

EXPENDITURE CEILINGS AS A TOOL OF FISCAL DISCIPLINE: THE CASE OF TÜRKİYE

KAMU MALİYESİNDE DİSİPLİN ARACI OLARAK HARCAMA TAVANLARI: TÜRKİYE ÖRNEĞİ

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Abstract

This study aims to evaluate the impact of the expenditure ceiling (appropriation proposal ceiling) mechanism implemented in Türkiye on public finance. Expenditure ceilings are key fiscal rule instruments designed to strengthen budgetary discipline and ensure the strategic allocation of public resources. Using central government budget data from 2006 to 2024, the study analyzes the errors between ceilings and actual expenditures, examining the distribution of these errors across spending categories. Findings indicate that while personnel and social security expenditures have been relatively disciplined, significant errors are observed in current transfers, goods and services purchases, and capital expenditures. The lack of legal enforcement in cases of errors undermines the binding nature of ceilings and weakens governance quality in the budgeting process. The study offers policy recommendations for integrating ceilings with performance-based budgeting, enhancing transparency and accountability, and reinforcing the legal framework. In this regard, it is emphasized that the expenditure ceiling practice in Türkiye should not be viewed merely as a technical control tool but as a strategic and governance-oriented mechanism that contributes to sound fiscal management.

Keywords: Expenditure Ceiling, Budget Discipline, Fiscal Rule

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Öz

Bu çalışma, Türkiye’de uygulanan harcama tavanı (ödenek teklif tavanı) mekanizmasının kamu maliyesi üzerindeki etkisini değerlendirmeyi amaçlamaktadır. Harcama tavanları, mali disiplini güçlendirmek ve kamu kaynaklarının stratejik önceliklere uygun şekilde tahsisini sağlamak üzere uygulanan önemli mali kural araçlarındandır. Çalışmada, 2006–2024 dönemine ait merkezi yönetim bütçesi verileri kullanılarak, tavanlar ile fiili harcamalar arasındaki sapmalar analiz edilmiş ve sapmaların dağılımı harcama kalemleri bazında değerlendirilmiştir. Bulgular, personel ve SGK prim giderlerinde görece disiplin sağlandığını, ancak cari transferler, mal ve hizmet alımları ile sermaye giderlerinde yüksek sapmaların görüldüğünü ortaya koymaktadır. Bu sapmaların yasal bir yaptırımla karşılık bulmaması, tavanların bağlayıcılığını zayıflatmakta ve bütçeleme sürecinde yönetim kalitesini düşürmektedir. Çalışma, tavanların performans esası bütçeleme ile entegrasyonu, şeffaflık ve hesap verebilirliğin artırılması ve yasal çerçevenin güçlendirilmesi yönünde politika önerileri sunmaktadır. Bu yönüyle, Türkiye’deki harcama tavanı uygulamasının sadece teknik bir mali araç değil, aynı zamanda stratejik ve yönetsel bir mekanizma olarak yeniden konumlandırılması gerektiği vurgulanmaktadır.

Anahtar Kelimeler: Harcama Tavanı, Bütçe Disiplini, Mali Kural

1. Introduction

Public finance is now faced with the difficulty of lack of predictability in macroeconomics, climate-related expenses, and digitalization affecting it fiscally which are the contemporary fiscal challenges that are making the international institutions rethink the whole government budgetary framework and tools (OECD, 2019; IMF, 2022). The financial crises, the pandemic recovery, and geopolitical tensions have all highlighted the fact that fiscal stability is in a very precarious condition. Besides, among the activities that come with the rise of public expenditure like that for social security, healthcare, climate change, and infrastructure, the latter is the one that has the strongest effect on public finances (Ooms & Schrecker, 2005). These changes have made it necessary not only to control budget deficits and debt dynamics but also to carry out fiscal policy processes in a more disciplined, predictable, and accountable manner (Kopits and Symansky, 1998). In this context, fiscal rule systems have been widely adopted across many countries as a means to enhance the credibility, transparency, and predictability of budgetary institutions and to allocate public resources within a more strategic framework (MSF, 2014; Kim & Park, 2006).

Out of the various fiscal rules, instruments of expenditure control have dominated the past thirty years. Describing them as Expenditure Ceilings (ECs), these quantitative ceilings are imposed either on total levels of expenditures or on specific types of expenditures with a perspective to inculcating fiscal discipline both in outcome and process dimensions. ECs have been taken up mainly as a response to institutional vulnerabilities like incompatibility between long-term goals and traditional annual budgeting, lack of fiscal space to finance new pressures on expenditure, and political priorities uncertainty (Dorotinsky & Watkins, 2013). The fiscal consolidation process is not the only area where these tools have a big impact. They also take on important governance roles by such activities

as facilitating the policy-making process, identifying the organization's key objectives, and verifying that public funds are allocated in the most cost-effective manner.

The efficacy of ECs is dependent on a composition that is formed by a mixture of technical and institutional approaches in different dimensions. One of the factors determining the direct influence of legal or administrative ceilings, the specific spending categories covered by them, nominal vs. real terms, time horizon, and the degree of their enforceability on fiscal policy is (Lledo et al. 2018). The empirical evidence favors the structural benefits of ECs, such as good governance, defining policy priorities, and being less myopic in fiscal operations by government debt reduction, etc. (Cordes et al., 2015). Therefore, ECs have become more widely recognized as not only conventional fiscal rules but also as institutional mechanisms that foster the learning, transparency, and accountability of the fiscal policy-making process (MSF, 2014; Kim & Park, 2006; Molander, 2001; Ayuso-i-Casals, 2012). They function as a buffer against excessive demands for public spending increase from the population. Hence, the assessment of ECs should not be confined to fiscal budgetary improvements only but should encompass their impact on the quality of budget-making processes, institutionalization of policymakers, and the capacity for long-term fiscal planning.

Theoretical and comparative frameworks reveal that ECs are not just technical budgeting instruments but rather governance tools that dictate fiscal discipline, policy priorities, and public resource allocation. From such a viewpoint, ECs push public expenditures towards evidence-based prioritization and ease the acceptance of a multi-year fiscal perspective. They help not only in building a comprehensive picture of the spending area through integration with the Medium-Term Fiscal Framework (MTFF) via a medium-led approach but also in making the resource allocation more predictable. However, for these roles to be fully performed, ECs should not only be considered as indicative documents but they should also be backed by strong institutional frameworks and political commitment (Turrini, 2008; Holm-Hadulla et al., 2012; Kim & Park, 2006).

The Appropriation Proposal Ceiling (ECs, hereinafter) in Türkiye is a very interesting and valuable example to look at in terms of the national debate on the subject. The mechanism works in conjunction with the Medium-Term Program (MTP) and it allows public institutions to present their budget proposals within set limits while at the same time offering a framework for the gradual establishment of multi-year fiscal discipline. The ECs of Türkiye are quite different from many of the international practices in that they are multi-layered, have a wide coverage and are of a nominal nature, but at the same time they are technically quite significant in controlling the size of the budget. Nevertheless, the mechanism's effective functioning is hindered by very concrete institutional and legal obstacles, among which the lack of clear sanctioning processes for non-compliance, the inability to enforce the rules effectively, and the secrecy surrounding the setting and revision of the ceilings are most important as illustrated by budget practice and audit reports (Debrun & Kumar, 2007). The lack of transparency in the determination process, the weak binding nature of the ceilings, and their perception as merely formal elements in the budgeting process limit the good governance potential of this policy instrument (PFMCL no: 5018, 2003).

In addition, the lack of integration of the EC with performance-based budgeting and key policy documents makes the resource allocation less strategic. The ECs that do not change the expenditure composition and are not effective in showing the policy priorities will not only negatively impact the headline fiscal balance but also reduce the total efficiency and effectiveness of public finance. In Türkiye, the situation necessitates the ECs system reconsideration as a fiscal control measure as well as a multi-characteristic policy instrument tightly linked to the institutional capacity and governance quality.

The research that is currently being carried out is based on this framework and provides a thorough understanding of the impact of the ECs system introduced in Türkiye in terms of fiscal discipline and public resource efficiency. The empirical research is mainly concerned with the differences between ECs and actual results using core government budget data for the period 2006–2024. It identifies the economic classification of expenditure categories from which these differences emerge, examines their structural change through time, and assesses their total impact on the budget. The findings of the study reveal that although ECs have a reasonable level of effectiveness in certain categories, the quantities of discrepancies in the more flexible and politically sensitive categories such as current transfers, purchases of goods and services, and capital expenditures are huge. Moreover, the lack of well-defined legal or administrative enforcement mechanisms, especially the absence of specific sanction provisions under Law No. 5018, affects the binding property of the ceilings and, consequently, makes the budget process less predictable (PFMCL no: 5018, 2003). Although negative errors, defined as underspending relative to the established ceilings, in certain expenditure items have a limited compensatory effect on the overall budget balance, this does not imply the existence of structural fiscal discipline. Although negative errors in some expenditure items have a limited compensatory effect on the overall budget balance, this does not imply the existence of a structural fiscal discipline.

The structure of the manuscript is presented chronologically. The reader is guided to Section 2, where an in-depth investigation into the ECs' conceptual framework and theoretical background is carried out with a particular emphasis on their links to fiscal policy and governance. Section 3 is exclusively allocated to the global academic literature review on ECs, where empirical and theoretical works are intertwined, and a comparative analysis of the diversity in the implementation and success factors is given. The data set, methodology, and analytical strategy employed in the research are presented in Section 4. The empirical findings are reported in Section 5 through the case of Türkiye, while Section 6 presents the implications for policy and practice. Finally, Section 7 contains a critical appraisal that summarizes the main arguments and indicates future directions.

2. Theoretical Background

An EC is a fiscal regulation that is imposed on the total public spending or on certain types of spending within previously specified limits. One of the main reasons for the existence of this type of

rule is to keep public finances in order by limiting government spending to a specified amount that is higher than the normal level. ECs are generally defined for one year or more and prevent the public sector from going beyond the allowed illustrated amounts during the budget-making process. Hence, they make sure that citizens receive good and efficient usage of public funds and they also throttle the use of money that is extravagant in nature (OECD, 2019, 2023; IMF, 2022). Besides serving as a technical budget instrument, ECs are also a governance instrument whose purpose is to improve transparency, predictability, and accountability in the management of public finances. When government funds are restricted, ECs help to define the priority of policy aims and also aid in the allocation of resources in a strategic manner (Cordes et al., 2015).

ECs have gradually become more accepted and visible as a means of introducing rule-based budgeting in public financial management. Rules have been established that would restrict the unrestricted rise of public spending as a consequence of short-term political gain, the electoral cycle, and general societal pressures (Ayuso-i-Casals, 2012). Furthermore, by supplying counter-cyclical stability, ECs lessen the pro-cyclical factors of fiscal policy, thereby fortifying budget discipline and making macroeconomic stability possible (Turrini, 2008; Holm-Hadulla et al., 2012). ECs also necessitate the growth of fiscal reserves, through the limitation of government spending during the strong economic growth periods, consequently; ECs have some operational benefits applicable in developing countries which will experience large structural budgetary uncertainties (Debrun et al., 2008; Fall et al., 2015).

In application, ECs act as an instrumental tool for the long-run sustainability of public finances by instituting an institutional framework for public financial governance. Though not directly aimed at expenditure reforms, they indirectly support reform efforts by making prioritization under conditions of scarcity compulsory (Bedogni & Meaney, 2017). Additionally, their close engagement with the budgeting process reduces uncertainty during negotiations on yearly budgets and averts repeated controversy about managing budget shocks (Ewijk & Reininga, 1999). ECs are often used in conjunction with other fiscal constraints, such as budget balance and debt rules. Their degree of flexibility varies according to a country's economic and institutional context, thereby enhancing the effectiveness of fiscal discipline (Cordes et al., 2015; Herrero-Alcalde et al., 2024).

ECs' design and operation vary from one country to another, varying with differences in the overall framework as well as technical details. The considerations which affect this bifurcation have included the choice of expenditure items to be subject to the ceilings, its comprehensiveness, the length, the indexation mechanism for inflation, and the extent of accommodation of policy priorities. They have also changed with respect to their strength of binding, whether it was fixed or variable ceilings and whether it was on an annual or multi-year basis.

The first key variation concerns the level and scope at which ECs are defined. In Sweden, a single aggregate nominal ceiling applies to the entire central government budget (Molander, 2001), whereas South Korea applies ceilings at aggregate, sectoral, and institutional levels (MSF, 2014). Canada (Kim

& Park, 2006) and Singapore (Blöndal, 2006) rely primarily on an overall nominal ceiling, while the United Kingdom differentiates ceilings by expenditure type, setting separate nominal limits for current and capital spending (Kim & Park, 2006). Denmark differentiates ceilings by level and type across central, regional, and municipal governments (Sherwood, 2015). In the Netherlands, aggregate ceilings are first defined at the central level and then disaggregated by ministry and program (Begg et al., 2023). Finland complements an overall nominal ceiling with ministry-specific sub-ceilings linked to performance indicators (OECD, 2023). Other countries also reflect this diversity: Colombia applies sectoral ceilings, Estonia uses ministerial ceilings, while Germany, Iceland, and Slovenia implement ceilings at both item and ministerial levels (Moretti et al., 2023). In Türkiye, a multi-layered framework is employed, with distinct ceilings set for ministries, public institutions, and expenditure categories, as documented in reports by the Presidency of Strategy and Budget and the Turkish Court of Accounts.

The second key area of differentiation is the range of expenditures that are subject to the ceilings placed. Interest payments are not considered in the ceiling in Sweden (Brusewitz & Lindh, 2005). In Denmark, a limited definition is applied, and thus the most expensive categories such as interest payments, unemployment benefits and public investments are all not taken into account (Manescu & Bova, 2020). The same goes for Finland where the ceilings are not taking into account the whole scope of the budgetary items as it goes along with consumer interest payments, unemployment and housing benefits, social assistance, VAT expenditures, financial investments, and technical transfers (EU IFIs, 2018; Manescu & Bova, 2020). The Netherlands follows a policy of only comprising the cyclical components of social assistance and unemployment benefits in the exclusion, while interest payments are included. On the contrary, countries like Chile and South Korea have similar policies where interest payments are included under the ceiling (Kim & Park, 2006), while doing the opposite is Spain where they are excluded (Herrero-Alcalde et al., 2024). Türkiye, on the other hand, admits a more extensive scope by also counting interest payments as part of the ceiling limit.

One of the main differences between the frameworks of ECs is their rigidity and flexibility. For example, in Ireland, Sweden, and the UK, ceilings are strict and unchangeable throughout the budget process (IFAC, 2024; NAFE, 2013; EU IFIs, 2018; Kim & Park, 2006). The ceiling in the Netherlands is nominal and adjusted annually to inflation; it can only be raised by implementing measures that will generate more revenue and not through the use of discretionary funds (Begg et al., 2023; Vierke & Masselink, 2017). On the other hand, the countries of Austria, Canada, Chile, Denmark, and South Korea have adopted quite diverse and flexible methods based on the change in economic indicators (Kim & Park, 2006). In the case of Austria, Bulgaria, Croatia, Italy, Latvia, Spain, and Romania, ceilings grow along with the Gross Domestic Product (GDP) (Herrero-Alcalde et al., 2024). There are some countries that apply both fixed and limited flexible approaches: Finland sets a binding four-year ceiling at the aggregate level which is then sub-ceilings for ministries that are updated annually (OECD, 2023). In Switzerland, the ceiling is calculated by the revenue expected multiplied by a cyclical adjustment factor and under exceptional circumstances with a qualified parliamentary

majority can it only be exceeded; any breach must then be offset (Lienert, 2013). In Singapore, ceilings are constant GDP ratios determined by averaging the past three years, the current year, and the forecast for the next two years. A borrowing of up to 10% of the current budget from future allocations may occur for a maximum of three years and the amount must be repaid within that period. The remaining appropriations can be saved for a maximum of three years. The flexibility methods are supported by a legal framework and are subject to parliamentary approval (Blöndal, 2006).

The fourth distinction is about the monetary aspect of ECs. In the Netherlands, the coalition agreements set multi-year ceilings in real terms and then these are converted to nominal values using a deflator which is based on private sector wage and price growth (NAFE, 2013; Radu, 2023). Finland is using a similar method where the real ceilings are covering about 45% of public spending and are politically agreed and then nominally reported using a price index based on an average of pension adjustments, CPI, and subsidy indices (Radu, 2023). Sweden on the other hand has set fixed nominal ceilings for a three-year horizon and applies inflation adjustments only for the year that is added to the existing three years (Dorotinsky & Watkins, 2013; Molander, 2001). Denmark employs four-year nominal ceilings that can only be modified by law, allowing limited technical adjustments (Manescu & Bova, 2020). In France, three-year nominal ceilings are used, although only the first two years are binding (Radu, 2023). Latvia constrains real expenditure growth below potential GDP growth and adjusts ceilings for inflation to obtain nominal values (Radu, 2023).

The fifth distinction is concerned with the unsurprising and the structuring of the contingency margins that exist in the various ECs frameworks. In the case of Sweden, a budgetary margin is intentionally increased every year so as to account for future amenities. Canada has a range of 1.5% to 2% for its spending buffer while in the UK, the percentage is 0.75% to 1%. Additionally, small reserves at the ministerial level are created for unexpected demands. Finland has a central reserve for unexpected expenses but Australia has a reserve which is so tightly controlled that it is only for forecasting errors and not for new policies (OECD, 2023). Some governments prefer to be conservative, as the reserve mechanism might have disadvantages, thus adopting this mode with caution. In Germany and the Netherlands, the concern that reserves may reduce ministerial budget responsibility or create uncertainty in the allocation of resources has resulted in limited use; however, the Netherlands still has a central contingency reserve. In Denmark, reserves are applicable solely for transfer expenditures, while in Latvia, they are determined in relation to GDP and are aligned with the level of fiscal risk. Countries like Chile and South Korea do not only base their central ECs on reserving money but they also have fiscal buffers that can be used to absorb unexpected shocks (EU IFIs, 2018; OECD, 2023; Kim & Park, 2006). Türkiye does not have a specific margin for contingencies defined within its ceiling structure. Nevertheless, a reserve appropriation endows the government with limited budgetary discretion.

Theoretical and comparative frameworks suggest that ECs are not only budgeting tools but also a part of the governance in terms of enforcing fiscal discipline, making policies for imports, and allocation of resources. In Türkiye, ECs are quite different from many worldwide examples, as they have

complex structure, wide scope, and a nominal nature. However, the institutional, legal and operational constraints encountered in practice can bring the functioning of this mechanism to a halt and the ceiling's binding nature, their informing power throughout the budget process and their ability to express the strategic priorities in resource allocation are often very limited. Also, major worries like the compatibility of the ceilings' setting methods with the tenets of transparency and accountability, the approaches for correcting the mistakes in execution, and the level of collaboration among the institutions are crucial factors in determining the usefulness of ECs. Türkiye in this respect has to assess the degree of its practice's compliance with sound fiscal governance principles, the impact it brings to budgetary decision-making, and the provision of public resources' effective utilization.

In Türkiye, the ECs system serves as a fundamental budgeting tool that limits public institutions' expenditure proposals in line with the ceilings set jointly by the Presidential Strategy and Budget Office and the Ministry of Treasury and Finance within the framework of the MTP¹. The ceilings are set on an institutional basis, which includes both general and special budget administrations, and they are established at the highest level of the economic classification. They are mandatory for the fiscal year t , giving guidance for years $t+1$ and $t+2$, hence less strict, for the next two years. The system is based on nominal values and covers the interest payments as well. However, the lack of a contingency margin, the regular revisions of ceilings, and the non-connection with performance-based budgeting are among the factors that make the system less effective (SAYIŞTAY, 2024). In this case, taking into account the conflict between the strength of institutions and the inadequacies of the Turkish ceiling system, it is critical to evaluate how far the mechanism actually operates to the advantage of discipline in the fiscal sector, the efficient allocation of resources, and the medium-term expenditure framework.

3. Related Studies

The EC is a public finance policy that is still relatively new but had gained very wide usage by the late 1990s and early 2000s, and academic work regarding its application has not yet reached a significant volume. The existing literature mostly addresses the need of the advanced economies that have so far implemented medium-term EC frameworks, while the studies revealing econometric methods are very few in comparison. Ewijk and Reininga's (1999) research is one of the first to be known in the area, which discussed the impact of moving to a medium-term EC in the Netherlands on the budget deficit. According to them, the budget deficit was cut significantly down from 4.2% to 0.1% after the EC adoption. Conversely, this budget gap reduction was achieved with a tax hike from 40.5% to 41.8%, showing that the EC can indeed promote fiscal blood but may also lead to tax increases as the price of discipline.

1 Prior to 2022, ECs were determined within the Medium-Term Fiscal Plan (MTFP); however, following an amendment to Law No. 5018, they have been determined within the MTP for 2022 and subsequent periods.

Molander (2001) examined the Swedish EC system, introduced in 1997 as a nominal and three-year framework, focusing on its design and implementation. He observed that ECs were introduced to support macroeconomic stability and strengthen expenditure control. In practice, however, electoral and short-term political incentives often led to upward adjustments in expenditure levels through the use of budget margins, thereby testing the limits of the system's built-in flexibility.

Ooms and Schrecker (2005) evaluated ECs implemented in African countries, particularly their influence on externally funded health programs. According to the study, the fiscal discipline measures enforced by such international bodies as the IMF and the World Bank stipulated that the new external resources were to be fully offset by the reduction of existing expenditures. Consequently, the health sector, which is one of the major areas, received less investment since the fiscal discipline measures were the only tools that the ECs had for controlling the budget.

Brusewitz and Lindh (2005) delved into the Swedish EC system and thus investigated the reason for nominal ceilings, the budget margins' functioning, and the system's compatibility with the economic cycle. Their research indicated that ECs were a contributor to the fiscal consolidation process as the percentage of government spending in relation to GDP for the central government decreased from 36.2% to 32.4% between 1997 and 2004. On the contrary, the researchers emphasized that the main factor which kept the economy stable was the presence of the automatic stabilizers which, however, were not very effective due to low margins. They considered the political incentives and the independent monitoring bodies as factors that increased compliance with the ceilings, although at times the tax expenditures were used as a way to bypass these barriers.

Lindh and Ljungman (2007) evaluated the effect of ECs on fiscal sustainability and the stability of the economy in Sweden. Among the findings of the research was that the existence of both nominal and multi-annual ceilings resulted in better control over expenditure and thus encouraged fiscal discipline. On the other hand, there was no room for the operation of counter-cyclical fiscal policy as it was too rigid. The authors pointed out that budget margins played a crucial role in allowing the prevalence of automatic stabilizers and the retention of expenditure flexibility during the time of the recession. They also cautioned that the mishandling of these margins could lead to a rise in unsustainable spending.

Ljungman (2008) made a comparative survey of the ECs in three countries: Finland, the Netherlands, and Sweden, pinpointed among the major differences coverage, inflation adjustments, flexibility mechanisms, and legal status. It was one of the findings of the study that ECs are generally more effective in situations where there is a strong political backing. Another significant conclusion of the study was that wider coverage results in stricter fiscal discipline, but at the same time, the economy becomes less capable of quick response to its fluctuations.

In a comprehensive analysis of the effectiveness of ECs, Cordes and colleagues (2015) evaluated the data from 33 countries for the years 1985 to 2013. The outcome of their research pointed to ceilings that were set up as nominal growth limits and backed by coalition agreements or legal statutes

to be the most effective. On the contrary, ceilings that were indexed to GDP or inflation were found to be more prone to experiencing economic shocks and being violated politically. The study also cautioned that the use of ECs in developing nations might end up curtailing public investment, whereas the case of more advanced economies was not that dire since they always had the option of using medium-term planning to overcome the risk. Besides, the researchers revealed that the trimming of certain expenditure items from the technical ceiling would reduce the power of the ceiling to be a support for automatic stabilizers and counter-cyclical policy. The design characteristics like bright surveillance, built-in flexibility clauses, and co-operation with local government structures were characterized as technology failure exceptionally.

Ribeiro and Lima (2018) evaluated the effects of erosion of collateral on the dynamics of public debt using a demand-driven macroeconomic model. Their results from the closed economy with excess capacity and ECs excluding interest payments showed that such ECs might not be enough to keep the debt-to-GDP ratio stable, since debt dynamics are driven by interest costs which are not subject to the ceiling. In high-interest and regressive-tax economies, this exclusion diminishes the impact of ECs in attaining debt stabilization further. The paper brought out the limited efficacy of ECs in heavily indebted developing countries.

According to an EU IFIs (2018) research, ECs played a role in the fiscal policy discipline of the European Union (EU) member states. They discovered that the fixed ECs arrangement between the Netherlands and France was able to keep the budget deficit in check. However, the study warned that the ceilings set could come into conflict with the EU's structural balance rules, thus causing a situation where there would be no consistency in the long run. On the other hand, Manescu and Bova (2020) talked about the multi-year ECs concerning their design, effectiveness, and enforcement in the EU member states. It was discovered that multi-year ceilings were instrumental in reducing the pro-cyclicality of public expenditure and that they were followed more consistently than growth-based rules in the majority of country-year observations covered. However, their binding power was weakened by the flexibility in long-term revisions.

Raudla et al. (2022) explored the relationship of ECs by the different factors affecting compliance in Finland, Austria, Portugal, and Ireland. They have reported that Finland established its EC framework to reach its intended fiscal discipline consistently, while other countries' frequent changes lessened the credibleness and power of the ceilings. The study pointed out that the administrative capability, political culture, and crisis experience are the main determinant factors that can either enhance the effectiveness of the ECs or lead to their being symbolic *Potemkin Villages*² – unproductive but officially recognized.

Begg et al. (2023) conducted a comparative study of five countries (Denmark, Ireland, the Netherlands, New Zealand, and Sweden) examining how ECs were implemented and their effects on

2 A term originating from Russian history, referring to structures that appear impressive externally but are, in fact, hollow or counterfeit internally.

fiscal sustainability. The findings showed that both nominal (as in Sweden) and trend-based (as in Finland and the Netherlands) ceilings can be effective, provided that political consensus, independent oversight, and transparency are ensured. In Sweden, a two-stage parliamentary approval process, first for the overall ceiling, then for its allocation, was found to enhance bindingness. In the Netherlands, long-term sustainability analyses were effective in preserving public investment, for example through the use of a four-year real expenditure ceiling divided into sectoral sub-ceilings, including a distinct public investment ceiling, allowing investment spending to be safeguarded within the broader consolidation framework.

Cardoso et al. (2024) used a multi-household general equilibrium model to study the macroeconomic and social effects of Brazil's EC framework. The Brazilian instance, which limited public spending increase to the inflation rate for two decades, was found to lower the real value of social expenditures and widen the gap between the rich and the poor. The cap did enhance the debt dynamics, but no evidence was found to support the argument that it led to more private investment and growth. In fact, low-income households were the most affected by the combined effect of declining real wages and contracting social spending.

Finally, Herrero-Alcalde et al. (2024) looked into the implications of Spain's 2012 nominal growth-based ECs on financial stability. Their results revealed that the ceiling had a major impact on government spending reduction, and good management of budget resources at both the central and subnational levels was one of the consequences of the ceiling.

The current literature on ECs is primarily influenced by the realities of advanced economies, with the emphasis mostly on Europe and the OECD context. Empirical research using quantitative methods is still very limited, with case studies and comparative analyses being the major sources of contributions. The role of ECs in promoting fiscal discipline has been the main focus of these studies, whereas their wider impacts on income distribution, social spending, institutional capacity, and macroeconomic stability have been comparatively less discussed. Surprisingly, even though it has been a pioneer in public financial management reform, Türkiye is almost completely absent from this literature. There is a very small number of studies focusing on Türkiye's experience with ECs, either in design or implementation, and this gap represents a strong call for more empirical investigation and comparative assessment that includes developing and emerging economies, in order to capture the wide range of institutional and political contexts where ECs are deployed.

4. Data Set and Methodology

This study analyzes the period between 2006 and 2024 to assess the transparency, specifically in terms of predictability, clarity of ceiling allocations, and the tracking of deviations, and the fiscal discipline capacity of Türkiye's ECs system. The scope of the analysis is limited solely to general budgeted administrations. The year 2006 was selected as the starting point because it marks the

institutionalization of the ceiling mechanism in Türkiye and its establishment as a guiding tool in the budgeting process through the MTP and MTFP (PFMCL no: 5018, 2003).

The dataset was derived from documents published by the Ministry of Treasury and Finance and the Presidential Strategy and Budget Office, including the MTP and MTFP documents, annual budget laws, and final account laws. The analysis was conducted based on first-level expenditure items under the economic classification of the analytical budget system. For each item (Compensation of Employees, Social Security Contributions, Purchase of Goods and Services, Interest, Current Transfers, Capital Expenditures, Capital Transfers, Lending, Total Expenditures and Primary Expenditures) and year, the ECs, actuals, and the nominal gap between the two were calculated. The analysis excludes the reserve ceilings. Because transfers from reserves to other items during the year are reflected within the actual expenditures of the recipient items. The reason to exclude the reserve amounts from total calculations was their presence in both the allocated and the recipient expenditure categories, which would otherwise result in double counting and misinterpretation of results. Moreover, the error-to-ceiling ratio was calculated in order to determine the level of budgetary compliance. By means of such ratios, one not only compares absolute errors but also the extent of adherence to fiscal discipline. The results are demonstrated in tables and graphs separately.

5. Results

Firstly, Compensation of Employees (CoE) is examined, which represents personnel-related expenditures. The table below presents the findings.

Table 1. Compensation of Employees (Thousand TL)

Period	Ceiling	Actual	Difference	Error (%)
2006	31552474	34038277	2485803	7.88
2007	36357895	38890462	2532567	6.97
2008	42717927	43608903	890976	2.09
2009	50206636	49841067	-365569	-0.73
2010	53765739	55406273	1640534	3.05
2011	63652097	64058400	406303	0.64
2012	71787205	74775843	2988638	4.16
2013	84102396	83363847	-738549	-0.88
2014	95502380	95742037	239657	0.25
2015	103582115	107802290	4220175	4.07
2016	124239474	128604530	4365056	3.51
2017	140817377	140284826	-532551	-0.38
2018	158767722	172814161	14046439	8.85
2019	214251407	217203079	2951672	1.38
2020	246071662	250730130	4658468	1.89
2021	284426097	300762352	16336255	5.74

2022	368336442	535510859	167174417	45.39
2023	832803044	115.051.3745	317710701	38.15
2024	224.207.2107	233.037.6199	88304092	3.94
Average Error				7.16

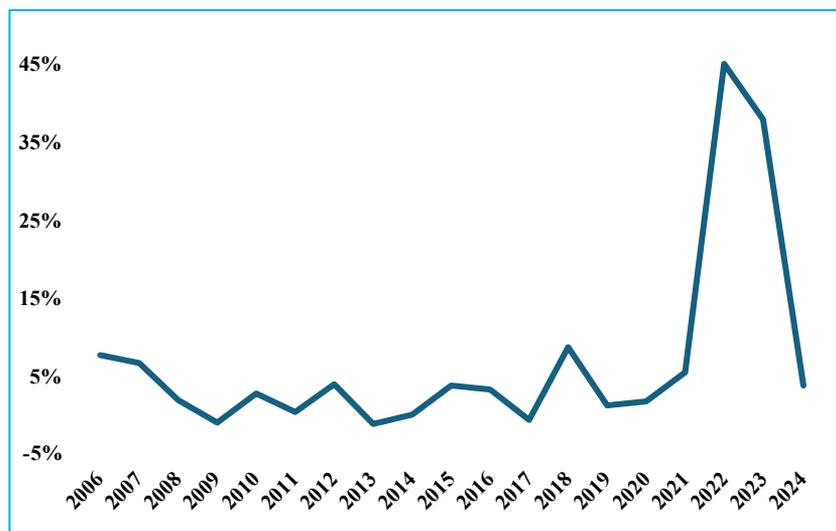


Figure 1. Error Trends in Compensation of Employees

A review of the period from 2006 to 2024 shows that usually, the ECs for the CoEs were placed below the actual spending levels resulting in mostly positive errors. When the average error rate for the entire period was calculated, it came to be 7.16%, which means that even though the CoEs were generally highly predictable, the ceilings were often not accurate. The rates of errors were substantially lower in the first few years. For example, in 2008, 2009, and 2011, error rates were less than 2%, while in 2009 and 2013, the actual spending never surpassed the ceiling. This could be due to either tighter control applied or more cautious planning of CoEs during crisis times (e.g., the 2009 global financial crisis) when the demand for those resources was uncertain.

On the contrary, in the subsequent years, especially after 2015, the positive errors gradually became more common and even larger, with the largest increases coming from 2018 and onwards. The years 2022 and 2023 are the most notable ones due to the exceptionally high errors: the actual spending in 2022 was 45.4% more than the ceiling, and the same for 2023 was 38.2%. One can say that these remarkable differences are mainly caused by high inflation and public sector wage hikes and at the same time they also indicate how the ceilings, when not adjusted throughout the year, can lead to enormous errors if defined only in nominal terms.

Given the macroeconomic pressures triggered by the 2018 currency and debt crisis and the expansionary fiscal effects of the COVID-19 pandemic from 2020 onward, the effectiveness of ceilings under such extraordinary conditions appears to have weakened. These shocks also undermined the accuracy of the macroeconomic assumptions underlying the MTP/MTFP, particularly inflation, interest rate, and wage projections, which form the baseline for the determination of ECs (Kara, 2024). By 2024, the error rate declined to 3.94%, falling below the historical average. This implies that either more realistic limitations were established, or the budget planning turned out to be more conservative after the large errors in the previous years. However, the errors varied not only in size but also in direction throughout the years, which indicates that ECs have not always been strict in terms of discipline financially even in relatively less complex areas like CoEs. Under these circumstances, the policy improvements of granting more attendant to the assumptions made for setting ceilings and evaluating ceilings in real terms during the period of high inflation are of great importance in making the policy more effective.

Moreover, Social Security Contributions (SSC) are looked into as the second item, which represent the state's social security commitments for the public sector workers. Findings are displayed in the following table.

Table 2. Social Security Contributions (Thousand TL)

Period	Ceiling	Actual	Difference	Error (%)
2006	4356711	4584707	227996	5.23
2007	8869599	5187829	-3681770	-41.51
2008	5562010	5721215	159205	2.86
2009	9439258	6422308	-3016950	-31.96
2010	9881469	9806164	-75305	-0.76
2011	11207407	11289722	82315	0.73
2012	12569725	12750106	180381	1.44
2013	14555353	14120615	-434738	-2.99
2014	16370643	16430018	59375	0.36
2015	17655315	18248493	593178	3.36
2016	21309139	21445795	136656	0.64
2017	23567815	23738864	171049	0.73
2018	26910151	29751612	2841461	10.56
2019	37936988	37685572	-251416	-0.66
2020	42067077	42205650	138573	0.33
2021	47511176	49815269	2304093	4.85
2022	60004250	84213526	24209276	40.35
2023	130993739	160217052	29223313	22.31
2024	272310720	288035856	15725136	5.77
Average Error				1.14

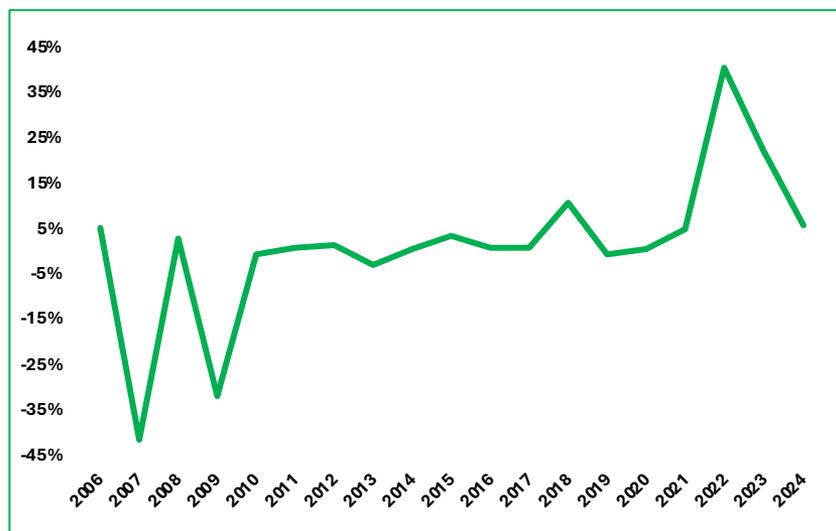


Figure 2. Error Trends in Social Security Contributions

In the case of the period from 2006 to 2024 when ECs for SSC and actual expenditures are compared, it becomes clear that error rates exhibited a very lively pattern. The average error rate, 1.14%, stayed quite low, however, some years showed considerable jumps in either direction with regard to the set limits. To be more specific, in 2007 and 2009, actual expenditures were below the ceilings agreed upon initially by 41.5% and 31.9%, respectively. These big negative errors seem to indicate that the ceilings had not been set because of overly conservative forecasting, but rather the other way around. Probably the main reason for this was technical and regulatory factors like changes in employment policies, statutory adjustments to premium rates, or the implementation of contribution incentives. Notably, in the aftermath of the 2008 global financial crisis, the deceleration in public sector employment growth and the introduction of temporary support policies—such as employer social security contribution subsidies, premium deferrals, and targeted employment incentive schemes for SMEs—likely contributed to lower-than-ceiling outcomes during this period (Yılmaz, 2013; Kaya & Durgun Kaygısız, 2015).

From 2010 to 2017, the pattern was clearly more stable. These years were marked by generally ± 1 -3% error margins that still made it possible to indicate closer alignment between the total amount allowed and the actual spending. This period can be attributed to better prediction of social security obligations, uniform personnel policies, and more efficient budget planning. But in 2018, the reverse trend started when the error margins began to grow again. In particular, real spending was over the limit by 10.6% in 2018 and by 40.4% in 2022. The financial crisis and the currency crisis that began in 2018 in Turkey directly impacted the public sector and quickly raised personnel-related costs and therefore, the contributions payments. The post-2020 period was also characterized by a state's

contribution obligation increase due to the pandemic-led public employment support measures, new staff appointments, and wage changes. The ceiling being exceeded by more than 40% in 2022 is an indicator of the ceiling mechanism's practical relevance being completely weakened under such abnormal circumstances. Also, high error rates continued in 2023 and 2024, with actual spending being 22.3% and 5.8% over the ceilings, respectively. However, the lower error magnitudes in comparison to the previous years might be an indication of the return to more realistic forecasting practices in the public budgeting process.

Third, Purchase of Goods and Services (PGS) are examined, encompassing expenditures for operational necessities of public institutions, including supplies, utilities, and maintenance. The findings are presented in the table below.

Table 3. Purchase of Goods and Services

Period	Ceiling	Actual	Difference	Error (%)
2006	14192587	16973070	2780483	19.59
2007	12040680	19747372	7706692	64.01
2008	16193074	21561350	5368276	33.15
2009	16199782	26620261	10420479	64.32
2010	22367338	25747109	3379771	15.11
2011	25635360	26969172	1333812	5.20
2012	23716218	25876122	2159904	9.11
2013	27108195	28643588	1535393	5.66
2014	30974809	32187117	1212308	3.91
2015	34085369	36489453	2404084	7.05
2016	38773209	43049135	4275926	11.03
2017	44130871	50187005	6056134	13.72
2018	57950387	59237597	1287210	2.22
2019	60875170	72699332	11824162	19.42
2020	68182535	84521713	16339178	23.96
2021	77891694	117348290	39456596	50.66
2022	111556675	220643543	109086868	97.79
2023	279275028	394064533	114789505	41.10
2024	614676109	644541818	29865709	4.86
Average Error				25.89

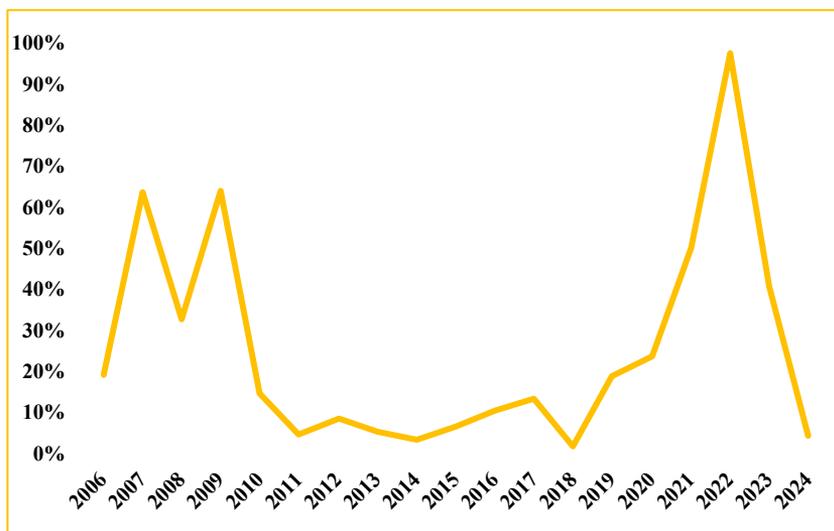


Figure 3. Error Trends in Purchase of Goods and Services

The 2006–2024 data on PGS reveal that discrepancies between ECs and actual spending have been particularly pronounced. The average error rate reached a high 25.89%, indicating that the ceilings set for PGS were frequently inadequate, with actual expenditures often exceeding projections. The period began in 2006 with a 19.59% error and saw exceptionally high overruns in 2007 (64.01%) and 2009 (64.32%). These years likely reflect either limited forecasting capacity or unexpected spending needs, particularly in the context of the 2009 global financial crisis, which directly affected Turkey’s public spending and triggered a surge in procurement costs (Yılmaz, 2013; Kaya & Durgun Kaygısız, 2015; Öz & Baran, 2019; Özatay, 2020).

Between the years 2010 and 2014, there was a significant drop in the error rates to a more moderate range from 3.91% to 15.11%, which indicates the forecasting accuracy has improved. Nevertheless, this stability lasted for a very short time because errors started to increase again after 2016. In 2021 and 2022, the errors dramatically increased to 50.66% and 97.79%, respectively, which was almost double the limit in the last year. These remarkable numbers are primarily a result of the pandemic-induced strains, increased healthcare costs, and inflationary price increases. By 2022 it was clear that the lack of planning was not the only reason for the overspending, but it was also necessary to ensure the provision of public services. Error rates in 2023 and 2024 were 41.10% and 4.86% respectively, which shows the spending has reverted back to more controlled ways, and even more so in the recent year. However, the inexplicably high errors are a signal that PGS is still one of the most adaptable parts of the budget, especially when it comes to dealing with unexpected expenses during crises and inflationary times.

Fourth, Current Transfers (CUT) are examined, which includes transfers to social security institutions, allocations to local administrations, subsidies to households and private entities, and current payments to domestic and international organizations. The findings are summarized in the table below.

Table 4. Current Transfers (Thousand TL)

Period	Ceiling	Actual	Difference	Error (%)
2006	33953719	54522031	20568312	60.58
2007	58348951	69171839	10822888	18.55
2008	71903732	76126955	4223223	5.87
2009	91811538	99289843	7478305	8.15
2010	100620059	109641705	9021646	8.97
2011	113405680	122842359	9436679	8.32
2012	127805250	145690274	17885024	13.99
2013	148152167	166728938	18576771	12.54
2014	159911693	181799284	21887591	13.69
2015	172473184	206192687	33719503	19.55
2016	196738760	253115934	56377174	28.66
2017	242556487	301857961	59301474	24.45
2018	287910525	358749922	70839397	24.60
2019	383314770	435844680	52529910	13.70
2020	438995058	538555680	99560622	22.68
2021	516465469	676968388	160502919	31.08
2022	634858511	122.533.0873	590472362	93.01
2023	161.185.8833	258.658.9570	974730737	60.47
2024	435.960.4849	437.584.3056	16238207	0.37
Average Error				24.70

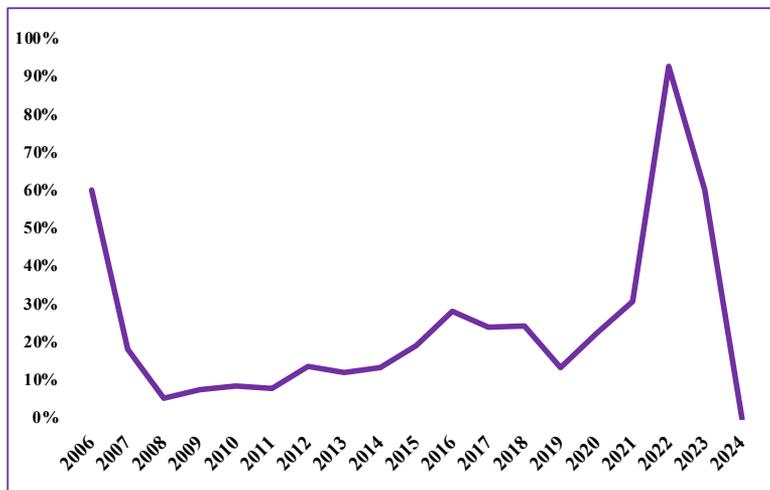


Figure 4. Error Trends in Current Transfers

The variances between the ECs and actual outlays for CUT in Türkiye throughout 2006–2024 represent the difficulties in establishing these ceilings and the degree to which real expenditures can differ from projections. For the whole period, the average error rate was about 24.7%, which is a clear indication that the CUT ceilings were often too low and the actual expenditures usually over the limits. In the year 2006, when the new practice was just introduced and everything had not yet been set, the level of error went as high as 60.58 percent. This shows that there were already problems with estimation methods and lack of budgetary discipline. In 2007 and 2008, the error rates experienced a meaningful drop and reached the minimum of 5.87% in 2008. However, the global financial crisis that followed caused the error rates to go up again.

The period from 2009 to 2013 was characterized by a fluctuating error rate of 8 to 14 percent. The timeline corresponds with the period of Türkiye's post-crisis recovery and the increasing part of social expenditures in CUT. The year 2014 and the years following that marked a clear increase in errors, with over 25% recorded in both 2016 and 2017. These errors were caused by increased security expenditures, continued expansion of social support programs, and the growing demand for flexibility in fiscal policy. The currency and debt crisis that started in 2018 along with pre-pandemic volatility in 2019 set the stage for prolonged high errors. In 2020 and 2021, pandemic-induced spending, such as short-time work allowances, cash wage support, expanded social assistance transfers, and health-related emergency expenditures, drove error rates up to 22.68% and 31.08%, respectively. This suggests that fiscal planning and ceiling-setting mechanisms were strained by unforeseen large-scale expenditures.

The rates of errors increased enormously to unprecedented levels of 93.01% and 60.47% in 2022 and 2023, correspondingly. The economic crises, inflationary pressures, exchange rate shocks, and political decisions that created the fiscal pressures were the major factors that led to these dramatic increases. In the meantime, it seems that ECs had lost touch with reality and were often practically relaxed. In 2024, however, the error rate fell rapidly to only 0.37%, which clearly shows the influence of tighter fiscal policies and a new commitment to controlling public spending. This development suggests that the budget authority has grown more skilled in creating realistic expenditure predictions and that the ceiling system has been enhanced in its operational aspects.

Fifthly, Capital Expenditures (CAE) are scrutinized to the extent of comprising the public investment projects, purchases of land, acquisition and replacement of machinery and equipment, and development of infrastructure. The following table presents a summary of the results.

Table 5. Capital Expenditures (Thousand TL)

Period	Ceiling	Actual	Difference	Error (%)
2006	9069042	10045444	976402	10.77
2007	10475713	10683039	207326	1.98
2008	9681933	15823898	6141965	63.44
2009	12422102	16910527	4488425	36.13

2010	15135093	22373181	7238088	47.82
2011	14276523	14658379	381856	2.67
2012	18425311	10665308	-7760003	-42.12
2013	15890622	16897248	1006626	6.33
2014	17991700	16800573	-1191127	-6.62
2015	20525176	18668076	-1857100	-9.05
2016	22163650	22446205	282555	1.27
2017	33703134	27075492	-6627642	-19.66
2018	36457263	35336127	-1121136	-3.08
2019	34050694	38860578	4809884	14.13
2020	36251900	46408222	10156322	28.02
2021	64819626	64500197	-319429	-0.49
2022	81732664	127820278	46087614	56.39
2023	198697636	287410446	88712810	44.65
2024	606523053	570402780	-36120273	-5.96
Average Error				11.93

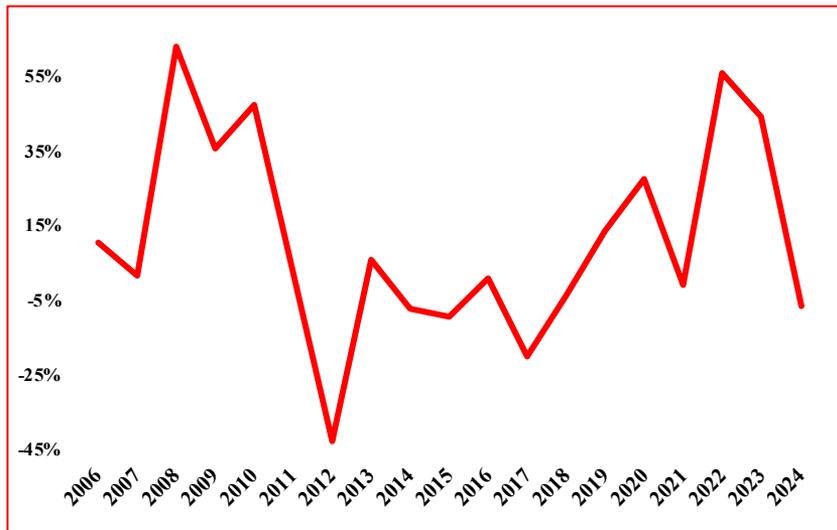


Figure 5. Error Trends in Capital Expenditures

The data for the 2006–2024 period reveal a highly volatile pattern in the relationship between ECs and actual spending in CAE. The average error rate stands at 11.93%, indicating a relatively moderate level of error compared to other categories such as CUT (24.70%) or PGS (25.89%). Nevertheless, in certain years, actual expenditures significantly exceeded or fell well below the ceilings, demonstrating that the predictability of CAE was periodically subject to substantial disruption. In 2006 and 2007, relatively low error rates (10.77% and 1.98%, respectively) suggest that CAE was forecasted with a reasonable degree of accuracy during the early stages of implementation, reflecting not only a

relatively stable macroeconomic environment and simpler public investment cycles, but also the impact of institutional reforms in public financial management, particularly the innovations introduced by Law No. 5018, alongside improving economic conditions and positive signals of recovery and development. However, in 2008, the error rate surged to 63.44%, reflecting a sharp increase in public investment driven by expansionary fiscal policies implemented in response to the global financial crisis. High errors persisted in 2009 and 2010 (36.13% and 47.82%), pointing to a post-crisis recovery phase in which significantly increased capital outlays were not the result of ex ante planned expansions, but rather mid-year discretionary adjustments implemented in response to crisis-related economic conditions, thereby complicating expenditure forecasting.

In 2011, a low error rate of 2.67% was observed. The following year, however, the actual spending was 42.12% below the public expenditure ceiling, probably because of delays or cancellations of investment activities or the moving of funds to other priority areas. The error rates from 2013 to 2016 were mostly under 10%, which meant that the forecasting process in CAE was more stable and balanced during this time. A negative error of 19.66% was noticed in 2017, which could be the case of the allocation of resources being places through the coup attempt on July 15, 2016. By contrast, actual expenditures once again surpassed ceilings in 2019 and 2020 (14.13% and 28.02% respectively), reflecting a renewed emphasis on public investment driven not by a formal long-term policy initiative but by crisis-response measures associated with the currency and debt turmoil and the onset of the COVID-19 pandemic. This increase underscores the budgetary reprioritization of CAE in the wake of economic revival efforts.

The year 2021 is an exception with the smallest error rate being 0.49%. However, the following years, 2022 and 2023, saw an error increase of 56.39% and 44.65%, respectively. These huge increases are associated with a further rise in inflation and investment costs for pre-election, and preparations for earthquakes, among others. The gap between the planned and actual public investment throughput widened considerably during this period. In 2024, actual expenditures remained approximately 6% below the ceiling, suggesting a return to a more restrained and controlled fiscal environment, reflecting measures such as the slowdown in public investment implementation, tighter control over discretionary spending, and the prioritization of expenditure discipline within the investment and procurement process.

On the sixth count, Capital Transfers (CAT) are looked into, which encompass capital payments to other government institutions, local government, social security bodies, or private-sector players as a part of the public investment project support. The findings are given in the subsequent table.

Table 6. Capital Transfers (Thousand TL)

Period	Ceiling	Actual	Difference	Error (%)
2006	868454	4236197	3367743	387.79
2007	2828601	5018988	2190387	77.44
2008	2083079	5108507	3025428	145.24

2009	1740205	5967332	4227127	242.91
2010	2357093	9613738	7256645	307.86
2011	3714086	21160683	17446597	469.74
2012	3295089	28156914	24861825	754.51
2013	4021006	30875325	26854319	667.85
2014	5253302	34056839	28803537	548.29
2015	5440283	44108474	38668191	710.78
2016	5742890	43324850	37581960	654.41
2017	8477724	52708649	44230925	521.73
2018	12945678	60624646	47678968	368.30
2019	8288467	51453275	43164808	520.78
2020	4834922	57397608	52562686	1087.15
2021	5541369	85902214	80360845	1450.20
2022	6262943	183552276	177289333	2830.77
2023	26246576	109.385.8338	106.761.1762	4067.62
2024	135.419.2877	943558178	-410634699	-30.32
Average Error				830.69

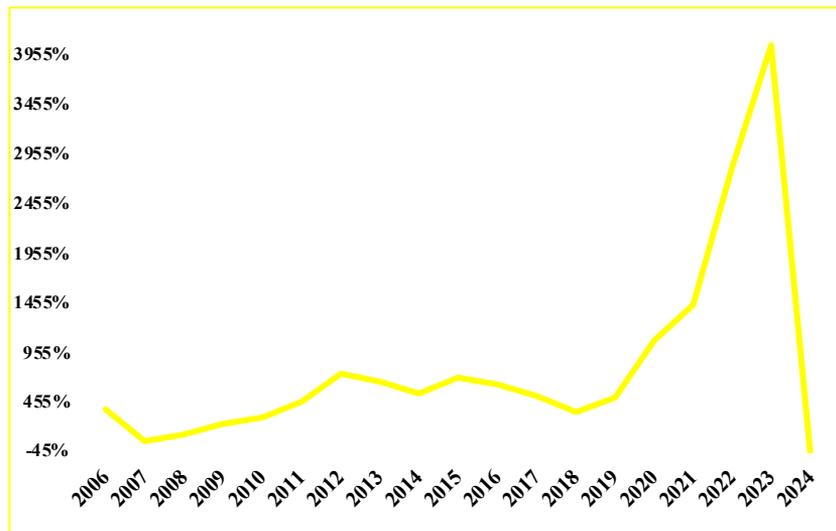


Figure 6. Error Trends in Capital Transfers

The comparison of the data for the CAT from 2006 to 2024 reveals that the ECs have been incredibly and extremely insufficient in relation to actual expenditures which is indicative of a very serious problem of predictability for this kind of spending. The mean error rate was extremely high at 830.69%, which means that CAT has become one of the most inaccurately forecasted areas in budget planning. Even though CATs are known for their periodic variable nature, such large differences point to a systematic planning deficiency. In the opening year of 2006, the actual expenditures were

almost four times (387.7%) the ceiling and this gap kept on increasing from 2007 to 2010. The maximum error rate of 307.7% was recorded in 2010. One reason for these discrepancies was the government's diversification of public investment projects and capital support to local administrations and other entities which exceeded the planned levels.

The errors post 2011 showed a steep increase; the actual spending in 2012 (754.51%), 2013 (667.85%), and 2014 (548.29%) surpassed the ceiling by five to eight times. The use of the item as an "overflow area" for unpredicted expenses characterized by the trend of financing public investments through transfers rather than the central budget to a greater extent during these years. The corroboration of the error rates between 500% and 700% during the period of 2015–2019 supports this trend. Errors were already at a very high level in the year 2020; the error percentage was 1087.15%, then it steeply rose to 1450.20% in 2021, 2830.77% in 2022, and finally, a historical maximum of 4067.62% in 2023. The impacts of the COVID-19 pandemic, social and economic support programs, investments in regional development, and the capturing of the 2023 Kahramanmaraş earthquakes have, among others, been attributed to the drastic increase in the demand for CATs during the above period. The very high error rates indicate that either the ECs were set at symbolic levels or they became ineffective in extraordinary situations.

Nevertheless, the year 2024 has an error of about 30% to the downside of the amount set as the ceiling, and it is a first negative error that can be considered serious. This can be seen as a consequence of the fiscal policy of restraining government spending and the lowering of investment priorities that began after 2023. This also shows that the government has stopped using the easier-to-spend measures of past years and that the planning and spending processes are going to be under more control. To sum up, CAT is one of the areas where the uncertainties and structural flaws in the processes of ceiling determination are most clearly visible. The high error rates for CAT indicate that the ECs system has lost its effectiveness as a guiding and limiting tool for public investments, particularly in times of crises when ceilings can be considerably surpassed.

According to the seventh point, Lending (LND) is analyzed, which refers to the provision of loans to public legal entities, local administrations, state-owned enterprises, or international organizations for different purposes. The results are presented in the table below.

Table 7. Lending (Thousand TL)

Period	Ceiling	Actual	Difference	Error (%)
2006	2394166	4721683	2327517	97.22
2007	2712958	2754038	41080	1.51
2008	3012615	3443433	430818	14.30
2009	2947666	4345285	1397619	47.41
2010	5280968	7304632	2023664	38.32
2011	4529395	3829069	-700326	-15.46
2012	6320578	7311332	990754	15.68

2013	8487083	6659521	-1827562	-21.53
2014	4850533	7336354	2485821	51.25
2015	6914879	7350743	435864	6.30
2016	7530571	6883649	-646922	-8.59
2017	6685946	6994369	308423	4.61
2018	12644654	14499152	1854498	14.67
2019	21303682	24883245	3579563	16.80
2020	26616454	29382461	2766007	10.39
2021	37467186	100715535	63248349	168.81
2022	61016163	200159283	139143120	228.04
2023	357700093	153105208	-204594885	-57.20
2024	295085769	297258201	2172432	0.74
Average Error				32.28

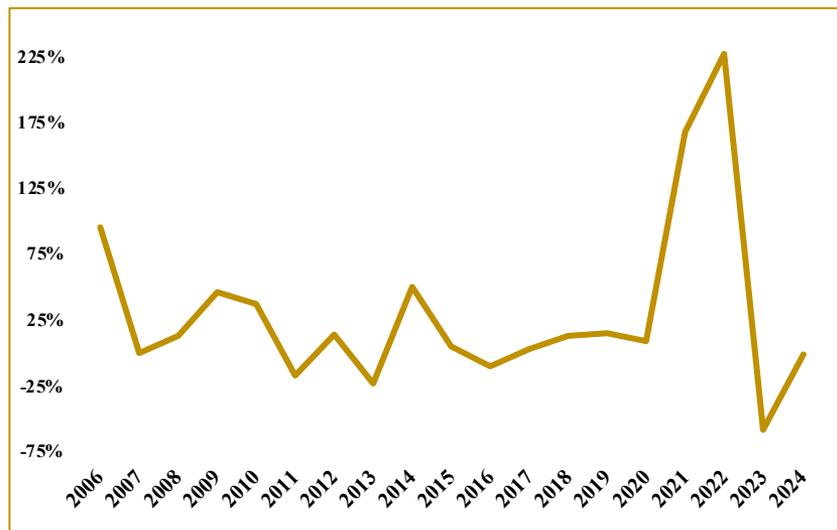


Figure 7. Error Trends in Lending

The analysis of LND data for the period 2006–2024 reveals that, in general, ECs have been set more accurately when compared to the actual expenditures. A 32.28% mean error can be interpreted as a sign of a more controlled forecasting method compared to categories like CAT. However, large errors occurred in some years, indicating the high sensitivity of LND to economic cycles. An over-prediction of around 97.22% was noted in 2006 at the very start of the period, which might mean that the LND was strongly depended on for emergency support in that period. On the other hand, the discrepancy for 2007 was surprisingly insignificant at just 1.51%. The errors for the years 2008 and 2009 were 14.30% and 47.41% respectively. In 2010 again there was an overestimation of 38.32%, but in 2011 and 2013 these negative differences were quite low. Especially in the year 2013,

the ECs were around 21.53% higher than the actual figure, which was a clear indication that the projected LND need was nonexistent. The period 2014–2016 saw the error rates oscillating between 51.25% and – 8.59%, which suggests that public funding requirements were not constant over the period and LND was quite flexible in adjusting itself to such changes. The years 2017 through 2020 saw the error rates being mostly low, which indicates that there were fairly accurate forecasting processes at play.

The years 2021 and 2022 were the peak periods of remarkable mistakes in LND. A 168.8% overrun was the outcome in 2021, followed by 228.04% in 2022. It is highly probable that such enormous errors are the result of the significant increase in the funds assigned to this item due to the recovery efforts after the pandemic, credit support programs, and capital assistance to public banks. The central budget during these years seems to have taken the position of facilitative lending in order to stabilize the financial system and support the real economy. Whereas the year 2023 recorded a huge inferiority, and actual expenditure was 57.20% less than the forecasted limit. This unfavorable error suggests that the year was a time when the government's expansionary fiscal measures were lessened and the lending provision even more so. The year 2024 then, saw the error shrank phenomenally to just 0.74 % thus indicating superb synchronization of the predictions with the actuals. This could be seen as the outcome of the stricter fiscal measures and more controlled budget management practiced in the last two years. To sum up, LND has still shown periodic volatility but it has become one of the categories where the ECs system has been implemented most accurately in the long term thus proving the LND ceiling system.

Finally, Interest Expenditures (INT), Total Expenditures (TTL), and Primary Expenditures (PRM) are analyzed as one. In this light, the INT refers to the expense of public debt financing while the PRM identifies the level of spending characterizing public administration's core functions. The TTL gives a summary of the entire budget size by adding up both components. The table below gives the results.

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Table 8. Interest Expenditures, Primary Expenditures and Total Expenditures (Thousand TL)

Period	Ceiling			Actual			Difference			Error (%)		
	INT	PRM	TTL	INT	PRM	TTL	INT	PRM	TTL	INT	PRM	TTL
2006	48912000	96387153	145299153	45962709	129121409	175084118	-2949291	32734256	29784965	-6.03	33.96	20.50
2007	44100000	131634397	175734397	48752883	151453567	200206450	4652883	19819170	24472053	10.55	15.06	13.93
2008	59300000	151154370	210454370	50661300	171394261	222055561	-8638700	20239891	11601191	-14.57	13.39	5.51
2009	56750000	184767187	241517187	53200891	209396623	262597514	-3549109	24629436	21080327	-6.25	13.33	8.73
2010	56750000	209407759	266157759	48298762	239892802	288191564	-8451238	30485043	22033805	-14.89	14.56	8.28
2011	47500000	235880550	283380550	42231558	264807784	307039342	-5268442	28927234	23658792	-11.09	12.26	8.35
2012	50250000	263919378	314169378	48416047	305225899	353641946	-1833953	41306521	39472568	-3.65	15.65	12.56
2013	53000000	302316823	355316823	49986050	347289082	397275132	-3013950	44972259	41958309	-5.69	14.88	11.81
2014	52000000	330855061	382855061	49913317	384352222	434265539	-2086683	53497161	51410478	-4.01	16.17	13.43
2015	54000000	360676321	414676321	53004239	438860216	491864455	-995761	78183895	77188134	-1.84	21.68	18.61
2016	55000000	416497694	471497694	50246537	518870098	569116635	-4753463	102372404	97618941	-8.64	24.58	20.70
2017	57500000	499939354	557439354	56711803	602847166	659558969	-788197	102907812	102119615	-1.37	20.58	18.32
2018	71700000	593586380	665286380	73961212	731013217	804974429	2261212	137426837	139688049	3.15	23.15	21.00
2019	117317000	760021178	877338178	99939640	878629761	978569401	-17377360	118608583	101231223	-14.81	15.61	11.54
2020	138940000	863019608	1001959608	133961673	1049201464	1183163137	-4978327	186181856	181203529	-3.58	21.57	18.08
2021	179542320	1034122617	1213664937	180850763	1396012245	1576863008	1308443	361889628	363198071	0.73	34.99	29.93
2022	240383662	1323767648	1564151310	310803653	2577230637	2888034290	70419991	1253462989	1323882980	29.29	94.69	84.64
2023	565596000	3437574949	4003170949	673751556	5825758891	6499510447	108155556	2388183942	2496339498	19.12	69.47	62.36
2024	125.400.0000											
873.606.7616				126.833.6416	945.001.6087	107.183.52503	14336416	713948471	728284887	1.14	8.17	7.29
999.006.7616												
Average Error										-1.71	25.46	20.82

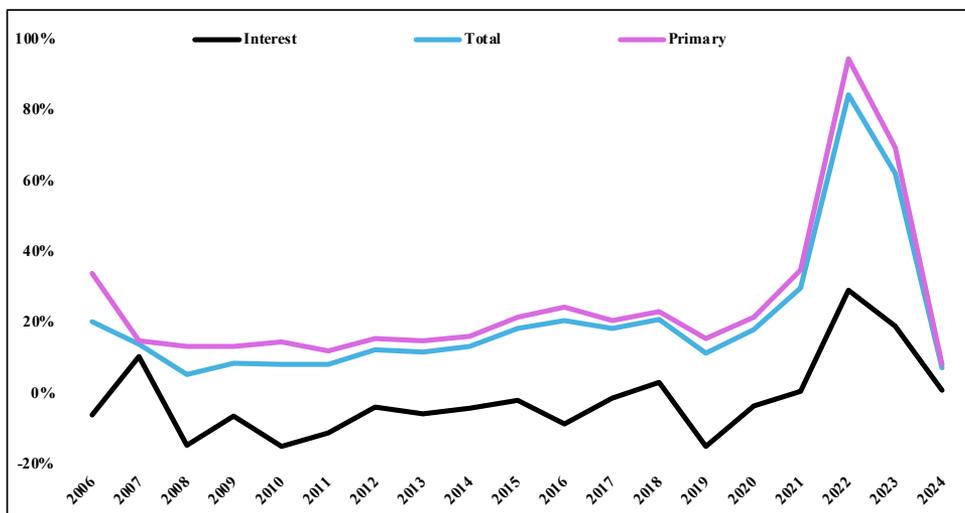


Figure 8. Error Trends in Interest Expenditures, Primary Expenditures, Total Expenditures

A remarkable structural deviation between ECs and the actual numbers for INT, PRM, TTL is seen during the years 2006 to 2024 when the ECs and the actual figures for INT, PRM, TTL are compared. Throughout the INT period, it was mainly in line with the ceilings and even fell below them in most years. The mean error rate was a mere -1.71% , which means that the situation was very predictable and controllable. This conclusion goes against the prevailing view in international literature, where the interest payments are very often excluded from ECs because of their intimate relationship with past debt burdens and fluctuations in market conditions³. Türkiye, however, proves that the INT side has been managed with considerable success, hence, the stronger fiscal discipline in this area. One possible reason for the predictability of INT is the Treasury's debt maturity profile, interest composition, and the fact of fixed-rate domestic borrowing being predominant. Moreover, the cooperation between the Central Bank's interest rate policies and Treasury strategies, especially after 2021, potentially played a role in this achievement.

The use of ECs for PRM and TTL, on the other hand, has not been that effective and has shown very poor results. In particular, the average error in PRM was more than 25%, indicating that this aspect of the system was the weakest point. This means that even though ceilings are set, they are often broken due to the changing political and economic circumstances throughout the year. This has been a continuous trend since 2021, with the errors in PRM reaching over 90% in both 2022 and 2023. The main causes for these large errors are the high inflation rate, the increase in salary of public employees, and expansion of social transfers, and so on. In addition, one of the causes of the high errors is

³ For example, Sweden (Brusewitz & Lindh, 2005), Denmark (Manescu & Bova, 2020), Finland (EU IFIs, 2018; Manescu & Bova, 2020), and Spain (Herrero-Alcalde et al., 2024).

the expansionary fiscal policies during the election period which have been implemented before elections. For instance, PRM overshoot its ceiling set for 2023 by 69% mainly due to the reconstruction costs after the February 6 earthquakes which was a significant election year being marked.

TTL also shows a similar pattern. The average error surpasses 20% and implies that the slips in PRM are directly affecting the overall budget discipline. The system of ECs in Türkiye has not been very successful since the forecasting of INT has been very accurate while the TTL breaches are very frequent, meaning that the system of ECs in Türkiye has not been very successful. The enforcement of the ECs has been particularly weak due to in-year appropriation additions, the supplementary budget practices, and the more frequent violations of initially set limits. When comparing the ECs systems in developed economies, their enforcement is usually backed by multi-year frameworks, institutional enforceability, and accountable executive branches to parliaments in cases of errors. In contrast, Türkiye's ceilings are more or less a planning tool than a legally enforceable fiscal rule, and there is no administrative or political consequence for breaching them. In this aspect, Türkiye's approach resembles that of developing economies which have more flexible fiscal rules compared to the stricter designs of developed economies.

To sum up, Türkiye's ECs framework retains strict control on the case of INT, and it is opposed to the international trends, but it shows significant errors in PRM and TTL, thus undermining budget discipline as such. The conclusion thus reached is that ECs are not merely technical forecasts but rather institutional mechanisms. The qualities of predictability, responsibility, and sanctionability must be advanced to a very high level if fiscal discipline is to be guaranteed only in some categories. In order to protect macroeconomic stability and to enhance the reliability of fiscal policy, it is a must that Türkiye advances to a more institutionalized system of fiscal rules in the management of its ECs.

6. Discussion and Policy Recommendations

An analysis of Türkiye's implementation of ECs in public finance reveals both the beneficial contributions of this mechanism and the operational and institutional limitations encountered in its application. In the international literature, ECs are regarded as a key instrument for ensuring fiscal discipline, prioritizing the allocation of public resources, and embedding long-term perspectives into the budgeting process. However, despite this positive potential, the effectiveness of ceilings depends not only on their technical design but also on political commitment, administrative incentives, institutional capacity, and the strength of monitoring and oversight mechanisms embedded in budgetary processes, as evidenced by comparative analyses of fiscal frameworks across countries (Turrini, 2008; Holm-Hadulla et al., 2012; Kim & Park, 2006; Ayuso-i-Casals, 2012; Dorotinsky & Watkins, 2013). In the case of Türkiye, implementation experiences indicate that the intended fiscal discipline has not been fully achieved, due to the weak binding nature of the ceilings, lack of transparency in the budget process, and limited accountability.

When examining the distribution of total errors across various expenditure items in Türkiye's public spending, it becomes evident that some items demonstrate relative success in adhering to the ceilings, while others face significant challenges. Errors in CoE are generally positive but exhibit fluctuations. Notably, in certain years (e.g., 2007, 2018, 2022, and 2023), errors in CoE exceeded 10%, indicating that while this category generally remains a relatively controlled area of budget discipline, sharp increases in public sector wages driven by high inflation and election-related pressures have at times resulted in violations of the ceilings. This underscores the need to strengthen the binding nature of ceilings on CoE.

SSC generally exhibit low levels of error and occasionally yield negative values. Given the tight control over this category through centralized and legal regulations, its integration into the framework of fiscal discipline can be considered relatively strong. In contrast, the high and volatile errors observed in PGS indicate the limited effectiveness of ECs in this area, as also documented in empirical studies on systematic budget forecast errors in Türkiye (Bağdigen, 2005; Kara, 2024a; 2024b; 2024c; Şengüler & Kara, 2025). In particular, errors exceeding 40% in 2008 and 2009 suggest that the functional role of ceilings is challenged by the inherent flexibility required in PGS, the rapidly shifting market conditions, and the administrative complexities associated with implementation.

Despite the significant fluctuations observed in INT, their consistent tendency to remain below the established ceilings can be regarded as a positive development. The occurrence of negative errors, i.e., actual spending falling short of the ceiling, indicates the maintenance of fiscal discipline and the effective management of borrowing costs. Considering that INT are primarily determined by macroeconomic conditions and debt management strategies, the direct influence of ECs on this category is expected to be limited. Therefore, the control of INT from a fiscal discipline perspective relies not solely on ceilings but also on broader macroeconomic coordination, comprehensive debt management policies, and the effective use of risk management frameworks.

Errors in CUT also stand out due to their scale and volatility. While some years (e.g., 2008, 2013, and 2020) recorded relatively moderate deviations, others (e.g., 2006, 2017, 2022, and 2023) experienced exceptionally large errors, at times exceeding 90 percent. These fluctuations largely reflect the sensitivity of transfer expenditures to election cycles, the expansion of social support programs, crisis-driven discretionary interventions, and inflationary and exchange-rate shocks. The persistence of large deviations over time indicates that ECs for CUT have frequently lacked realism and binding force, thereby limiting their effectiveness in enforcing fiscal discipline in this expenditure category.

It should be noted that CAT is responsible for the biggest part of the total errors. The amount and unpredictability of expenses that are taking place in social assistance, subsidies, and other similar transfer programs are the factors that compromise the efficiency of error controls and at the same time, these items are not under control in the context of fiscal restraint. Thus, the ceiling design

on CAT has to be even more closely tied up to the monitoring mechanisms and be aligned with the changing policy priorities so as to render it more effective and credible.

In the case of CAE, large and periodic errors can be seen throughout the whole period. Since capital investment is very susceptible to economic conditions and requires a longer planning horizon, this situation calls for a more innovative approach in ECs. At the same time, there is a need for the development of institutional capacity for budget execution to be disciplined. The high rate of errors in these categories is a sign of lack of coordination and structural weaknesses in budget implementation. The variations in LND category suggest that it is very closely related to financial strategies; hence the direct influence of ECs in this area is limited. Therefore, the fiscal discipline aspect of LND should not be narrowed down to the use of ECs, but rather it should be dealt with through the broader financial management policies.

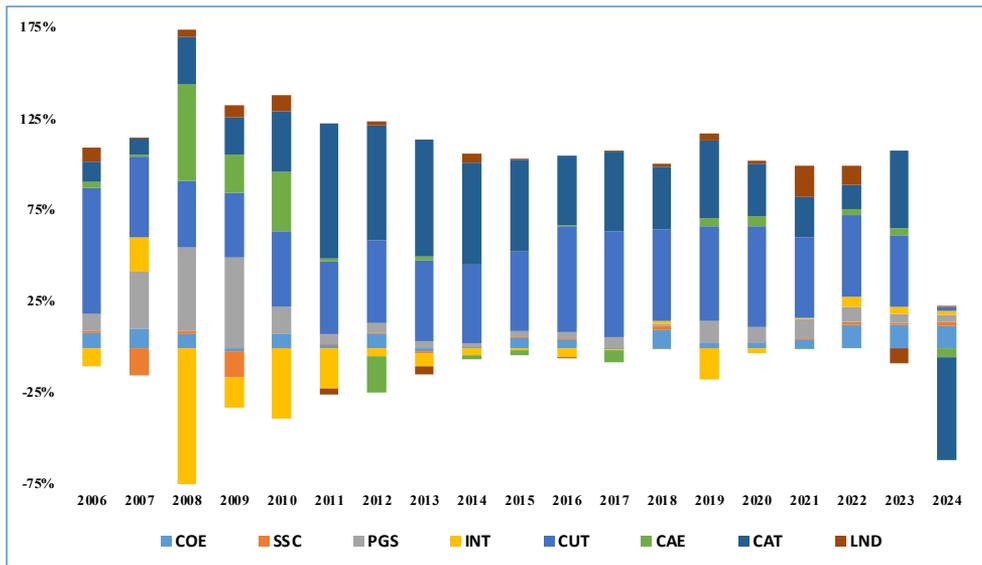


Figure 9. Contribution of Expenditure Items to Total Expenditure Error (%)

A large part of the total expenditure error as shown in the Figure 9 above is particularly contributed by CUT, CAT, PGS and COE. In periods the shares of these categories are high and positive thus showing their leading role in the overruns of budget. In a significant way, the CUT category alone was responsible for almost 40-60% of the total error in the majority of years during the period from 2006-2023 and thus it is still the area where the implementation of ECs is the most difficult. On the other hand, items like CAE and SSC have varied very much in terms of their contributions to the total error, even at times exerting a significant dampening effect on total error through their negative shares. For example, CAE with negative contributions in years like 2012, 2014, 2015, and 2024 has limited the growth of error, while in years such as 2007 and 2009, SSC has made a negative

contribution to total error. This shows that some expenditure items can act against ECs by decreasing budget overruns and thus aiding fiscal discipline. Furthermore, the INT category has been primarily a negative contributor to total error over the long term thus helping to maintain a budget balance. This is reflective of the fact that INT is to a large extent associated with macroeconomic conditions and debt management strategies, thus making it out of the direct control of ECs. The minor role of INT in budget discipline allows for the interpretation that errors in this category do not cause a disruption in budget balance but instead assist in maintaining it. Finally, LND, comprising lending operations and other financial transactions such as loans and capital injections, exhibits a relatively limited impact on total error, displaying both positive and negative contributions across different periods, at times increasing and at other times reducing the overall error. This reflects the influence of external factors such as financial strategies and liquidity management on this category.

In conclusion, although most of the total error is coming from the items such as CUT, CAT, PGS, and COE, the categories of CAE, SSC, and INT are contributing to the negative errors and, thus, the maintenance of budget discipline. This distribution is a very important signal for the policymakers as it points out the strengths of ECs and the areas where improvement is needed. The knowledge of these dynamics is essential for creating more effective fiscal rules and also for increasing the overall reliability of budgetary frameworks. Thus, the targeted reforms that will be directed towards the more volatile expenditure categories may result in significant improvements in the effectiveness of the ceiling system and a corresponding enhancement of fiscal sustainability.

As a further step in reviewing errors across individual expenditure categories, one additional structural issue that hampers the overall effectiveness of the ECs system must be emphasized. The application of ECs in Türkiye has had no penalty for exceeding the limits set as one of the most crucial structural weaknesses. Therefore, ECs, by virtue of the public sector's attitude towards them, are merely regarded as recommendations and not as legislative limits. The absence of sanctions for the unauthorized use of the limits has reduced the power of the mechanism to create fiscal discipline and hence the overall financial control has become weak, especially in the areas where mistakes are most likely to occur (e.g. CUT, CAT, RAD, COE). A properly formulated legal mechanism that specifies either administrative or financial penalties for breaching the ECs will be step towards resolving the issue. Such regulation would bring along at least two benefits: one being the strengthening of institutional accountability, and the other the setting up of a mechanism for the budgetary process to adhere to the spending limits.

When evaluating by expenditure category, the high error rates observed particularly in CUT, CAT, PGS, and COE largely stem from the inherent sensitivity of these expenditures to political priorities, social assistance programs, and intra-year interventions. These discrepancies also reflect structural factors; as noted by Arslaner & Yavan (2016), the expansion and reallocation of expenditure responsibilities toward local governments have contributed to increased volatility in public spending. In this context, one should exercise caution and adopt a more careful strategy in determining the limits for these categories and require that any changes in the allocations made during the year

be justified as a means to restrict the adjustments. Furthermore, the upper limits for these categories should have a limited degree of variation allowed. It should, however, be the case that this variation is controlled through an already established and observable framework, along the lines of a contingency margin. In order to promote the openness of fiscal policy, the technical and political reasons for mistakes in these categories should be made public, and these justifications should be replicated in the monitoring reports.

On the other hand, ECs seem to be able to operate smoothly in less volatile and predictable categories like CoE and SSC, thus making such implementation successful. The minor errors in these categories are evidence that a ceiling mechanism can be very effective if it is properly designed from the technical standpoint. It is always public built up and disciplined demand for personnel and indirect taxes through wage wars that eventually result in a win-lose situation and high-cost public sector. To avoid this, it is suggested that multi-year personnel planning guidelines be laid down for public institutions and the plans be given to ECs as well.

The influence of ECs on macroeconomically sensitive items like INT is minor directly, but still, the negative errors that are noted in these categories do improve the budgetary discipline. Projection ranges based on macroeconomic scenarios should be defined, and the interest spending should be monitored within this framework instead of fixing ceilings for INT. Conducting threshold systems based on expenditure forecasts instead of rigid ceilings for such items would maintain fiscal realism and allow for a clearer interpretation of errors.

Ultimately, ECs have to deal with the technical and political aspects, which are the two-pronged main issue. To demonstrate, the recognition of EC lights can be promoted in MTPs and budget framework papers through special reports on ceiling compliance and errors in budgets submitted to the Grand National Assembly of Türkiye and the inclusion of assessments by audit entities such as the Court of Accounts which will undoubtedly improve governance. Moreover, it would be both politically and technically correct to have independent technical committees take part in establishing and re-evaluating ceilings in that area being politically insulated. The above-mentioned proposals are not only improvements; they are also strategic actions that can help ECs transition from merely being budget-control instruments to actual governance tools needed for fiscal sustainability, accountability, and transparency.

7. Conclusion

The study examined how various institutions contributed to the facilitation of public expenditures, and the creation of fiscal discipline through the imposition of ECs within the medium-term fiscal governance framework. It provided an analytical review of the structural features, successes, and challenges of the ECs mechanism implemented in Türkiye. The study shows that in the case of ECs, their role in budget items such as personal expenditures and social security contributions less prone to be error-prone has been rather successful. This indicates that even though technical efficiency of

ECs could be guaranteed in certain fiscal categories. On the other hand, massive inaccuracies detected in current transfers, purchases of goods and services and capital transfers, in particular, indicate the lack of enforceability and insufficient monitoring and coordination capacity during the implementation stage. The analysis of the structural distribution of errors reveals that a substantial portion of the total error is driven by a few expenditure items, particularly current and capital transfers. Conversely, negative errors in categories such as interest expenditures appear to have a compensatory effect on total errors, reflecting the limited controllability of interest costs through ECs.

According to the study, the environment in which regulatory bodies work has resulted in a situation where ECs mainly assume the role of advisers and at times even play this role without any fines, either for administration or financial aspects when the regulations are violated. At the same time, the restrictions to their deterrent power and the consequent undermining of financial discipline objectives can be seen as advantages that come along with the situation. The non-integration of the MTFF within public institutions, the insufficient capacity for monitoring and evaluation in the budget processes, and the inappropriate coupling of performance-based budgeting with strategic planning are among the factors that make it even harder for the ECs to perform their roles.

The strengthening of the legal foundation for the limits, the transparent reporting of errors, the establishment of monitoring by the item, and the close partnership of the ECs with the macroeconomic policies would not only be a good measure to strengthen fiscal discipline at the micro level but also contribute towards making such a system stronger at the macro level. On top of that, the allocation of flexible and dynamic ceilings for particular groupings could serve as a cushion for the budget against unexpected economic instability, thus making it more resilient.

In conclusion, despite its strengths, the ECs mechanism in Türkiye requires comprehensive reform. Changing the system in this manner is not only crucial for controlling the public sector's spending but also for the improvement of the budgetary selection process quality especially in terms of the main budgetary criteria such as transparency, predictability, and accountability, and for the better and more efficient distribution of public resources. With its multi-faceted evaluation, the research not only adds to the academic literature but also to the policy-making processes and is envisaged to be a reference for the future development of fiscal rules in Türkiye.

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