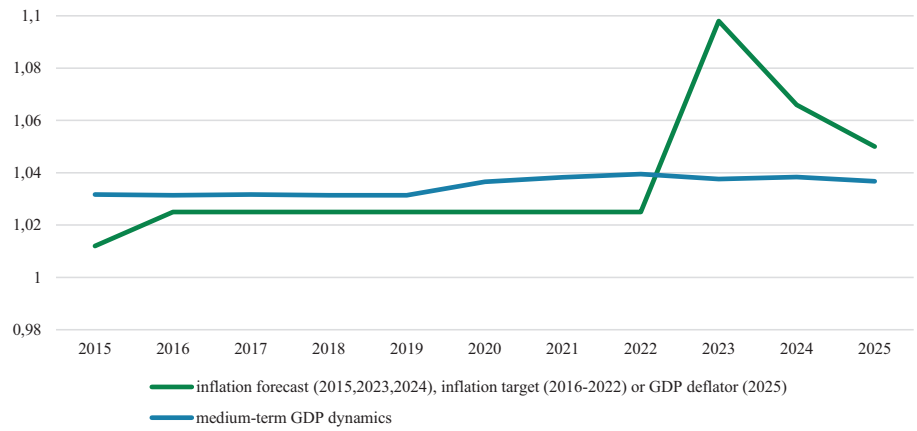
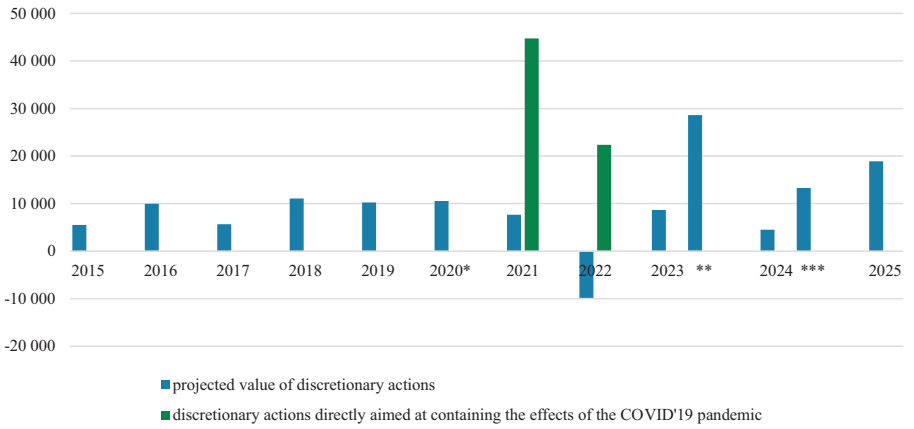


Figure 2. Inflation and medium-term GDP growth assumptions

Source: Authors' own study based on data from Ministry of Finance.



*in 2020, the expenditure rule has been suspended, although it was planned in the Budget Act
**actions projected for 2023 according to Budget Act updated in July 2023
***actions projected in the Budget Act elaborated in December 2023

Figure 3. Projected amounts of discretionary and similar actions (million PLN) as components of the SRW

Source: Authors' own study based on data from the Ministry of Finance.

Since expenditures according to SRW are planned in nominal terms (at current prices), their primary determinant is a factor reflecting projected price changes (the *ECPI* variable). However, as mentioned earlier, inflation forecasts were only relevant in 2015, 2023, and 2024, while in 2025, CPI was replaced with the GDP deflator. As early as the second year of SRW implementation, it was decided that the planned expenditure increase for 2016 and subsequent years would be based on the inflation target. This change allowed for a more tremendous growth in expenditures than would have been determined by the forecasts of very low inflation at that time. The next change, namely the return to inflation forecasts, was noticeable because inflation had significantly exceeded the inflation target in recent years. Meanwhile, the replacement of CPI forecasts with the GDP deflator was motivated by the latter indicator being characterised by lower volatility and more minor forecast errors.

In the first eight years of SRW implementation, the ECPI variable generated an increase in expenditures averaging around PLN 20 billion per year (over 2.5% each year). However, the significance of this variable increased substantially in the last three years, with an average contribution close to PLN 100 billion. Between 2015 and 2025, public expenditures increased by PLN 474.6 billion due to the *ECPI* variable, accounting for nearly 40% of the total growth (cf. Table 2).

As written earlier, the medium-term GDP dynamics are determined based on data from the Central Statistical Office for six historical observations and projections for the next two years included in the justifications for the budget laws. However, in the last four years, 2020 was excluded from the calculation of medium-term GDP dynamics. In the analysed period, the medium-term GDP growth rate was assumed

to be 3.14–3.17% in the first five years and slightly higher in the following years (3.65–3.95%). The medium-term GDP growth rate was close to the GDP projections; differences did not exceed 0.7 percentage points (the only exception was in 2023).

This determinant of expenditure planned according to SRW generated the highest increase for most years of the analysed period. On average, expenditures grew by PLN 35.4 billion year over year (i.e. 3.2–4%), resulting in a total increase of PLN 388.9 billion in 2015–2025 (nearly one-third of the total expenditure growth). The contribution of this variable (*WPKB*) has even increased in nominal terms in recent years (cf. Figure 4).

The discretionary actions mainly concern taxes, social security contributions, and other charges. This variable (*EDD*) exhibited the highest volatility during the analysed period and was the primary subject of budget updates, particularly for 2023 and 2024. Its impact on expenditure growth was predominantly positive. Still, discretionary actions can also lead to a reduction in planned expenditure amounts (as was the case in 2022, mainly due to measures resulting from the amendment to the Personal Income Tax Act, which reduced the general government sector's revenues). Between 2015 and 2025, public expenditures increased by PLN 111.6 billion due to the *EDD* variable.

In addition to conventional discretionary actions, in 2021 and 2022 (i.e. during the period of the so-called "return clause"), the expenditure increased by actions directly aimed at containing and combating the effects of the COVID-19 pandemic and directly supporting the affected entities in 2021 by PLN 44.7 billion and in 2022 by PLN 22.4 billion (PLN 67.1 billion in total).

The correction mechanism for public finance imbalances was applied between 2015 and 2020. It was minus 2 p.p. in 2015 (since in 2013, the nominal result plus the costs of the pension reform in relation to GDP was lower than the reference level of -3%) and in 2018 (because in 2016, the ratio of sovereign public debt to GDP exceeded 48%). In turn, in 2016 and 2017, the adjustment ratio was minus 1.5 p.p. because in 2014 and 2015, the ratio of sovereign public debt (less the amount of free funds used to finance the state budget's borrowing needs) to GDP exceeded 43%. Citing the epidemic state of affairs, no adjustment was applied in 2021–2023 even though the general government deficit in 2020 significantly exceeded 3% of GDP. A fiscal adjustment of PLN -45250 million, i.e. 1.2% of GDP at current prices in 2024, as projected in the explanatory memorandum to the draft budget law for 2024, was introduced in the 2024 budget law. When planning expenditures for 2025, no adjustment was applied for public finance imbalance ($K = 0$). The total effect of the correction mechanism for public finance imbalances was a reduction in public expenditure growth by PLN 121.2 billion in 2015–2025, counteracting excessive spending increases during periods of deficit or public debt limit breaches.

The expenditures planned for a given year (WYD_n), in addition to the factors mentioned above, are also determined by the level of spending planned for the previous year. However, the value considered is usually adjusted beforehand (WYD^*_{n-1}). From a formal

perspective, this adjustment results from errors in inflation forecasts – the *ACPI* variable (applied in 2015, 2023, and 2024) – or GDP growth forecasts (2025). This correction had either a positive impact (when forecasts were underestimated) or a negative effect (when forecasts were overestimated) on the planned expenditure level. The cumulative impact of the *ACPI* variable on expenditure growth was positive, amounting to PLN 66.2 billion. However, underestimating inflation forecasts significantly increased the planned expenditures for 2023 alone – by as much as PLN 120 billion. The significance of this factor should be marginal during periods of economic stability.

In reality, the update of planned expenditure amounts for the previous year took place in 2015–2016 and 2021–2025 due to the expansion or reduction of the SRW scope of entities and subjects covered by the rule or changes in the method of calculating expenditure amounts (2015–2016, 2022–2025). Additionally, in 2021, the update was necessary because the expenditure amount for the previous year was not calculated due to the suspension of the rule in 2020. The detailed list of changes is very long, but it is worth mentioning a few examples:

– exclusion of expenditures representing financial flows between funds managed by the Social Insurance Institution (in 2014)[7] and between special-purpose funds managed by the Agricultural Social Insurance Fund (in 2015);[8]

– addition of the Bank Guarantee Fund to the list of entities covered by SRW (in 2015)[9] and of the National Fund for Environmental Protection and Water Management (in 2023);[10]

– expansion of the entities covered by SRW to include all state special-purpose funds, consolidation of all other legal relationships corresponding to grants and subsidies (2021);[11]

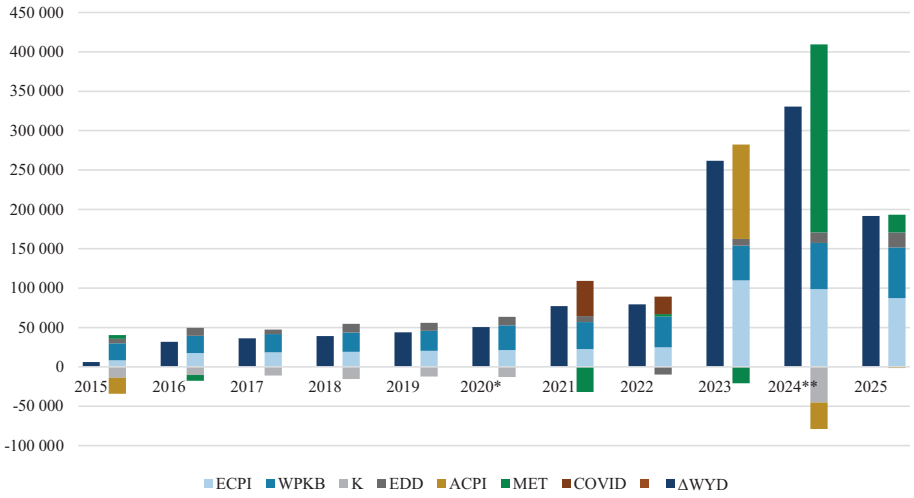
– reduction of expenditure amounts calculated under SRW by deducting local government expenditures on investments, investment expenditures of supreme authorities and units mentioned in Article 139(2) of the Public Finance Act, planned investment expenditures of the COVID-19 Counteraction Fund (in 2023);[12]

– expansion of the SRW entity scope to include executive agencies, budgetary economy institutions, the Social Insurance Institution (in 2023),[13] and an additional 90 other entities (in 2024).[14]

In the formula modified for the purposes of this study, this factor was accounted for using the *MET* variable. The cumulative impact of this factor on expenditure

[7] https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20210001535
[8] https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20150002150/O/D20152150.pdf
[9] https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20150001190/O/D20151190.pdf
[10] https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20210001535
[11] https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20210001535
[12] https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20220001747
[13] https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20240001089/O/D20241089.pdf
[14] https://orka.sejm.gov.pl/Druki10ka.nsf/0/E4E861EF32BA5EF2C1258BA900262EBB/%24File/687-uzasadnienie.pdf

growth was positive, amounting to PLN 218.9 billion. Its impact on changes in expenditure was characterized by relatively large fluctuations ranging from PLN -33.1 billion in 2021[15] to PLN 238.8 billion in 2024.[16]



*in 2020, the expenditure rule was suspended, although it was planned in the Budget Act
**amount of expenditure planned in the Budget Act elaborated in December 2023

ECPI – inflation forecast (2015, 2023, 2024) or inflation target (2016–2022) or GDP deflator (2025), *WPKB* – annual average real GDP growth rate, *K* – adjustment for imbalances in public finances, *EDD* – projected value of discretionary measures, *ACPI* – update of inflation (2015, 2023, 2024) or GDP growth rate (2025) forecasts in previous years, *MET* – other methodological changes related to SRW, *COVID* – discretionary measures directly aimed at containing the effects of the COVID-19 pandemic, *ΔWYD* – increase in the planned amount of expenditure compared to the previous year

Figure 4. Decomposition of changes in expenditure planned under the SRW[17] (million PLN)

Source: Authors' own study based on data from the Ministry of Finance.

[15] Investment expenditures included in the financial plan projects of funds established, entrusted, or transferred to the National Development Bank (BGK) under separate laws were excluded from the scope of transactions covered by SRW. This modification was enacted outside the Public Finance Act, which serves as an example of a risky practice from the perspective of the rule's credibility (Ostrowski, 2021).

[16] This resulted from the inclusion of amounts recorded in the report on the execution of the Budget Act for 2023, including the executed state budget expenditures referred to in Article 124(4) of the amended act in Article 1, as well as executed investment expenditures allocated for the implementation of programs financed with funds referred to in Article 5(1)(2) of the amended act in Article 1. It also included investment expenditures of state special-purpose funds or funds established, entrusted, or transferred to the National Development Bank (BGK) under separate laws, as well as the executed expenditure amounts of local government units, their associations, and metropolitan unions, as referred to in Article 236(4)(1) of the amended act in Article 1 (https://orka.sejm.gov.pl/proc9.nsf/ustawy/3422_u.htm).

[17] The interpretation of the results of the decomposition is as follows. In 2015, the expenditure planned according to SRW was PLN 6.1 billion higher than its value in the previous year. This increase was made up of six components (21.8+8.2+5.5-13.7-20.5+4.8=6.1). If expenditure were to increase only due to this SRW component, the increase would be PLN 21.8 billion. The assumptions about inflation

Public expenditure planned under the SRW has increased significantly between 2023 and 2025 (by PLN 784 billion in total, which is 65% of cumulative change in the analysed period of 11 years). Due to very high inflation in 2022, significantly exceeding the inflation target, the original shape of SRW was returned, i.e. inflation forecasts replaced the inflation target in planning expenditures for 2023–2024 and GDP deflator for 2025. As a result of this significant change, the main drivers of expenditure growth were inflation forecasts and the GDP deflator, which led to an increase in expenditures by PLN 287.5 billion.[18] The increase in expenditure was somewhat curbed as a consequence of other changes related to the SRW methodology – previously mentioned in the SRW scope of entities and subjects covered by the rule. These changes led to an increase in planned expenditures by PLN 240.6 billion in the period 2023–2025.

Table 2. Cumulative impact of the various components of the SRW on expenditure planned for the period 2015–2025

Components of SRW		Increase in planned expenditure resulting from individual components of the SRW			
annual average real GDP growth rate	*WPKB*	388907.3	PLN million	156.3	% of expenditure adopted as planned in 2014
inflation forecast or target	*ECPI*	473 570.5		168.6	
update of inflation forecasts	*ACPI*	66 163.0		109.6	
projected value of discretionary activities	*EDD*	111 642.8		116.2	
discretionary measures related to the COVID-19 pandemic	*COVID*	67 073.1		109.7	
correction for public finance imbalances	*K*	-121 152.4		82.5	
other methodological changes related to the SRW	*MET*	218 925.6		131.7	
Total	*ΔWYD*	1 205 129.8		274.5	

Source: Authors' own study.

In summary, public expenditures planned in the Budget Act for 2025 were PLN 1,205.1 billion higher than for 2014, i.e. a nominal increase of 174.5% (cf. Table 2). In this period, cumulative inflation was 57.3%, including the forecast for 2024, so expenditure increased in real terms by about 74.5%. This increase was mainly due to

caused an increase in expenditure by PLN 8.2 billion. Forecast discretionary actions allowed for an increase in expenditure by PLN 5.5 billion. The increase in expenditure was curbed by an adjustment for public finance imbalances, which reduced expenditure by PLN 13.7 billion. In addition, the update of inflation forecasts for 2014 prepared in the previous year and an inflation forecast error in 2013 reduced the level of expenditure by PLN 20.5 billion. Additionally, other methodological changes related to the SRW (changes requiring an adjustment of the assumed starting amount of expenditure) increased the expenditure by PLN 4.8 billion. Summarising, the increase in public expenditure in 2015 was primarily determined by assumptions regarding GDP dynamics, while at the same time, it was constrained by an adjustment for public finance imbalances and correction of inflation forecast. Analogously, changes in expenditure in subsequent years could be analysed detailing the impact of each determinant.

[18] If the inflation target remained in place, the planned expenditure for 2023 would be PLN 205.1 billion lower (the results of a counterfactual simulation assuming $ECPI = 1.025$ and $ACPI = 0$).

the assumptions on inflation (inflation forecasts or inflation target) and medium-term GDP dynamics and, to a lesser extent, due to discretionary actions. At the same time, expenditure was constrained by an adjustment for public finance imbalances in 2015–2019 and 2024 and other methodological changes related to the SRW in 2016, 2021 and 2023. In contrast, the importance of component *MET* has significantly increased in recent years.

Discussion

The numerical formula of the expenditure rule in Poland is one of the most complex in the EU. It identifies four key determinants, which are directly embedded (inflation, medium-term GDP dynamics, discretionary measures, correction of public finance imbalances), and several factors that are somehow hidden. From the descriptions of national fiscal rules in the Numerical Fiscal Rules database – 2024 update, it can be indirectly deduced that GDP dynamics are also the basis of expenditure rules in Bulgaria, Spain, Latvia, Lithuania, and Croatia. It is worth noting that expenditures in some EU countries (Bulgaria, Lithuania, Latvia, Croatia) are based on potential output. For example, in the expenditure rule for general government nominal expenditure growth in Bulgaria, we find a provision that "the annual expenditure growth shall not exceed the reference growth of the potential gross domestic product" (cf. Numerical Fiscal Rules database – 2024 update). Inflation affects public expenditure in Latvia (GDP deflator) and Croatia. However, it is difficult to find an empirical study that identifies the impact of the different determinants of public expenditure in an identical way that makes the results comparable.

It is possible to identify a thematic range of issues concerning the issue of the transparency of national expenditure rules – one of the most important of these is the scope of the rule – the coverage of general government (GG) finances. The IMF (2009) has recommended that expenditure rules should cover all levels of government, the entire public sector. Moreover, the experience of EU countries shows that effective rules tend to have broad institutional coverage (Eyraud et al., 2018). Eleven EU countries have expenditure rules formulated for GG (2 in Bulgaria), with only five having 100% of the sector's expenditure covered by the rule (Bulgaria, France, Italy and Latvia, Poland), 99% in the Netherlands, around 90% in Croatia, and Romania, much less in Slovakia (77%), Denmark (75%) and Austria (61.5%). Significantly lower coverage characterises the rules established at local and regional levels and for the social security funds subsector (see Numerical Fiscal Rules database – 2024 update for coverage details). According to the Numerical Fiscal Rules Database (2023 update and earlier ones), the expenditure rule in force in Poland covers 90% of the GG sector, while according to the last version of this database (2024 update) until 2023 the coverage of GG sector is 100%. However, a comparison of expenditure planned under SRW, actually occurred and expenditure of the GG sector calculated

according to the ESA 2010 methodology shows that this coverage was equal to just over 90% in 2015–2018, while in 2021–2023, it decreased to 83–84% (cf. Figure 1). The experiences of individual countries show that effective rules generally have a broad institutional scope (Eyraud et al., 2018). However, imposing restrictions at the local and regional levels is not always justified. It is important to remember that, in addition to their own revenues, local government units also receive public funds from the state budget. On the other hand, some studies indicate the low effectiveness of rules that apply to the entire public finance sector (Franek, 2016).

In the previous section of the article, several changes regarding the SRW scope of entities and subjects were indicated. It is worth noting that decisions on changes to the subject coverage of the rule are taken arbitrarily, the reasons for them can be very different. Sometimes, they lead to an excessive increase in the expenditure of certain entities removed under the rule in a given year. These issues are described more extensively by, for example, Lotko and Zawadzka-Pąk (2018) and Ostrowski (2019, 2021). In addition to changes in the subjective scope of the rule, there are differences in terms of the scope of expenditure, including the exclusion of selected categories of expenditure from the rule, e.g. the previously mentioned exclusion of expenditures which are financial flows between funds managed by Social Insurance Institutions (ZUS),[19] exclusion of expenditure which are financial flows between funds managed by an Agricultural Social Insurance Fund (KRUS).[20] Such exclusions were also made in other countries, e.g. investment expenditures, cyclically sensitive expenditures of interest on the national debt in Sweden or expenditures from unemployment benefits and social assistance in the Netherlands in 2009–2010 (Davoodi et al., 2022). However, a comprehensive scope is desirable for fiscal sustainability, covering the government and all its expenditures. A broad scope aims to manage total revenue and expenditure, which makes the target more transparent and easier to monitor (Gaspar & Amaglobeli, 2019). However, sometimes it is desirable to exclude, for example, capital expenditure because of its expected impact on long-term economic growth. There may also be other expenditures, such as those related to education or health care, which may further increase potential growth (Cordes et al., 2015).

Another issue is the real impact of the expenditure rule on long-term fiscal sustainability by preventing excessive deficits and increases in public debt. This action is hampered by the fact that public expenditure under national expenditure rules is usually determined without being linked to revenue. Research has shown that the interaction of expenditure with changes in revenue causes expenditure rules to mitigate the impact of positive revenue shocks on expenditure changes (Wierts, 2012). Thus, although the SRW in Poland is very complicated, it is justified to formally link expenditure to revenue to support fiscal sustainability better, as studied by Dziemia-

[19] https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20140000911/O/D20140911.pdf
[20] https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20150002150/O/D20152150.pdf

nowicz and Kargol-Wasiluk (2018). Also, Chmura (2023) notes the problem of the lack of expenditure-income linkage in the SRW, which he takes as justification for the results of his econometric analysis showing the statistically insignificant impact of expenditure rules on the stabilisation of business cycles.

Conclusions

The provision of the formula, in its original nature, met the requirements that were placed on the SRW. It has a precisely defined target – nominal expenditure in absolute terms. The full definition of the adjustment for imbalances in public finances also considers cases of changes in the growth rate of expenditure in a very good or bad economic situation, demonstrating its countercyclical nature. However, in practice, it has not been applied even once in 2015–2025. Moreover, it is difficult to find empirical studies in which the rule's countercyclical effect is unambiguously confirmed (not only in Poland). The numerical SRW formula is not based on unobservable categories, i.e. potential output in some EU countries. However, it should be noted that expenditures are planned based on projected volumes (their possible overestimation results in excessive growth of public expenditure planned under SRW).

The analysis of historical data, parliamentary documents, and the results of the decomposition of the sources of changes in expenditure planned underthe SRW in Poland indicate that one may, however, have some doubts about the fulfillment of the condition of not being subject to sibilant influences. Numerous changes in the formula may evidence this. The most visible deviation from the original version of the formula is the replacement of inflation forecasts with an inflation target in the period (2016–2022) in the face of forecasts of very low inflation and the need for downside adjustments due to observed deflation (in 2015 and 2016). It was followed by a return to inflation forecasts when planning expenditures for 2023 and 2024 in the face of inflation well above the inflation target. In addition, when updating the planned expenditure for 2023, the error in inflation forecasts was dropped and an update to GDP dynamics was introduced instead. Obviously, all these changes were aimed at increasing the planned expenditure amounts.

Another issue is that when determining the expenditure for a given year, the adjusted amount for the previous year is considered. However, the reasons for the applied adjustments are sometimes difficult to quantify objectively. In the original version of the formula, the possible need for adjustment was precisely defined by a specific formula – it was supposed to result from the updating of inflation forecasts and inflation forecast errors (in the latest version of the formula used for planning public expenditures for 2025, the adjustment applied to GDP growth forecasts). A starting value in the first year (i.e. when planning expenditure for 2015) was adjusted, taking into account changes in the rule's scope. This adjustment was also performed when planning expenditures for 2016, 2021, 2023 and 2024 (in the formula

modified for decomposition purposes, this factor is marked with the symbol *MET*). The problem of arbitrariness of changes to the rule's scope or the list of transactions treated as expenditure subject to the rule would be resolved if all entities included in the GG sector were covered by the rule. Therefore, considering the previously quoted IMF recommendation for 100% coverage of the general government sector by the expenditure rule, any changes that expand the scope of entities covered by the rule should be viewed positively.

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