



ARMENIA

TECHNICAL ASSISTANCE REPORT—UPGRADING FISCAL RULES

October 2017

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F I S C A L A F F A I R S D E P A R T M E N T

Republic of Armenia

Upgrading Fiscal Rules

Era Dabla-Norris, Nicolas End, Fazeer Rahim, John Zohrab, and Matt Crooke

Technical Assistance Report | June 2017



I N T E R N A T I O N A L M O N E T A R Y F U N D

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ABBREVIATIONS AND ACRONYMS

ACM	Automatic Correction Mechanism
ADS	Armenian Development Strategy
BBR	Budget Balance Rule
BSL	Budget System Law
CAB	Cyclically-adjusted balance
DR	Debt Rule
EEG	European Expenditure Guideline
EM	Emerging Market
ER	Expenditure Rule
FAD	Fiscal Affairs Department
FSS	Fiscal Strategy Statement
GFC	Global Financial Crisis
MoF	Ministry/Minister of Finance
MTEF	Medium-term expenditure framework
PDL	Public Debt Law
PFM	Public Financial Management
SWF	Sovereign Wealth Fund

PREFACE

A mission from the Fiscal Affairs Department (FAD) of the International Monetary Fund visited Yerevan, Armenia during the period June 12–23, 2017 to provide technical assistance on the design of fiscal rules and associated fiscal and institutional frameworks. The mission was led by Era Dabla-Norris (FAD) and comprised Nicolas End, Fazeer Sheik Rahim, John Zohrab (all FAD), and Matt Crooke (FAD expert).

The mission met with Mr. Vache Gabrielyan (Deputy Prime Minister and Minister of International Economic Integration and Reforms) and Mr. Vardan Aramyan (Minister of Finance). In the Ministry of Finance (MoF), the mission met with Atom Janjughazyan (First Deputy Minister), Armen Hayrapetyan (Deputy Minister), David Ananyan (Deputy Minister), David Hambardzumyan (Head, Department for Financial Planning of Budget Expenditures, Lala Ananikyan (Head, Department of Budget Process Management), Artak Marutyan (Deputy Head, Debt Management Department), and Hayser Gasparyan (Head, Division of Financial Programming of Loans and Grants from external resources). The mission also met with Yolyan Levon (Chairman, Chamber of Control (Supreme Audit Office)) and his staff, and held a workshop to present some of the methodology and preliminary findings of the report.

The mission also held meetings with other stakeholders. At the Central Bank of Armenia, the mission met with Mr. Nersus Yeritsyan (Deputy Governor) and staff of the Central Bank. At the State Revenue Commission, the mission met with Mr. Vardan Harutyunyan (Chairman, SRC), Mr. Vakhtang Mirumyan (Deputy Chairman, SRC) and his staff. The mission met with Mr. Gagik Minasyan, (Chairman, Finance Credit and Budget Affairs Standing Committee) at the Armenian National Assembly. The mission also benefitted from discussions with major donors (the World Bank, Asian Development Bank, the Eurasian Development Bank, GIZ, KFW, EBRD, and the EU).

The mission would like to express its sincere gratitude to all these officials for their warm reception and candid and constructive discussions.

The mission would also like to thank Ms. Teresa Daban Sanchez (Resident Representative, MCD) and her staff at the IMF office in Yerevan, in particular Mr. Vahram Janvelyan and Ms. Marina Aleksanyan, for providing logistical support and facilitating dialogue with authorities. The mission also appreciates discussion with colleagues Anja Baum (FAD), Hossein Samiei, Hamid Reza Tabarraei (both MCD), and Yuan Xiao (FAD).

EXECUTIVE SUMMARY

Armenia has made significant strides in enhancing macroeconomic stability over the past two decades. This has recently come under strain. Before a full recovery from the Global Financial Crisis (GFC) could take root, a second wave of external shocks, resulting from the slowdown in Russia and the ensuing sharp currency depreciation, buffeted the economy. Armenian public finances have deteriorated steadily since 2013, triggering the debt brake mechanism in 2016.

While Armenia's public debt remains sustainable, a prolonged adjustment is needed to restore sizeable fiscal buffers, warranting an upgrade of the fiscal rule framework.

Armenia's vulnerability to external shocks partly explains the fiscal position which has emerged. But shortcomings in the current fiscal rules framework have also been a key driving factor. The existing debt-rule-based framework offers an easy to understand link with fiscal sustainability, but provides insufficient operating guidance to fiscal policy, is procyclical in good times, and is not flexible enough to deal with severe economic shocks. Mechanisms to deal with a potential breach of the 60 percent debt ceiling and the 50 percent debt brake are excessively restrictive and need to be overhauled.

To achieve these changes while preserving hard-won fiscal credibility, the government will need to be convincing. This means both on the substance—a comprehensive reform package—and the form in which changes are communicated and executed. This report proposes a roadmap involving the following dimensions to help guide the reform and communication strategies.

Maintain the Existing Public Debt Ceiling of 60 Percent of GDP

The report recommends that the existing debt ceiling be retained. This not only appears central to preserving credibility, but is also consistent with the upper end of the range at which debt could potentially become destabilizing and in line with Armenia's level of development and future infrastructure needs.

The government will need to set out a desired trajectory toward a longer-term debt anchor that reflects a safe debt level (possibly around 40 percent). This lower level would reflect tolerance for risk, have time-based milestones against which progress would be tracked, and represent significant buffers to guard against future shocks.

Upgrade Enforcement and Corrective Mechanisms

A new correction mechanism when debt exceeds the ceiling of 60 percent of GDP should be determined. Current legislation voids all new debt once this ceiling is reached. Given Armenia's current debt level, this event has a nontrivial probability of occurring upon a large exogenous shock, and could have serious implications for fiscal operations. A more realistic

correction mechanism that relies on a package of budgetary sanctions (e.g., a freeze on overall spending in real terms; specific measures for revenue mobilization, which remains low relative to peers), more stringent reporting on performance to Parliament, along with a formal requirement to put forward explicit policy measures to regain the desired debt trajectory in a given timeframe could be considered.

When debt exceeds 50 percent, a more moderate but nonetheless significant response would be called for. While the government complied with the existing debt brake requirement in framing the 2017 budget, there will be some cost to credibility in replacing it. This can be tempered by implementing a credible set of new expenditure and revenue mobilizing measures committing to a medium-term path to bring debt down, possibly by making aggregate Medium Term Expenditure Framework (MTEF) ceilings more binding in law.

Implement a New Expenditure Rule, Possibly Excluding Public Investment

Introducing a multi-year expenditure rule (ER) would help address the procyclicality of fiscal policy and bring a sharper focus onto what the government controls in the short term. Such a rule would allow expenditure to grow with GDP and will also restrain spending growth in good times, while encouraging a more forward-looking, top down discipline over fiscal policy. There is a choice as whether such a new rule could be given effect informally through the MTEF or whether the key elements should be defined in the law. The former option could be viewed as a transition, and the latter can be implemented once the economy stabilizes and the ER is properly calibrated. An ER could also be a stepping stone to moving toward a structural balance rule as other technical and institutional preconditions are met.

One option in terms of the rule's design is to exclude capital expenditure, but this must be balanced with strong safeguards against unproductive capital spending. In Armenia, budgetary rigidities and a current spending bias limit the ability to create fiscal buffers and implement counter-cyclical public policies. Capital spending is typically the main category of expenditure that is adjusted in the budget as circumstances change, resulting in a low public capital stock relative to peers. Excluding capital spending from the rule could support an increased and more stable allocation toward capital spending as fiscal space emerges. Capital spending choices, however, must still be constrained by the overall debt rule (DR) of 60 percent of GDP, and associated reforms will be needed to improve the planning and pipeline development process to achieve spending efficiency. Other design options include corrective mechanisms and escape clauses, and the scope for potentially linking the ER with the relevant medium-term public debt thresholds to ensure consistency within the framework.

Upgrade Communication, Transparency and Monitoring

Strong and regular communication, transparency and monitoring arrangements will be important to reinforce the changes and improve prospects for success. Developing and

publishing a Fiscal Strategy Statement (FSS), which is central to charting a path back to safe debt levels, could be a useful vehicle for focusing messages and driving broader changes.

To avoid a situation where changes in fiscal rules could be interpreted as a dilution of the fiscal framework, the government will need to reaffirm its commitment to fiscal discipline.

In this context, crafting a simple and clear message on the key aspects of the upgraded framework by emphasizing the benefits—in this case, the benefits from enhancing the stabilization of the economy; containing expenditure pressures; and promoting productive public investments—and the elements of the existing framework that have been retained (debt ceiling, debt brake).

Adequate transparency and external scrutiny of the implementation and compliance to the new framework will be key to its success. Transparency and scrutiny (*ex-ante* and *ex-post*), will help anchor expectations of the public and the outside world that fiscal policy is credible, while rendering deviations from the rules politically costly. Transparency can be enhanced by improving the quality and frequency of reporting on fiscal policy objectives and reporting on performance. Enhancing the role of existing independent institutions to assess *ex-ante* and *ex-post* compliance would improve credibility.

Initiate Supporting PFM Reforms

The new framework needs to be accompanied by supporting public financial management (PFM) reforms. To reap the full benefit of a medium-term approach to budgeting, forward estimates need to be more credible, and spending rigidities and inefficiencies be avoided. Legal provisions that undermine the credibility of the annual budget need to be revised.

Several aspects of planning, budgeting and implementation of public investment need to be improved, including improvement of information over all projects, the review of the uneven selection criteria of foreign-financed projects and the provision to allow foreign-funded projects to exceed budget appropriations. Strengthening accounting definitions and controls will also be essential to avoid creative accounting.

Road Map for this Report

This report outlines the design of an upgraded fiscal rule framework and discusses a number of implementation issues. Section II highlights the shortcomings of the current set of rules. Section III assesses the appropriateness of the existing debt ceiling based on precautionary and development need considerations. Section IV lays out options for upgrading the system of fiscal rules, and discusses design choices, correction mechanisms, and escape clauses. Section V outlines the main components of a communication and fiscal reporting strategy. Section VI details the PFM reforms needed to support the upgraded system of fiscal rules.

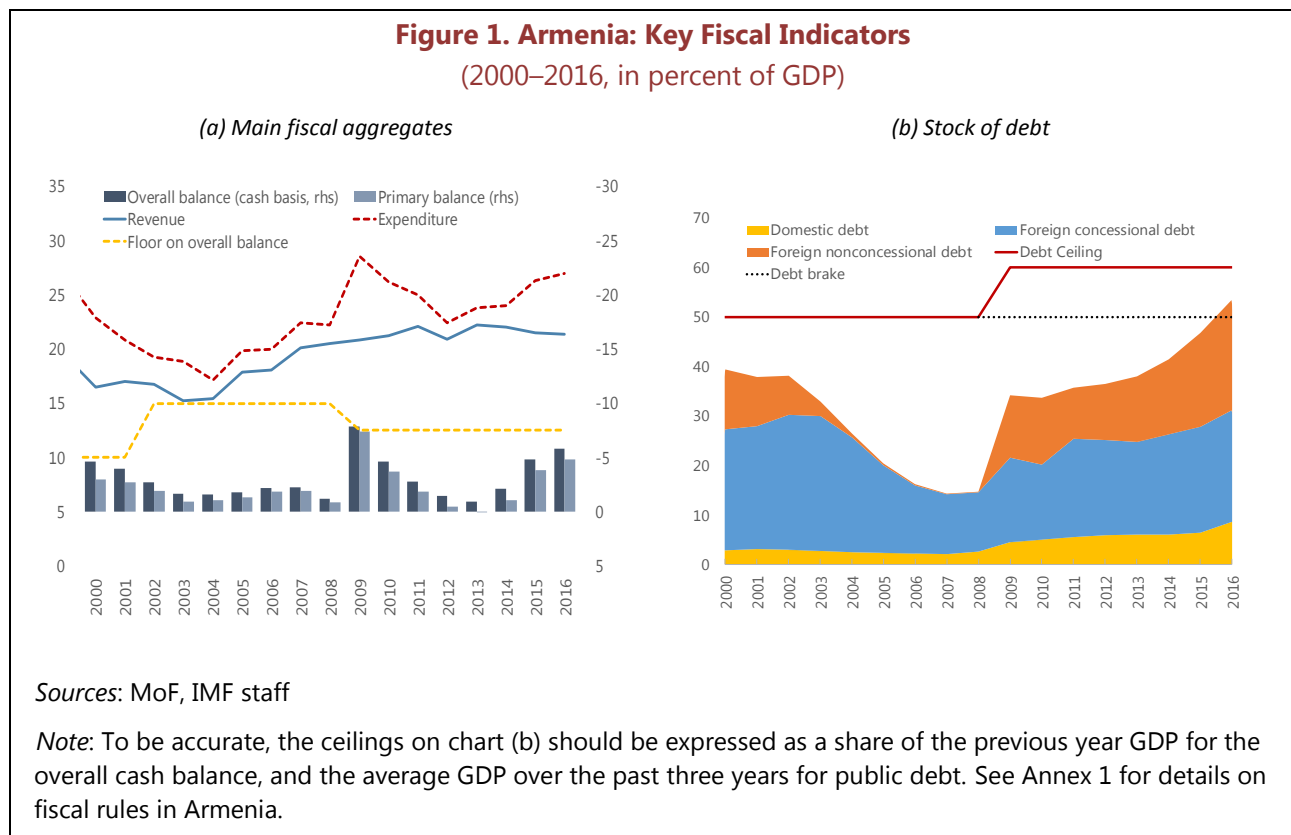
Table 1. Summary of Recommendations

Issues	Next 3 months	Medium-Term
PUBLIC DEBT ANCHOR		
Debt Ceiling	3.1. Maintain the existing debt ceiling of 60 percent of GDP.	
Debt Target	3.2. Determine a safe level of debt and set a trajectory towards reaching it in the medium-term.	
UPGRADING FISCAL RULES		
Enforcement and correction Mechanisms	4.1. Remove the existing correction mechanism for the debt brake at 50 percent of GDP and the shutdown clause if debt breaches the 60 percent of GDP ceiling. Introduce an automatic package of measures that signal strong and credible commitments to ensure an appropriate policy response if debt exceeds the debt brake and 60 percent ceiling.	4.3. Strengthen mechanisms to effectively monitor and assess fiscal performance vis-à-vis the fiscal rules.
Operational targets	4.2. Commit to make the 2018-20 MTEF expenditure aggregate binding over the relevant future budgets, relying on an implicit ER, possibly excluding productive capital spending so long as debt is well below 60 percent.	4.2. Implement a new ER through a formal legislative framework.
		.
COMMUNICATING THE CHANGE		
Case for a change	5.1. Devise a communications strategy to articulate a convincing case for change.	
Fiscal strategy	5.2. Publish a FSS to accompany the annual updates to the MTEF. This may include a statement of compliance to fiscal rules.	5.2. Publish a FSS to accompany the annual updates to the MTEF. This may include a statement of compliance to fiscal rules.
PUBLIC FINANCIAL MANAGEMENT REFORMS		
Medium-term budgeting		6.1. Improve the design of future MTEF through better forward estimates, earlier role of the Supreme Council in identifying priorities and preparing forecast reconciliation.
Spending reviews		6.2. Establish mechanisms for identifying spending inefficiencies, and reviewing mandated spending.
Budget execution	6.3. Remove the legal provisions that affect the execution of the budgets and can conflict with the upgraded framework.	
Public Investment		6.4. Ensure that all projects are approved within the budget process; extending the project database to all projects; review the impact of methodological differences in cost-benefit analysis done by development partners on the choice of projects.

I. BACKGROUND AND CONTEXT

1. Armenia has made significant strides in enhancing macroeconomic stability in recent decades. Prudent economic management and IMF engagement have been instrumental in anchoring stabilization efforts. Policies under successive IMF programs contributed to building fiscal buffers during the boom years of the 2000s. Armenia’s 2013 graduation from Poverty Reduction and Growth Trust (PRGT) eligibility and two debut Eurobond issuances in 2013 and 2015 were important milestones of progress.

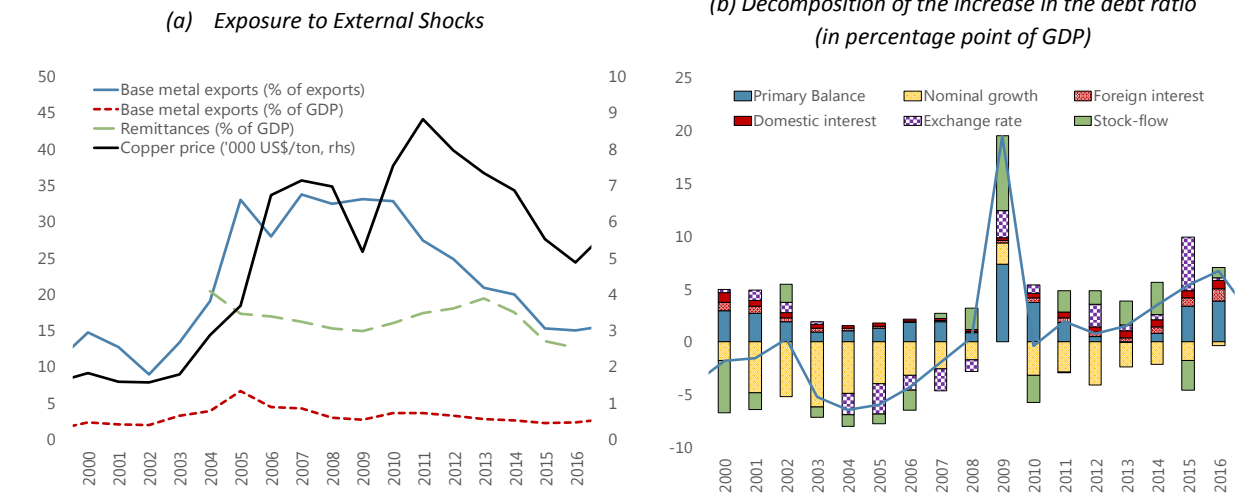
2. Public finances steadily deteriorated in the wake of the GFC and adverse external shocks (Figures 1-2). Prior to the crisis, the government successfully contained the public debt ratio, which bottomed at 14 percent of GDP in 2007, and the deficit remained below 2.5 percent of GDP. The advent of the crisis and adverse external developments in 2014 led to a sharp depreciation of the exchange rate, driving down growth and fiscal revenues, and pushing up debt (Figure 2, right panel). Following two years of fiscal accommodation and over-execution of foreign debt-financed projects in 2015-16, debt surged to above 50 percent of GDP, exceeding the debt brake (see Annex 1) and requiring remedial budgetary actions.



3. Armenia's vulnerability to external shocks partly explains recent fiscal outcomes (Figure 2). Armenia is a small, landlocked economy that is exposed to external shocks. Although not a major commodity exporter, it remains vulnerable to shocks to copper and gold prices, both

of which have dropped significantly in the last few years. Importantly, private consumption and the housing market depends on substantial inflows of remittances, mainly from Russia. Between 2012 and 2017, remittances are estimated to have fallen from 19 to 13 percent of GDP. This externally-driven macroeconomic volatility strains the conduct of fiscal policy, an impact compounded by relatively low tax revenues (20 percent of GDP in 2016) and ensuing thin discretionary spending buffers.

Figure 2. Exposure to External Shocks and Debt Decomposition
(2000-2016)



Sources: MoF, IMF staff

Note: the increase in the debt ratio d_t is decomposed using the share of foreign debt α_t , the primary balance pb_t , the nominal growth rate g_t , the foreign and domestic interest payments (I_t and I_t^*), and the exchange rate depreciation \hat{e}_t as follows:

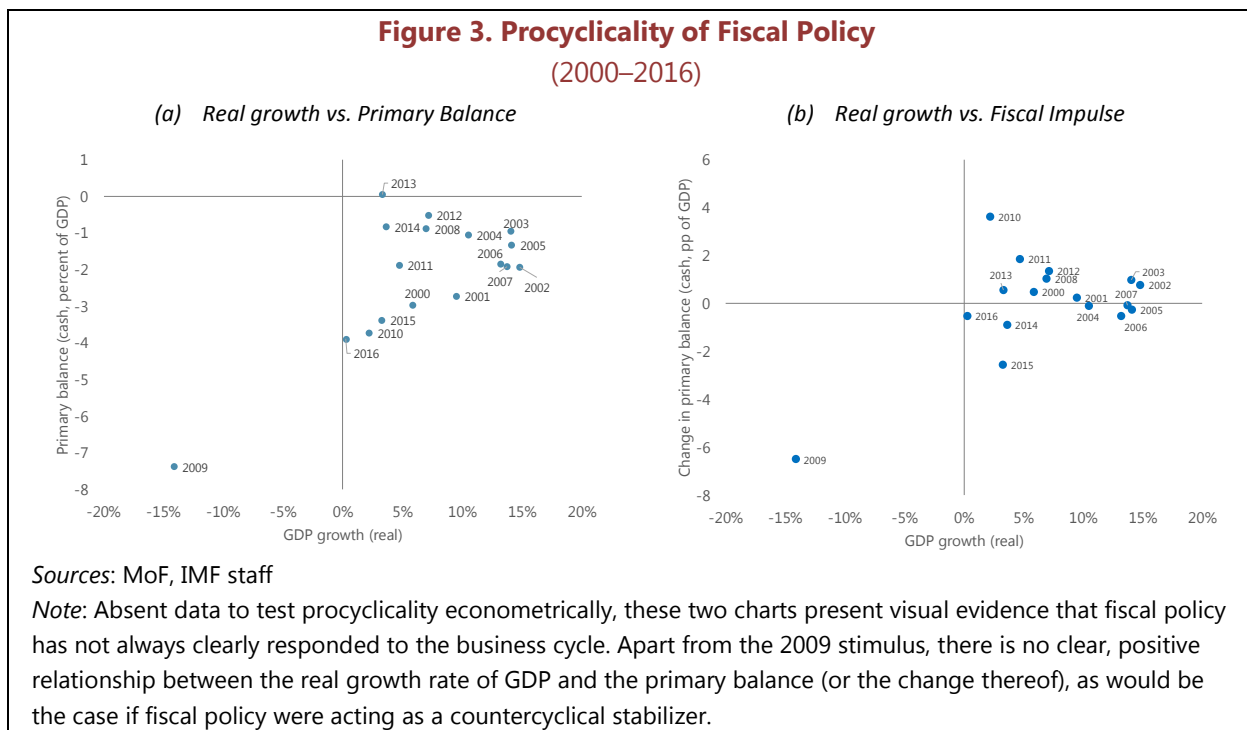
$$\Delta d_t = -pb_t - \frac{g_t d_{t-1}}{1 + g_t} - I_t - I_t^* - \alpha_{t-1} d_{t-1} \hat{e}_t + sf a_t$$

Stock-flow adjustments $sf a_t$ typically include guarantees, on-loans, and changes in assets (e.g., deposits).

4. Armenia’s existing fiscal rules do not allow fiscal policy to play an adequate role in economic stabilization. The Law on Public Debt (LPD) contains a strict numerical debt ceiling of 60 percent of last year’s GDP, and a debt brake which requires the budget deficit to be below 3 percent of the average GDP of the past three years if debt exceeds 50 percent of previous year’s GDP, and no escape clauses.¹ The correction mechanism when debt exceeds the ceiling of 60 percent of GDP is particularly intransigent, since no further debt can be issued once it is reached. To avoid such a situation, a speed brake was introduced in 2008. Following a series of external shocks, the accumulation of debt triggered the debt-brake in 2016. The government complied with the existing debt brake requirement in framing the 2017 budget, but the sharp adjustment implied under the framework forced fiscal policy to be restrictive at a time when economic growth was anaemic (GDP growth was close to zero in 2016).

¹ See Appendix 1 for a full description of the set of fiscal rules.

5. Existing fiscal rules, while serving as a clear signal to market participants on debt, provided little guidance for fiscal policy so long as public debt was far from the ceiling (see Appendix 2). Alongside the DRs, the Budget System law (BSL) limits the fiscal deficit to a maximum of 7.5 percent of GDP, a requirement which has not been binding in the recent past.² The lack of operational guidance provided by the fiscal rules in the short run is evident from Figure 3. Despite a relatively prolonged of high growth before the financial crisis, the primary balance remained negative. A more counter-cyclical fiscal policy would have translated into higher primary balances in good times, i.e., a strong positive relationship between the fiscal balance (or fiscal impulse) and real GDP growth. This suggests that fiscal policy has generally not been used as a tool for stabilization purposes: revenue windfalls in good economic times were not saved to restore or build sufficient buffers. Procyclicality of fiscal policy has become clear since 2016 when there was a negative output gap (output was below potential).

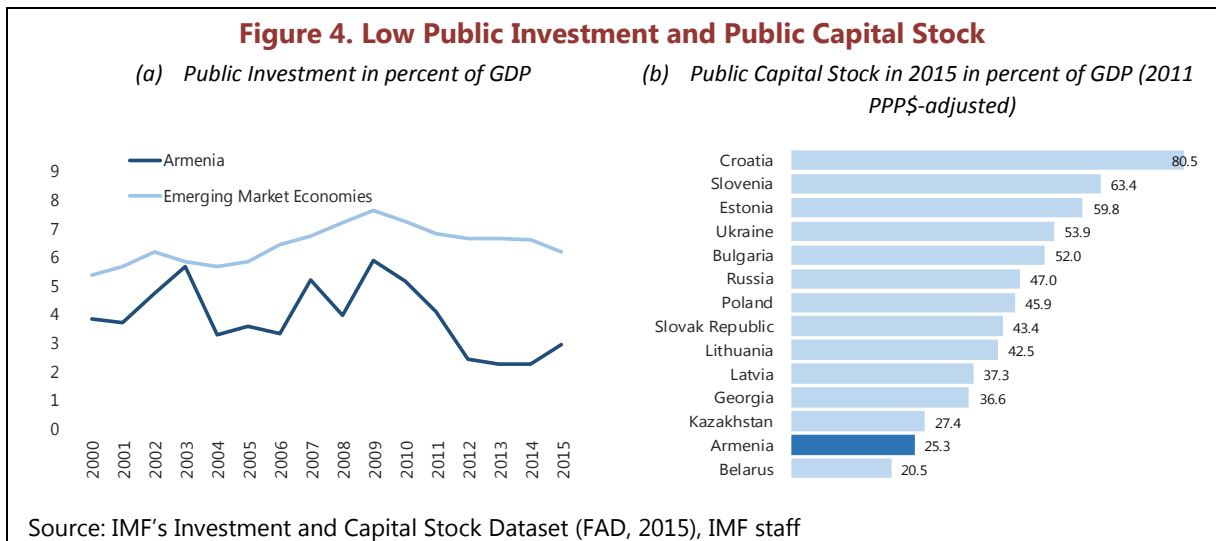


6. While Armenia's public debt remains sustainable, its composition, and the likely timeframe required to bring it down leaves a significant exposure to risk. The high share of foreign currency debt, albeit with a significant share on a concessional basis, and debt held by foreign residents is a growing source of concern (IMF, 2017). Increasing reliance on domestic and non-concessional financing progressively puts upwards pressure on interest payments, increasing refinancing risks. Consequently, the Armenian sovereign Eurobonds are rated as "highly speculative," revealing the international bond market's concerns regarding fiscal policy and risks. This underscores the need for preserving credibility and fiscal sustainability.

² In practice, the ceiling set within consecutive IMF programs has typically provided guidance to fiscal policy.

7. As such, there is a concern about trade-offs between amending the existing rules to provide space for countercyclical policies and preserving fiscal credibility and sustainability. One of the main benefits of the existing fiscal rules is to build the confidence of markets and economic agents. In that context, there are concerns around how changes to the framework at this juncture could affect stakeholders' perceptions of policy credibility.

8. More broadly, existing rules serve to undermine the quality of fiscal policy. As in many other countries, when forced to implement fiscal retrenchment, cutting or delaying capital expenditure has proven easier than slowing down the growth of mandated current expenditures. This is a counterproductive strategy since it undermines future GDP (IMF, 2014). Retrospectively, budget composition has not been as growth-friendly as it could have been, with the share of public money dedicated to capital spending lower in Armenia than in peer countries, resulting in a lower stock of public capital (Figure 4).



9. The authorities want to balance the medium-term objectives of fiscal policy with respect to public investment, public debt, and revenue mobilization. While existing rules provide a direct and easy-to-understand link with public debt sustainability, they are not optimally designed to meet Armenia's specific fiscal and development challenges. Compliance with existing rules has entailed some degree of containment of capital expenditure plans. The government has been considering modifications of the fiscal rule framework to make room for growth-enhancing capital expenditure while curbing growth in current spending without denting credibility of the rule-based framework.

10. Fiscal rules form part of a greater set of constraints on public finance management in Armenia. Alongside the DRs in the Public Debt Law (PDL), the BSL further defines the fiscal framework, including the limit on the fiscal deficit and the requirement for a three-year rolling MTEF that is expected to frame the annual budget process. The BSL also defines a set of procedural rules that limits virements across budget units, provides for a General Reserve Fund, and outlines the extent and conditions under which the Government can raise or cut spending

without requesting parliamentary approval. Armenia has taken significant strides towards improving its MTEF and budget processes, as exemplified by the strengthening of the 2018–2020 MTEF. However, important gaps remain.

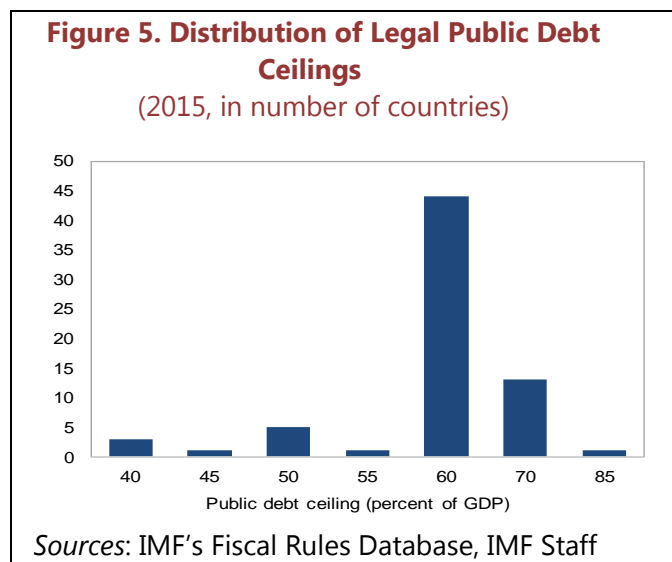
11. More generally, while the legal framework has served Armenia well in general, recent additions should be addressed. These include the provision in the Annual Budget Law that allows spending to increase by up to 10 percent without Parliamentary approval and the provision in the BSL that allows foreign-funded projects to exceed appropriations. While the former can create room for more discretionary spending changes, they can introduce a procyclical policy bias (e.g., revenue over-performance in good times is used to ratchet up current spending). The latter has, in large part, been responsible for the significant over-execution of capital spending since 2014.

II. MAINTAINING THE CURRENT DEBT CEILING AND BUILDING BUFFERS

A. The Case for not Raising the Debt Ceiling Above 60 Percent

Countries Rarely Raise their Debt Ceilings Despite Crises

12. Most rule-based fiscal frameworks around the world incorporate a legally binding debt ceiling to help strengthen fiscal credibility. In this sense, Armenia is not unique in imposing a legal ceiling on the public debt-to-GDP ratio. The number of countries with DRs has increased steadily over time. As of 2015, 76 out of the 96 countries worldwide that had a rule-based fiscal framework enforced an explicit cap on public debt (Lledó and others, 2017). As in Armenia, debt rules are typically set in gross rather than net terms and cover at least the central government.



13. Specific debt ceilings can vary across countries, but typically range between 40 and 70 percent of GDP (Figure 5). The clustering of countries around ceilings of 60 to 70 percent of GDP reflects the strong representation of member states of various monetary unions. For instance, European Union and Eastern Caribbean Currency Union impose a debt ceiling of 60 percent of GDP. The Central African Economic and Monetary Community and West African Economic and Monetary Union both impose a cap of 70 percent of GDP on public debt, but their

members' debt is mostly concessional. Excluding supranational rules, the 60 percent threshold remains the most common among national debt rules.

14. Only a handful of countries have revised their debt ceilings despite being faced with major shocks, suggesting that stability matters for credibility. In the aftermath of the 2008-09 crisis, of the countries with DRs, only a small number formally lifted their debt limits upwards (Sri Lanka being the rare example). Other governments amended their obligations in terms of specifying a transition path to bring debt below the ceiling. This suggests an implicit acknowledgement that stability of the debt ceiling matters for credibility.

Empirical Approaches to Show that Raising the Current Debt Ceiling is not Justified.

15. While there is no consensus about an optimal level of public debt, three empirical approaches are used to show that raising the current debt ceiling may not be justified on precautionary grounds. A large body of empirical and theoretical research has tried to determine public debt ratios beyond which there is a high risk of debt distress or debt has adverse macroeconomic consequences (IMF, 2016). Debt threshold estimates depend in part on the authorities' preferences regarding buffers to accommodate shocks, including contingent liabilities as well as the country's ability to tap capital markets. In this subsection, we rely on three empirical approaches to show that precautionary considerations warrant maintaining Armenia's current debt ceiling.

16. A first approach relies on the IMF debt sustainability analysis for emerging markets (EMs). The critical benchmark for EMs in the IMF's Debt Sustainability Analyses (DSA) lies in the same range. The DSA framework for market access country uses the level that best predicts the occurrence of debt distress events, defined for EMs as debt defaults, debt restructuring or rescheduling, and need for IMF financing (IMF, 2013). In other words, when a country exceeds this limit, the probability of facing debt distress increases significantly. The debt limit is computed using a noise-to-signal approach and yields a benchmark of 70 percent of the GDP for EMs.³ Since the objective is to avoid that debt ramps up to levels dangerously close to this upper bound, the DSA switches to high-scrutiny when debt is above 50 percent.

17. Second, we estimate the limit above which debt cannot be stabilized. The underlying intuition is that there is only so much that fiscal policymakers can do to stabilize the debt ratio. In other words, there is an upper bound to the primary surplus a country can run, above which a variety of negative factors take place, including Laffer curve effects (tax increases become ineffective beyond a certain point), the inability to cut expenditure below certain levels, and political economy challenges with maintaining large budget surpluses. The difficulty in cutting expenditure beyond a certain point is particularly relevant in Armenia, given the high share of

³ Since the historical sample used for EMs also include larger, more diversified economies, 70 percent is likely to be a high-end limit for Armenia.

mandated current expenditure, and existence of multiyear investment projects while the weaknesses in tax administration make tax increases difficult to sustain. An upper bound to the primary surplus implies that there is a level above which debt cannot be stabilized anymore.⁴

18. We find this limit ranges between 55 to 70 percent of GDP for Armenia. Historically, the highest primary balance achieved in Armenia over the period 1998-2016 was 0.1 percent of GDP. International experience points to maximum primary balances of around 2 percent of GDP for emerging economies (Escolano and others, 2014). We assume the maximum primary achievable and sustainable in Armenia is 1 percent of GDP. The real interest rate-economic growth differential, on average, has been negative in Armenia, but exceeded 15 percent in 2009. Considering the increasing share of non-concessional financing in the government's debt portfolio, we use an assumption of 1.5-2 percent and find a maximum stabilizable debt around 55-70 percent under normal circumstances. In times of stress, however, this level becomes sharply lower (around 20 percent).

19. Third, we determine a debt threshold beyond which the costs of public debt exceed its benefits. Since public debt also comes with benefits, especially when it is used to smooth the cost of growth-enhancing spending over time, we attempt to verify whether the current 60 percent ceiling is excessively restrictive in this regard. We use a theoretical model constructed by Checherita-Westphal and others (2014) to derive the level of public sector debt beyond which debt starts to have a negative impact on growth, even when considering the positive impact of public investment on GDP. Appendix 2 provides details regarding the model and our innovative application to a cross-country dataset encompassing EM economies. Our empirical results imply that above 40 percent of GDP, the virtues of public debt are dominated by its negative effects in countries like Armenia.

Credibility is Key

20. In addition to the above analysis, an overarching consideration is the reputational costs of amending the debt ceiling in Armenia. The three approaches cannot pin down a precise number for a debt ceiling in Armenia – any ceiling close to 60 percent can be justified. Yet, since Armenia has been operating under, and communicating about, its 60 percent debt ceiling for almost a decade, moving away from it would warrant a strong justification. Changes to the overall debt ceiling could affect market perceptions of policy credibility.

⁴ Analytically, this maximum debt level can be computed as a function of the maximum achievable primary balance pb^{max} and the interest rate-economic growth differential: $d^{max} = pb^{max} \frac{1+g}{r-g}$.

B. Beyond a Debt Ceiling: Building Buffers

Ceilings vs. Targets

21. Buffers are required to ensure that debt stays below the ceiling under most circumstances, which is the reason why some countries also set debt targets or anchors. A debt target or a safe level of debt can be defined as the debt-to-GDP ratio that ensures that debt dynamics remain under control even if bad shocks occur (IMF, 2016). Because countries are vulnerable to significant macroeconomic and fiscal shocks (including swift changes in market sentiment), there should be a sufficient safety margin between the debt anchor and the debt ceiling. An example is Ireland, where debt shot up after the financial crisis to exceed 100 percent of GDP. While the country is subject to the EU DR of 60 percent of GDP, it has recently set itself a debt target of 45 percent of GDP to be reached by 2024. New Zealand, which does not have a debt ceiling, sets a target for net debt (between 10-15 percent of GDP by 2025).

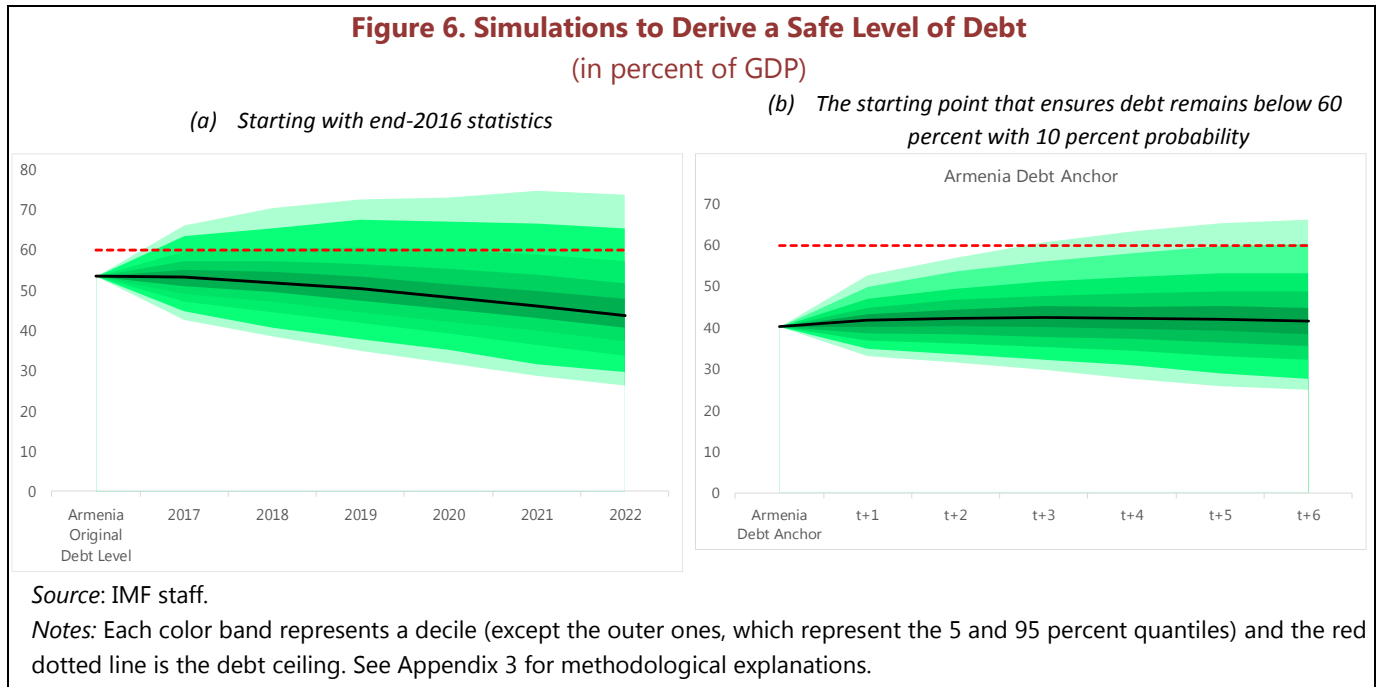
22. A debt target for Armenia should be sufficiently low to preserve credibility, while allowing space for needed public investment. There is an inherent tradeoff between debt sustainability, and front-loading public investment to support economic development. Higher debt levels increase vulnerabilities to shocks, eventually leading to fiscal distress. Therefore, from a risk management perspective, lower levels of debt are desirable as they reinforce market confidence and provide space for borrowing to face adverse situations. The recent experience of Armenia underscores that large external shocks can significantly bump up the debt-to-GDP ratio over a short period of time. The Armenian government may want to keep buffers for unforeseen events (e.g., heightened military spending needs, a bank bailout, or more simply the uneven disbursement profile of investment projects). Nevertheless, in a context of substantial infrastructure gaps, economic theory suggests that additional public investment to close these gaps should be primarily financed by debt issuance rather than taxes (Ostry and others, 2015).

Estimating a Debt Target for Armenia

23. An estimate of the required safety margin can be based on the history of shocks that the country can sustain. We start by estimating the distribution of macroeconomic and fiscal shocks facing Armenia. These shocks are then used to perform simulations for future debt trajectories (the methodology is described in Appendix 3). The resulting debt paths are presented in a fan chart. For instance, starting with the 2016 outturn, Figure 6.a shows there is a nontrivial 20 percent risk for public debt to cross the 60 percent of GDP limit in coming years. Intuitively, the debt anchor is computed as the largest debt level that the government could reach and still have a relatively low risk of experiencing fiscal distress in the medium-term.

24. The simulations point to a debt anchor of 40 percent of GDP for Armenia, if policymakers are willing to accept a 10 percent probability of breaching the 60 percent debt limit (Figure 6.b). In other words, 40 percent of GDP is the safe level of debt that ensures that Armenia can withstand negative shocks for several years without breaching the existing debt

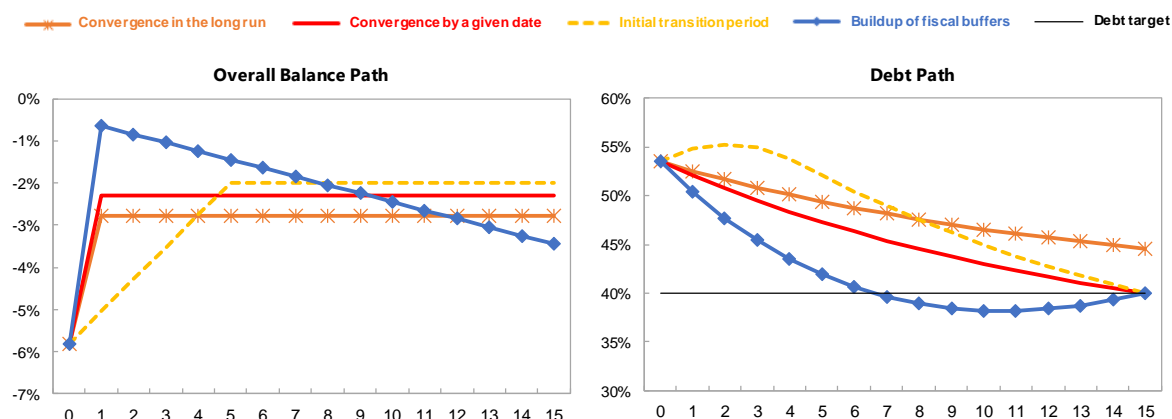
limit of 60 percent of GDP with high probability. The required safety margin below the debt limit is relatively large because of the inherent volatility of the Armenian economy and budget execution. Another factor determining the results is the large share of debt denominated in foreign currency (above 80 percent), which renders the country's debt dynamics more vulnerable to exchange rate shocks.



25. Overall, precautionary considerations suggest that a longer-term debt anchor for Armenia should be around 40 percent of GDP. While this is ultimately a policy decision, depending on the risk aversion of policy makers, and the nature and persistence of shocks faced, a safe debt ceiling should be set to ensure that even under adverse scenarios for debt dynamics, fiscal policy (under a feasible path for primary surplus) can stabilize or reduce debt with high probability in a reasonable time frame. At the same time, the existence of large public capital gaps with respect to peers suggests that it might be desirable to choose a debt anchor that in the upper part of the range estimated with the precautionary approach.

26. Converging to a medium anchor will require a substantial and continuous effort. Simulations in Figure 7 illustrate the adjustment needs associated with a convergence within 15 years to 40 percent of GDP under different assumptions about the adjustment path. The options consider a more front- or back-loaded fiscal adjustment path, A more front-loaded adjustment path, with higher revenue mobilization, saving any revenue-over performance and rationalizing current spending would entail a greater fiscal adjustment in the near term, but derive “fiscal dividends” in the medium to long term with a lower required overall surplus to reach the debt anchor. In this way, this option also provides greater space to pursue key policy initiatives, such as infrastructure projects. Delaying consolidation, however, will only require a more painful adjustment in the future.

Figure 7. Debt and Deficit Paths to Converge to the Anchor Under Alternative Calibration Approaches



Sources: MoF, IMF staff

Notes: the first scenario converges only when $t \rightarrow \infty$; other scenarios bring debt back to 40 percent within 15 years, with either a constant, front-, or back-loaded adjustment. $t = 0$ starts at 2016 levels; for $t > 0$, trend macro assumptions are used (namely, a nominal growth rate of 7.5% and nominal interest rates of 3.5%).

C. Recommendations

Recommendation 3.1. Maintain the existing debt ceiling of 60 percent of GDP.

Recommendation 3.2. Determine a safe level of debt and set a trajectory towards reaching it in the medium term.

III. UPGRADING FISCAL RULES IN ARMENIA

27. Armenia should upgrade to a fiscal framework that is forward-looking, robust to shocks, and countercyclical, while preserving credibility and fiscal sustainability. This “second generation” fiscal rule would be consistent with recent international experience (see Box 1). International experience in the wake of the crisis suggests that fiscal rules need to foster fiscal discipline and anchor market expectations, contribute to reduce procyclicality, thereby permitting fiscal policy to play a greater role in economic stabilization, and support long-term growth. Another important objective is to ensure debt remains on a trajectory to restore buffers and achieve a safe debt level.

28. For reasons outlined in the previous section, retaining the current debt ceiling is important, but the mechanism when debt exceeds this limit should be immediately revamped. Current legislation makes the issuance of new debt null and void when the 60 percent debt ceiling is reached. This has the potential of significantly affecting the day-to-day operations of government, including the management of the debt portfolio. Given the non-trivial probability of this occurring in the next few years, the upgraded framework should define more realistic corrective actions.

29. Similarly, while the debt brake of 50 percent of GDP should be retained, the automatic correction mechanism (ACM) currently in place should be immediately reviewed. The experience in 2016, when debt exceeded this threshold and a sharp fiscal adjustment was required for 2017, despite sluggish growth, shows that the existing mechanism does not provide sufficient flexibility to deal with shocks in an appropriate/countercyclical fashion.

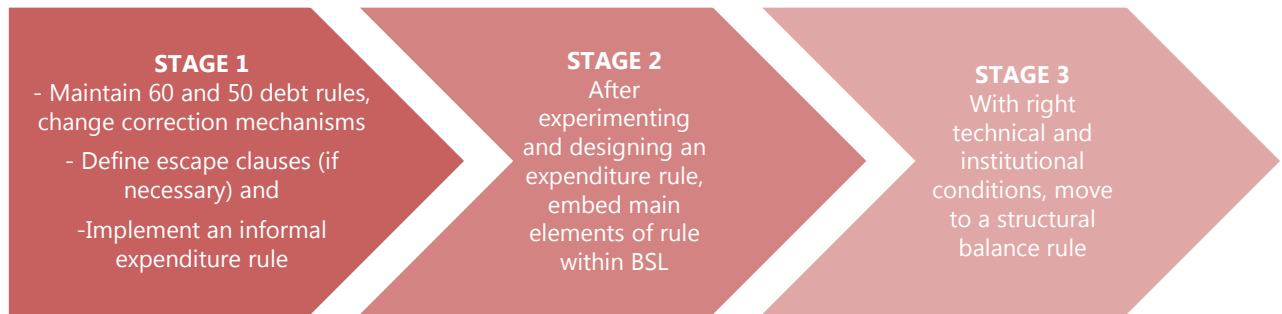
30. The amended DRs can be supplemented by a multi-year ER to provide further guidance to fiscal policy. An ER can help tackle the upward drift in current expenditures seen in recent years and address the pro-cyclical bias in fiscal policy in good times (as shown earlier in Figure 3). In addition, it can provide operational guidance to fiscal policy in the short term, particularly when the DRs are not binding (e.g. when debt is substantially below 50 percent of GDP). In the transition to formalizing the ER, clear, but not necessarily legally binding, goals for expenditure targets/ceilings could be set (for example in the MTEF). Legislation could be introduced indicating that formalization of this rule in the BSL will take place at a later date when progress has been made in other critical areas.

31. The authorities could consider moving to a structural balance rule once other technical and institutional preconditions are met. While a well-designed ER can make spending countercyclical, a structural balance rule has the added advantage of making fiscal policy counter-cyclical overall, on both the revenue and the expenditure side. At the current conjuncture, such a rule present serious operational challenges (e.g., the calculation of the output gap and revenue and expenditure elasticities).

32. Upgrading the fiscal rules framework in Armenia will also require strengthening the overall fiscal responsibility framework. This ranges from improving medium-term fiscal planning to addressing weaknesses in reporting and auditing to address the reputational and other costs that would be entailed by noncompliance with the rules. To be effective, the fiscal framework needs to be backed by a strong political commitment, strike the right balance between flexibility and constraint, and provide a forward-looking perspective to the conduct of fiscal policy.

33. Rather than an immediate overhaul, it is recommended that the upgrade to the fiscal framework takes place in stages, as outlined in Figure 8. A staged process will allow time for improving supporting institutions and learning how various elements of the framework will effectively operate. ERs require proper design and calibration, and as such starting with a transition period and informal framework would be prudent.

Figure 8. A Staged Process



Box 1. Recent International Experience

Fiscal rules came under significant pressure in the wake of the GFC and have since been revamped. Many advanced and EM countries failed to comply with one or more of their fiscal rules between 2008 and 2016 (see Appendix 4 for country examples). A common rationale was to allow fiscal policy to stabilize the economy given the large shock faced. Providing a credible medium-term anchor has been the pervasive motive for adopting or strengthening fiscal rules after the crisis experience. With public finances in distress in many economies, efforts focused on strengthening fiscal frameworks and the interaction among their main constituent elements (Schaechter and others, 2012). These “second-generation” fiscal rules are designed to strike a better balance between sustainability and flexibility goals and are typically complemented by other supportive institutional arrangements.

Several clear trends have emerged in light of experience gained with fiscal rules during and after the GFC:

- **Flexibility.** There is growing consensus that rules-based systems need to allow fiscal policy to respond to economic cycles and shocks, and allow for prolonged adjustment periods. Imposing tight numerical rules, especially when there is high uncertainty, may force excessive fiscal consolidation and constrain needed policies.
- **ERs.** ERs or ceilings are increasingly used as they help operationalize and bind fiscal policy in alignment with overall balance or debt objectives, with less undue procyclicality. ERs are relatively simple to implement and allow for automatic stabilizers to work on the revenue side. International experience indicates that ERs have a better compliance record than rules on the overall balance, in part because they are relatively easy to monitor and are directly enforceable through the budget process (Cordes and others, 2015).
- **Upgraded DRs.** DRs have been upgraded to include trajectories, targets, or processes for returning to safe levels. Debt limits are increasingly viewed more as medium-term objectives but making steady progress toward them is crucial to maintaining credibility.
- **Combinations of rules.** Most fiscal frameworks rely on a combination of fiscal frameworks as having multiple, consistent rules better deals with policy trade-offs.
- **Strengthened fiscal frameworks.** Governments have sought to strengthen medium-term frameworks and monitoring. For instance, there is an expanding number of Fiscal Councils with widely varying mandates.

A. Stage 1 – Correction Mechanisms, Escape Clauses and Compliance

Revising the Correction Mechanisms

34. International experience suggests that countries have used a range of corrective mechanisms to promote compliance. These include public pressure and independent assessment, requiring policy adjustments once deviations exceed some threshold, applying tighter restrictions on future spending growth, or in some cases invoking automatic freezes on certain spending items or aggregate spending until debt falls back below the threshold.⁵ Some frameworks require governments to explicit policy measures in the event of a breach in order to regain the desired debt trajectory, which can improve the prospects for success by increasing the reputational costs and ensuring “actions speak louder than words.”⁶ In countries, with fiscal councils, independent media or strong academic and policy observers, reputational rules can also be effective.

35. In Armenia, the current option of complete shut-down when debt exceed 60 percent of GDP should be replaced by a more realistic, yet sufficiently strong correction mechanism. It is uncommon in international practice for debt ceilings to represent a hard limit after which new debt becomes null and void. Given the current level of public debt in Armenia, a large negative shock (e.g., a currency depreciation) could bring debt above this limit. As such, approaching or passing the 60 percent threshold should trigger substantive responses to signal a strong commitment to fiscal sustainability, which could entail a package of measures:

- budgetary sanctions (e.g., a freeze of overall spending in real terms; emergency revenue measures);
- the requirement to present specific revenue and expenditure measures to bring debt down; and
- more stringent reporting requirements to Parliament (e.g., on a biannual basis);

36. When debt exceeds 50 percent, a more moderate but nonetheless significant response would be called for. Ultimately this response needs to be consistent with the objective of returning debt to safer levels within a defined time horizon of 5 to 10 years. This could be operationalized by requiring that, once debt exceeds 50 percent of GDP, the government is to: (i) provide an expenditure path and bind itself to it (e.g., lowering current

⁵ Slovakia, Poland and Israel each have done this, to varying degrees.

⁶ Rules in Bulgaria and Romania anticipate that new policy proposals must be brought forward within a month that will achieve a pre-specified fiscal adjustment. In the frameworks of Poland and Slovakia, a special sitting of Parliament is triggered by a breach of the rules so that remedial packages can be debated and passed.

spending over the next three years to compensate for the observed deviation); (ii) make policy commitments on revenue mobilization to ensure that the desired trajectory for public debt is achievable; and (iii) outline the steps that would be taken if this path is not achieved. For example, if there is a breach of either the deficit or the ER in terms of budget outturns, the authorities could commit to lowering spending over the next three years to compensate for the observed deviation. Such a response will give the government sufficient flexibility to curtailing the growth of current spending, while allowing space for concessional, productive capital spending.

Defining Escape Clause

37. Defining clear and narrow escape clauses can provide additional flexibility within a fiscal rule in dealing with rare events. A well-designed escape clause should include: (i) a very limited range of economic (e.g., severe recession) and other factors that allow such escape clauses to be triggered in legislation; (ii) clear guidelines on the interpretation and determination of events (including voting rules); and (iii) specification on the path back to the rule and treatment of accumulated deviations.

38. Escape clauses have frequently not been well-specified. While it is not straightforward to be at the same time comprehensive and specific about potential trigger events, in the past escape clause provisions have in several cases left too large a room for interpretation. For example, until the constitutional change in 2009, Germany's rule allowed for deviations in case of "a disturbance of the macroeconomic equilibrium" which was frequently used to justify exceeding the deficit ceiling. In India, the escape clause allowed the government to deviate from the targets in exceptional circumstances "as the central government may specify." The Swiss and the Spanish fiscal rules also include a rather broad "exceptional circumstances" provision, however they need to be justified by certain events (such as natural disasters, severe recession). In the case of Switzerland, this needs to be determined by a supermajority in parliament and in both countries accompanied by a medium-term correction.

39. In a handful of cases, economic escape clause triggers have been defined clearly in advance by legislation. Columbia, Jamaica (see Box 2), Peru, and Panama provide a range of recent examples in this area. In Paraguay, Congress can approve a deficit of up to 3 percent of GDP in cases of national emergency; international crisis affecting the domestic economy; or negative growth. A common practice in other countries is to invoke Parliamentary scrutiny within pre-announced boundaries (often linked to need to approve any new spending), and even include requirements to seek the opinion of an independent Fiscal Council (e.g., Latvia, Romania, Slovakia).

Box 2. Design of an Escape Clause in Jamaica

Jamaica's fiscal framework includes an escape clause which provides scope to suspend the fiscal rule (and its ACM), temporarily, to avoid amplifying the macroeconomic impact of large adverse shocks. This concern is particularly relevant in Jamaica due to frequent natural disasters. However, the escape clause is not a substitute for disaster management preparations, nor a mechanism for countercyclical stabilization.

The escape clause is limited to pre-specified exogenous events that can be independently verified and have an estimated fiscal impact of at least 1½ percent of GDP. These include a severe economic contraction, a financial sector crisis, and public emergency threats as defined by the Constitution—the latter includes large natural disasters. Each of these events has an associated "trigger" to validate that the event has occurred.

Specifically, the triggers include: (i) a large natural disaster that results in economic damages that exceed the historical median as measured by the Planning Institute of Jamaica; (ii) a substantial one-time decline in real growth exceeding 2¼ percent (year-on-year) or a decline over four consecutive quarters when the cumulative decline exceeds 3 percent (year-on-year); (iii) a letter by the Governor of the Bank of Jamaica certifying a banking system crisis; and (iv) a public emergency invoked under the Constitution. Parliament is also required to activate the escape clause to enhance transparency.

40. The key design choices if an economic escape clause is to apply are: (i) how to define recession or macroeconomic shock (e.g., when GDP growth falls below a threshold); (ii) whether it can be invoked based on a forecast or must await an actual result; (iii) how long the fiscal rule should be suspended for when the escape clause is triggered; and (iv) what additional fiscal adjustment or response is required once a shock has passed.

41. In the case of Armenia, one option could be for an economic escape clause to temporarily suspend the DR's ACM (but not the rule itself). In effect, this would be akin to making an additional, contingent provision or a reserve fund within the budget, which could only be used in the event that the legislative requirements are met. For large or long-lasting shocks, this also implies a need to revise related medium-term fiscal objectives once the shock has passed, and announce a new debt trajectory and pace of fiscal adjustment.

42. Alternatively, Parliament's approval (potentially by a super majority) could be sought for any one-off increase in spending. This might reflect the usual practice of seeking supplementary spending authority for a stimulus package, or to cover any shortfall for significant cyclical spending items beyond the budget's usual contingency or reserve fund arrangements. Following such significant events, care would need to be taken that this additional spending does not enter the baseline when calculating future expenditure ceilings. Full claw back of the additional spending in future periods would be consistent with the spirit of the fiscal rule framework.

43. Escape clauses related to natural disasters or conflict would also appear necessary, but might operate somewhat differently to an economic escape clause. These may tend to

follow the established government processes for approving emergency spending for natural disasters, or for military commitments in the event that war was declared. That said, the legislation or framework implementing the ER could precisely specify what actions are anticipated in terms of suspending the rule and/or ACM, recalculating the adjustment path, and applying the required correction for future years.

B. Stage 2 - Introducing an Expenditure Rule

44. ERs have a good track record. They are relatively simple to implement and allow for automatic stabilizers to work on the revenue side. International experience indicates that ERs have a better compliance record, in part due to the fact that they are relatively easy to monitor and are directly enforceable through the budget process (Cordes and others, 2015). In addition, the ER could tackle the upward drift in current expenditures seen in recent years in Armenia.

45. ERs may be expressed in terms of a nominal level, growth rate or ratio of GDP. Regardless of the underlying methodology, the rule is typically translated into an aggregate expenditure profile expressed in nominal terms. This expenditure profile should then serve as binding guidance for annual budget planning purposes. An ER with a medium-term focus could also help ensure that budget planning and prioritization remain aligned with an overall fiscal sustainability objective.

46. Simple ERs can have sound cyclical properties, but not all forms of ERs are equal. Simple ERs tend to be more countercyclical than simple (unadjusted) budget balance rules (BBRs). However, ERs that are framed as fixed proportion of GDP can be procyclical if expenditure plans need to adjust to shocks that affect economic output or price levels. ERs expressed as either an annual level of expenditure or growth rate do not have as many undesirable cyclical properties, and thus tend to be preferred.

47. The authorities should adopt an implicit multi-year ER and eventually formalize this in legislation. A policy commitment can be made to adopt the MTEF's aggregate expenditure ceilings as forward guidance over the respective annual budgets. This could entail curtailing the growth of current spending, while allowing space for concessional, productive capital spending so long as debt is below the 60 percent ceiling. Associated policy commitments could be made about the desired trajectory for public debt and what steps would be taken if this path is not achieved. In due course, certain aspects of the framework (the rule itself, correction mechanisms, any potential escape clauses and compliance) could be enshrined in a new fiscal rules section of the BSL (stage 2).

General Design Choices

48. ERRs should be countercyclical and should guide spending to evolve with the growth potential of the economy. Two approaches can be used:

- A **backward-looking approach** using historical averages of real growth and inflation. This would limit the authorities' discretion in determining relevant assumptions, but has significant downsides when such averages incorporate recent atypical events or shocks. To avoid this, volatility can be introduced by making regular adjustments for past forecasting errors, even where forecasts are unbiased.
- A **forward-looking approach** that would estimate the potential growth in nominal GDP. Such an estimate would depend on key assumptions made on the productive capacity of the economy, which can lead to differences in opinion. To avoid this, the estimate should be deliberately conservative to ensure credibility, and be based on external expert advice, including forecasts of potential output by international agencies, and adjusted occasionally in light of experience.

49. ERs can be expressed in terms of either nominal or real growth rates. Rules expressed in real terms are better equipped to evolve with gradual changes in the economy and can remain relevant for longer timeframes. They are however more procyclical than those expressed in nominal terms, as higher (lower) prices translate into higher (lower) spending. A middle ground would be to ensure that there is a regular assessment and recalibration of the level of spending allowed by the rule to correct significant forecast errors and reflect gradual shifts in the structure of the economy.

Coverage of the Expenditure Rule

Capital expenditure

50. Excluding capital expenditure from an ER has benefits in terms of protecting much needed public investment and make policy countercyclical. Excluding capital expenditure from the rule's scope could permit a greater allocation of spending towards public investment (e.g., as is done in Latvia), as extra space is made available through current expenditure restraint. Another rationale is that public investment projects are expected to generate gains over several years and therefore their full costs should not be attributed to one specific year. Excluding capital spending could also leave open the possibility of productive public investment being used as stimulus ahead of other spending in the face of economic downturns.

51. But exclusion can complicate implementation and weaken links to fiscal sustainability. It can provide incentives for the government to overreport capital expenditures or misclassify current spending, for example, through creative accounting. The international experience suggests that while public investment is protected under such rules, they frequently fail to ensure sustainability of public finances (IMF, 2014).

52. If capital spending is to be excluded, it should be accompanied by a number of safeguards to avoid unproductive capital spending. To ensure that additional capital expenditures effectively contribute to increase potential growth, authorities should intensify efforts to enhance public investment management including in the crucial dimensions of project

appraisal, implementation (procurement, internal controls and audits) and evaluation (Section VI). One option would be to focus on excluding only externally financed concessional public investment from the coverage of the ER. Financing by external funds, especially if it is concessional, is less likely to lead to crowding-out effects. To mitigate issues related to misclassification of capital expenditures, authorities should commit to strictly follow international standards for government finance statistics in the budget process as well as when monitoring implementation of the fiscal rule.

Interest and cyclical variations in expenditure

53. Many countries with ERs tend to focus on primary spending, which excludes interest, while others include interest payments. One practical consideration for including interest payments is that any future unfavorable developments will need to be offset by cuts in other current spending. On the other hand, favorable developments permit stronger growth than otherwise in current spending. In Armenia’s case, including interest would appear to make the rule simpler and easier to explain, and maintain a stronger link to debt control. To the extent interest expenses can be decreased, it would provide some room within the rule for other areas of current spending to grow.

54. Some countries exclude cyclically-sensitive expenditure to allow expenditure-side automatic stabilizers to operate. Given that revenue-side automatic stabilizers are allowed to operate under an ER, expenditure side adjustments may only be deemed worthwhile if they are sufficiently large—which is not yet the case in Armenia. Moreover, even if cyclically-volatile items are included in the rule, other mechanisms contemplated within the rule (e.g., setting it in nominal terms, and an economic escape clauses) could add flexibility in the case of a significant shock.

Allowing Spending to Adjust in Line with Permanent Changes in Revenue

55. An ER should only allow spending to adjust to permanent changes in revenue, and there are several modalities that this could be made operational. One-off or transitory changes in revenue should not be incorporated in the ER as they will put spending on a permanently higher or lower path. To reflect permanent revenue changes in the ER, several options are available: (i) adjust the spending limits ‘as-you-go’ to reflect the *net impact* of new permanent revenue policy measures; (ii) periodically recalibrate spending levels per revenue outcomes; or (iii) create a direct link between the spending rule and historical growth in revenue. Each of these approaches could support a gradual increase in the scope of government services when deemed prudent and sustainable.

56. When fiscal buffers need to be restored, as in Armenia, even permanent increases in revenue could be used to reduce debt in the first instance. This would argue in favor of an approach whereby a periodic recalibration of the level of spending is undertaken (say when the

safe debt level is reached, or three years after the new ER is adopted) to reflect developments on the revenue side.

Link with the Debt Ceiling and the Automatic Correction Mechanisms

57. To ensure consistency of debt and ERs, some countries have linked them through an automatic corrective mechanism. For instance, Poland and Israel, the cap on expenditure growth becomes more stringent the closer the debt ratio is to the ceiling. In Slovak Republic, once debt breaches 50 percent of GDP, the government needs to take corrective measures and reduce spending by a fixed factor to prevent debt from reaching the 60 percent debt ceiling. This is consistent with the objective of driving debt down over the medium-term, with a sharper but still realistic adjustment the closer actual debt is to the ceiling. The tighter adjustment factor could apply to current spending (e.g., maximum spending growth capped at inflation), with the option of bringing capital expenditure within the scope of the rule at higher debt levels. In the case of Poland, the escape clause also connects the two rules (see Box 3 below).

Box 3. The Connection between Debt and Expenditure Rules in Poland

The Stabilizing Expenditure Rule (SER) was adopted in 2013, and came into force with the 2015 budget.

Rule: The rule limits the growth of nominal general government expenditure to the product of the average real GDP growth of the past 8 years (an estimate of real potential output) and the inflation target (currently 2.5 percent).

Coverage: The rule covers about 90 percent of general government expenditure. Excluded are the budget spending from EU funds and EU grants, and spending from units which cannot run deficits (e.g. some extra-budgetary units).

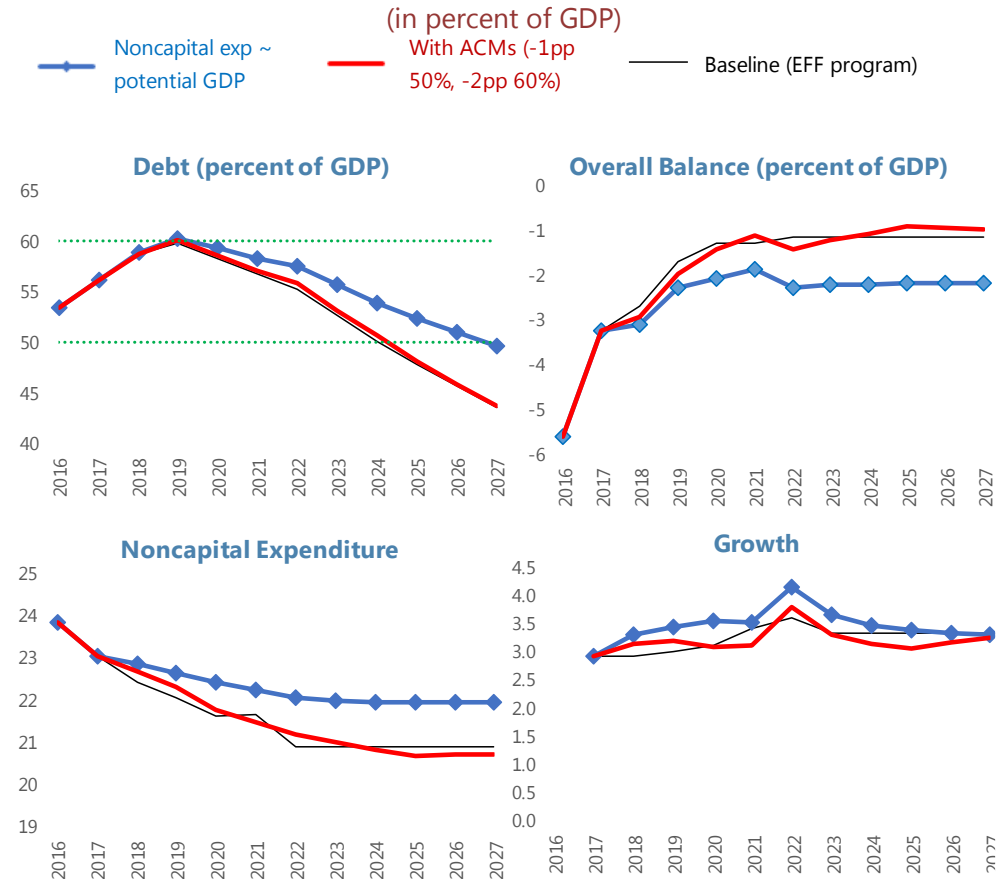
Automatic correction mechanism: 1.5 percentage points are to be deducted from the estimate of potential output when debt exceeds 43 percent of GDP, requiring a slower revenue growth; 2 percentage points are to be deducted from the estimate of potential output when debt exceeds 48 percent of GDP or deficit exceeds 3 percent of GDP.

Escape clause: When next year's real GDP growth is projected to be less than 2 percent, the correction mechanism required when debt exceeds 43 percent of GDP is waived. The escape clause cannot be invoked when debt exceeds 48 percent or deficit exceeds 3 percent.

Some limitations of the SER: With inflation target chosen as an estimate for future inflation, expenditure growth can be unrelated to actual inflation, if it deviates from the target. A recent amendment to the rule allows expenditure to grow if there is a one-off increase in revenue, as long as it exceeds 0.03 percent of GDP. As a result, temporary revenue increases can lead to a permanent increase in the level of expenditure.

58. To illustrate how the ER can be instrumented by the ACM, we simulate several options (Figure 9). We first consider a case where the growth of current spending growth is capped at the growth of potential GDP, but this is insufficient to bring debt back rapidly enough below 50 percent when it is exceeded. As part of the ACM, the cap can then be ratcheted down when the debt brake threshold is breached, and by a larger factor when it knocks against the debt ceiling. For instance, if noncapital spending growth was contained at 1 percent below potential growth starting in 2018, debt would be brought back below 50 percent by 2025 without hampering capital spending.

Figure 9. Simulating Various Automatic Correction Mechanisms and Shocks



Source: IMF Staff

Notes: We simulate the behavior of various ACMs around the baseline (in black), which is based on the latest EFF program review (IMF, forthcoming). In the absence of ACM, the spending rule would only impose that spending grows along with potential GDP (nominal potential growth g^*), which is not enough. We consider two types of adjusters: when debt is above 50 percent, spending growth is limited to $g^* - 1$, and when it is above 60 percent, the limit is reduced to $g^* - 2$. Discretionary capital spending is assumed the same in each scenario. For further methodological details, see Appendix 7.

C. Stage 3 – Introducing a Structural Balance Rule

59. In the medium-term, Armenia could move towards a structural balance rule. In contrast to an ER, a structural balance rule would allow for the full operation of automatic stabilizers on both the expenditure and revenue side.⁷ While a number of EMs (e.g., Chile, Colombia, Panama) set budget targets in cyclically-adjusted terms, a certain number of institutional requirements need to be present for successful implementation of such rules (Appendix 6). Structural adjustment requires gauging the output gap, the elasticities of revenues and expenditures with respect to the output gap, and excluding other transitory elements such as the effect of commodity prices and remittances.⁸ This requires high quality data, broad agreement on the methodology for structural adjustment, and independent verification.

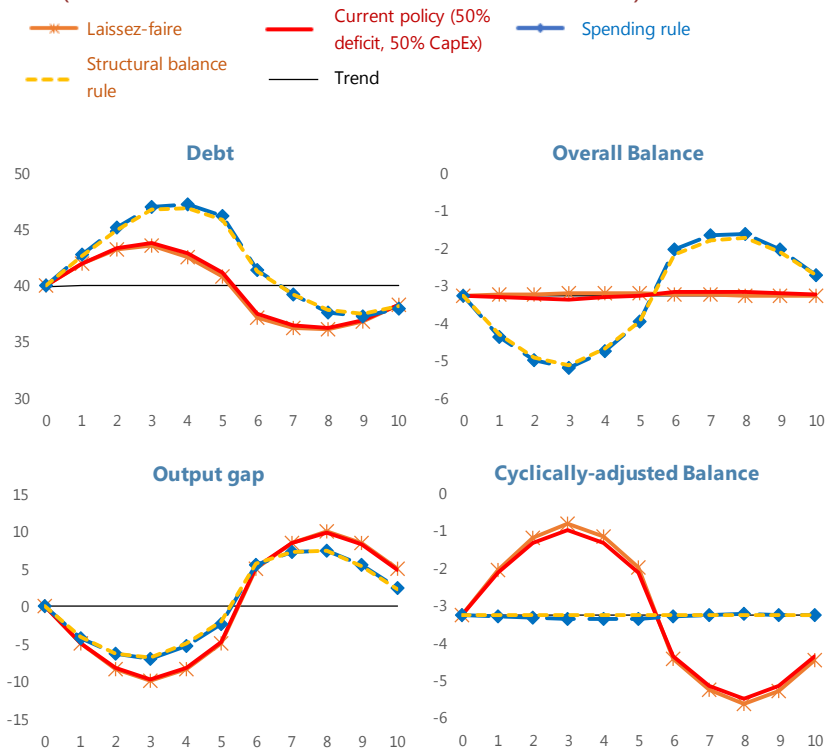
60. But the current situation in Armenia presents significant operational challenges for the adoption of a structural balance rule. The calculation of potential GDP and consequently of a structural balance for Armenia is challenging due to the volatility of growth over the past decades. This reflects in part the importance of the agricultural sector in GDP. In this context, analysts often advocate the use of a measure of GDP that excludes agriculture (“core” GDP), but this can complicate communication of the rule. Independent verification of compliance with the rule could also prove challenging at this stage, which could serve to undermine credibility of the framework. Given these difficulties, the authorities could consider following a gradual approach if a move to a structural balance rule is decided upon.

61. For illustrative purposes, we simulate the macroeconomic impact of alternative fiscal rules. We simulate a 10-year cycle starting with the safe level of debt of 40 percent of GDP, assuming there is no output gap, and abstracting from the current set of fiscal rules. As a response to the cyclical evolutions, we simulate four types of response: (i) no response other than the automatic elasticity effect on tax revenues; (ii) a scenario where the shock is absorbed in part through the deficit and in part through capital expenditure (this scenario partially represents the current policy in Armenia); (iii) an ER imposing a constant growth rate of noncapital spending; and: (iv) a full-fledged stabilization of the cyclically-adjusted balance (CAB).

⁷ According to the IMF’s fiscal rules dataset, 26 economies were following some type of structural balance national rule as of 2016.

⁸ By contrast, the expenditure rule requires at most an assumption regarding trend or potential GDP growth, for which confidence intervals are much narrower.

Figure 10. Simulating the Fiscal Response to a Cycle under Various Fiscal Rules
(in Percent of GDP or Percent of Potential GDP)



Source: IMF Staff. Notes: We impulse a 10-year cycle around the baseline (in black), which is defined as an economy that is and stays at its potential, from a starting point where the debt ratio is at its 40 percent of GDP anchor. The *laissez-faire* scenario lets fiscal policy to respond freely to the cycle. The current policy scenario allows the deficit to grow slightly during the downturn by increasing capital spending. The spending rule is calibrated as a constant increase of 3.4% of noncapital spending in real terms (i.e., in line with potential GDP) and a discretionary increase in capital expenditure, while the structural balance rule targets a constant CAB and thus generate a countercyclical impulse (assumed to be equally distributed between capital and current spending). For further methodological details, see Appendix 7.

62. As shown in Figure 10, the ER has interesting countercyclical properties. Like the CAB rule, it lets the overall balance smooth the output gap throughout the cycle. In particular, it frees up some fiscal space for implementing countercyclical fiscal policy in the downturn, while keeping debt in check.

D. Transparency and External Scrutiny

Enhancing Credibility of New framework

63. Adequate transparency and external scrutiny of the implementation and compliance to the new framework will be key to its success. The goals of transparency and scrutiny (ex-ante and ex-post) are to set expectations of the public and the outside world that fiscal policy is credible and is operating within the rules, and to increase accountability in a such way that deviations from the rules become politically costly.

64. The new framework will require enhanced transparency and external scrutiny. In the current framework, the correction mechanism triggered by the debt brake is automatic and the calculation of the debt and nominal fiscal balance is a fairly straight-forward exercise. The new framework, however, with its in-built flexibility, and the addition of an ER, will necessitate assurances and scrutiny on:

- the credibility of the medium-term path towards the debt anchor, particularly when debt exceeds the 50 and 60 percent debt thresholds and the relevant correction mechanisms are triggered;
- the calculation of the expenditure path derived from the ER, which will be particularly challenging if the rule is based on forward-looking and/or unobserved variables (e.g., growth forecast or potential GDP growth)
- the circumstances leading to the activation of an escape clause; and
- ex-post compliance with the fiscal rules.

Enhancing Transparency

65. Several mechanisms can be introduced or strengthened to enhance transparency. These include:

- Commitment to publication of a **FSS**, and a mid-year update, which would: (i) communicate the Government's medium-term fiscal strategy; (ii) be explicit on the underlying macroeconomic assumptions (including changes from previous forecasts, and differences with other published forecasts), the associated risks and mitigating measures, particularly when correction mechanisms and escape clauses are triggered; (iii) report on performance, including providing a reconciliation table of factors (exogenous and endogenous) responsible for deviations from the medium-term fiscal path; and (iii) outline the measures planned to address these deviations. This fiscal strategy document can also be used to communicate the move towards a new fiscal framework (see next section).
- Publishing a document destined to the public, such as a **citizen's budget**, that explains in layman's terms the strategic objectives of the Government; and

- Publishing a **statement of compliance with the fiscal rules** published as part of the budget execution report, on which the Chamber of Control is expected to issue an audit opinion.

Enhancing External Scrutiny by the Budget Office and the Chamber of Control

66. To complement the shift towards more flexible rules, many countries have established fiscal councils. The consensus view is that these are independent public institutions whose role is to inform the public debate on fiscal policy. Unlike central banks, these do not need to be stand-alone institutions, and independence does not translate into the setting of fiscal policy. As such, institutional arrangements and scopes differ substantially across countries, but they all typically perform some form of positive analysis to support fiscal policy-making, such as providing independent forecasts, or assessing the credibility of fiscal policy, including the implementation of fiscal rules (see Box 4).

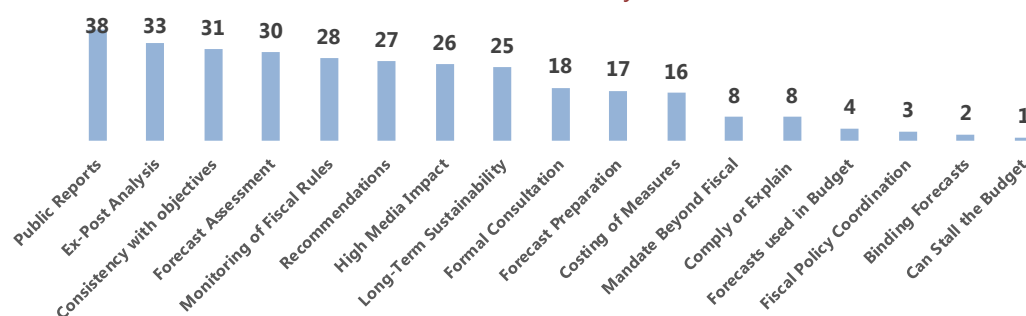
67. The Budget Office at the National Assembly could be empowered to play the role of a fiscal council in Armenia, including the ex-ante monitoring of fiscal rules. Article 163 of the Rules and Procedures of the National Assembly (2016) creates a Budget Office, with functional independence, to support Parliament in reviewing and making amendments to the annual budget. To the extent that the budget is guided by fiscal rules, its mandate can be broadly interpreted to include the ex-ante monitoring of fiscal rules. A gap remains, however, on its role in reviewing the MTEF, and the Government's medium-term fiscal strategy. Closing of this gap will be particularly important if the requirement for a binding medium-term fiscal path becomes part of the upgraded fiscal rules. Equally important is to improve the technical capacity to perform its mandate. However, given its current broad mandate, it will be unrealistic to expect the Budget Office to track very closely ex-ante compliance with fiscal rules without a change in its mandate. It is therefore essential, if it were to become the institution of choice for that purpose, that this role is clearly spelt out in legislation.

Box 4. Fiscal Councils – Institutional Arrangement and Mandates

There are several types of institutional arrangements. Some are totally independent (e.g. the Office of Budget Responsibility in the UK), others are set up within the legislative branch of the political system to be independent of the executive (often known as parliamentary budget offices), or while others are within the executive branch, and earn their independence by reputation rather than law. They can also be associated with audit institutions, central banks, and statistical offices. The common feature of them all is that they are sufficiently operationally independent, i.e. they are non-partisan in performing their tasks.

An IMF dataset on fiscal councils identifies 39 such institutions. All perform some form of positive analysis of fiscal policy, which include assessing government fiscal policy (ex-ante) or performance (ex-post); contribute to the use of unbiased macroeconomic and budgetary forecasts in budget preparation; cost new policy initiatives; and facilitate the implementation of fiscal policy rules. Some but not all (20 out of 39) have the additional mandate of formulating normative analysis, such as identifying sensible fiscal policy options, and formulating policy recommendations. A large majority of fiscal councils monitor fiscal rules (see Figure 11 below).

Box 4. Figure 1. Tasks Performed by Fiscal Councils
(out of the 39 surveyed)



68. The Chamber of Control, whose role has been recently enhanced, can play a role in the ex-post verification of compliance to fiscal rules. The Chamber is an independent body, separate from the National Assembly since 2007. The new Constitution in 2015, provides the Chamber with a stronger mandate to perform external audits of the use of state funds, in addition to its previously-restricted role of supervising budget utilization. It is also now required to present to the Assembly an annual report on budget execution. To strengthen its hand, forthcoming legislation could require that the Chamber provide an audit opinion on the Government's statement of compliance to the fiscal rules.

69. Other mechanism and informal institutional arrangements that mimic the functions of more formal fiscal councils could also be considered. The main objective of this body could be to assess fiscal policy and evaluate the fiscal forecasts undertaken by the MoF. This could comprise reputable fiscal experts, including representatives from academia and the Central Bank, that would serve on an honorary basis and are expected to be independent and have a non-partisan nature. In this context, it would be desirable that the group produces a periodical report that would be made available to the public.

E. Recommendations

Recommendation 4.1 Remove the existing correction mechanism for the debt brake at 50 percent of GDP and the shutdown clause if debt breaches the 60 percent of GDP ceiling. Introduce an automatic package of measure that signal strong and credible commitments to ensure an appropriate policy response if debt exceeds the debt brake and 60 percent ceiling.

Recommendation 4.2. In the short-term, commit to making the 2018-20 MTEF expenditure aggregate binding over the relevant future budgets, relying on an implicit ER, possibly excluding productive capital spending so long as debt is well below 60 percent. In the medium term, implement a new ER through a formal legislative framework.

IV. COMMUNICATING THE CHANGE

A. Making the Case for Change

70. Preserving credibility during the transition to a new framework will depend crucially on the way in which the change is communicated. The communication strategy should focus on a small number of simple and clear messages (see Box 5). This needs to tackle head on the perception that the intended changes reflect a dilution of the overall framework or a weakening of fiscal discipline.

71. Tackling negative perceptions that the change somehow reflects a reduced commitment to fiscal sustainability could be challenging *ex ante*. As such, the strategy will need to be multi-faceted: presenting the overall plan; ensuring the elements of accompanying reforms are convincing; and ultimately being seen to deliver upon commitments. Regular, transparent assessments of outcomes, clear communication of progress, and full explanations of any deviations from the plan will be critical.

72. The underlying purpose of introducing a new ER should be carefully communicated. The message could emphasize the main benefits of the new rule—in this case, delivering a more stable path of public spending; containing expenditure pressures during periods of recovery; and supporting sound public investment projects. An effective way of communicating the purpose of an expenditure ceiling would be by emphasizing that it means everyday spending will be prevented from growing faster than the overall economy. This will allow fiscal buffers to be restored, and for debt to be paid down, so that over time more budgetary resources can be devoted to public investment.

Box 5. A Possible Outline of the Case for Change

Emphasize that Armenia is not unique in upgrading its fiscal framework

International experience shows clearly that it makes sense to upgrade Armenia's fiscal rules framework. Introducing some flexibility for the budget to respond to cycles and shocks reflects sound economic management and is in full alignment with international experience. Unlike many other countries affected by economic volatility, Armenia has not yet reached its debt ceiling and is taking steps to avoid that possibility.

Emphasize what aspects of current framework are being preserved

The 60 percent debt ceiling is being retained and 50 percent debt brake mechanism is being upgraded. The changes are intended to ensure compliance with the 60 percent ceiling and rebuild buffers so that Armenia transitions to much lower and safer debt levels over time.

Update and strengthen PFM practices

Credibility can be preserved or enhanced through committing to various related improvements to the PFM framework. The menu of options would include: additional reporting requirements, ex-ante and ex-post verification of compliance, explaining deviations and corrections, making the MTEF a more binding instrument, upgrades to the framework for public investment management, and considering longer-term moves toward establishing independent fiscal institutions. Rules, alone, are not sufficient to be convincing.

Link the strategy explicitly to issues that stakeholders value

Explaining the rationale for change in terms that others can embrace and relate to is also important. Improving Armenia's longer-term economic prospects, boosting employment opportunities, addressing under-investment, and improving intergenerational fairness and preparedness for future events might each be themes that resonate in other political contexts.

Be upfront about risks

Given the uncertainties it is important to maintain realistic public expectations about how success should be defined and the prospects of achieving it. While it is important not to distract from the positive messages of the central case, it could boost credibility to show what mitigating policy measures are being worked on and contingencies are being prepared, for example through the presentation of alternative scenarios.

B. Designing and Publishing a Fiscal Strategy Statement

73. Armenia's fiscal strategy is presently laid out in at least two documents: the Armenian Development Strategy (ADS) and the annual, rolling updates of the MTEF. The ADS is prepared by an incoming government for its term of office, but is typically not updated to reflect ongoing developments. For example, the fiscal projections of the 2014-25 document were not updated to reflect the recent recession, and the Government elected in 2017 so far has not yet issued a new ADS. While the MTEF is updated frequently, it serves various purposes and is a relatively detailed and as such, lengthy, planning document.

74. The FSS could be conceived as a preamble to the MTEF, revised year. A regular FSS could provide long-lasting guidance over fiscal policy, while also being a fresh and up-to-date account of the current situation and progress made toward the relevant objectives. Chapter 4 of the BSL already requires that the MTEF contain “Narrations on Fiscal Policy and Expenditure Policy.” A FSS could succinctly summarize these aspects of the MTEF but go even further. As mentioned above, the FSS could itself provide the framework for regular assessment and reporting on achievement of high-level objectives against the fiscal principles and ratios, rather than being an exhaustive account of the achievement of sectoral objectives and budget execution which is more properly the role of other documents. Each vintage could also explain deviations and changes.

75. An additional and critical purpose of a FSS would be to clearly establish the Government’s medium- to long-term debt objectives. To this end, the document could strengthen the extent of top-down guidance for fiscal policy and the budget in a number of ways:

- Set out the pathway (including explicit policy commitments) or timeframe towards a safe debt level or medium- to long-term debt anchor;
- Allow the initial mechanism to make the 2018-20 MTEF’s aggregate expenditure levels binding over the respective future budgets; it would complement emerging bottom-up approaches to program budgeting and expenditure prioritization frameworks; and
- Nominate supplementary targets which guide, for example, public investment in order to help ‘close the loop’ between an ER and overall debt and deficit objectives,

76. A FSS could also become an important vehicle for communicating the government’s fiscal messages both domestically and abroad. Recent vintages of the MTEF do not appear to have been translated into other languages. It may not be necessary to translate the entire document, if there were instead something of an abridged version reflected in the FSS that captures the relevant highlights of the MTEF.

77. Other communication strategies could include regular press releases, dialogue with stakeholders, and a citizen’s budget. The government’s main messages and account of progress towards its fiscal goals might be more approachable and familiar if they remain consistent and are regularly repeated.

C. Recommendations

Recommendation 5.1. Devise a communications strategy to articulate a convincing case for change.

Recommendation 5.2. Publish a FSS to accompany the annual updates to the MTEF. This may include a statement of compliance to fiscal rules.

V. PUBLIC FINANCIAL MANAGEMENT REFORMS TO SUPPORT THE CHANGE

78. Any upgrade to a more flexible fiscal framework needs to be accompanied by stronger budgetary institutions. The new framework recommended in this report will require a MTEF that is more binding, and more closely integrated with the annual budget. Existing loopholes in budget execution need to be closed and the clear accounting definition of certain fiscal aggregates will also be required.

79. The new framework needs to be supported by reforms that improve the flexibility of spending. Given the extent to which current spending is mandated by laws and decrees, any corrective mechanism involving budgetary sanctions may require cuts on discretionary expenditure that are economically and socially costly. The same applies to the adoption of a multi-year ER. PFM reforms that improve the prioritization mechanism within the MTEF, complemented by a process of rationalizing spending efficiency (spending reviews), can deliver more flexibility.

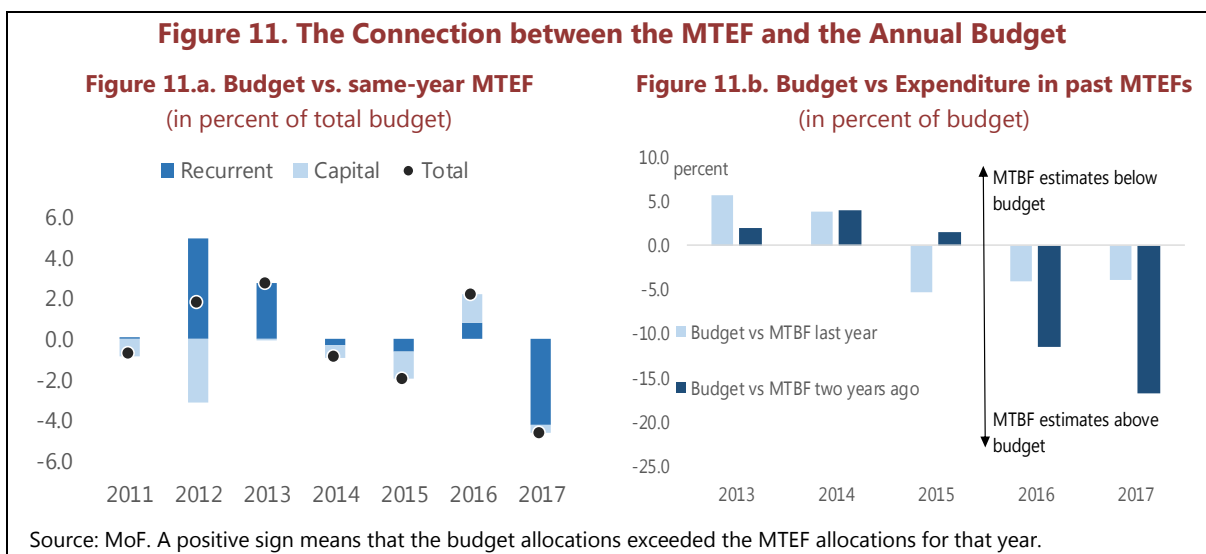
80. Improving the quality of public investment is essential going forward, given the challenges in increasing capital spending in the past. In Armenia, the revenue-to-GDP ratio is structurally low, slow-growing, and volatile, while a substantial proportion of current spending is mandated by law and hence inherently inflexible. Despite best intentions, any new rules-based framework that strikes a balance between protecting capital spending and fiscal sustainability, may not be able to substantially alter the path of capital spending upwards in the near term.

A. Making the MTEF more Binding

81. Despite a well-articulated process, the MTEF has historically not provided a good guide to the budget, particularly in outer years. The contents of the three-year rolling MTEF is defined by the BSL. Its preparation process is kick-started by a Prime Minister's decree early in the budget preparation year. A technical committee prepares the macroeconomic framework that underpins the medium-term aggregate expenditure ceiling. The Supreme Council, a ministerial-level committee, sets the overarching priorities and decide on broad medium-term allocation in the key spending areas. The MTEF, which is completed about three months before the government finalizes its draft budget, is expected to inform budget preparation.

82. Despite this, the budget has differed from the planned MTEF expenditure. Current spending being the main driver of the disparity (see Figure 12.a) — for instance, the 2017-2019 MTEF had envisaged a level of current spending for 2017 that is five percent higher than the budget for the same year, prepared only three months later. The gap between the MTEF and outer-year budgets widens (see Figure 12.b) — the expenditure planned for 2017 in the 2015-2017 MTEF (prepared in 2015) was about 17 percent higher than the actual budget tabled for 2017.

Figure 11. The Connection between the MTEF and the Annual Budget



Putting in Place a Robust Framework for Setting More Binding Ministerial Ceilings

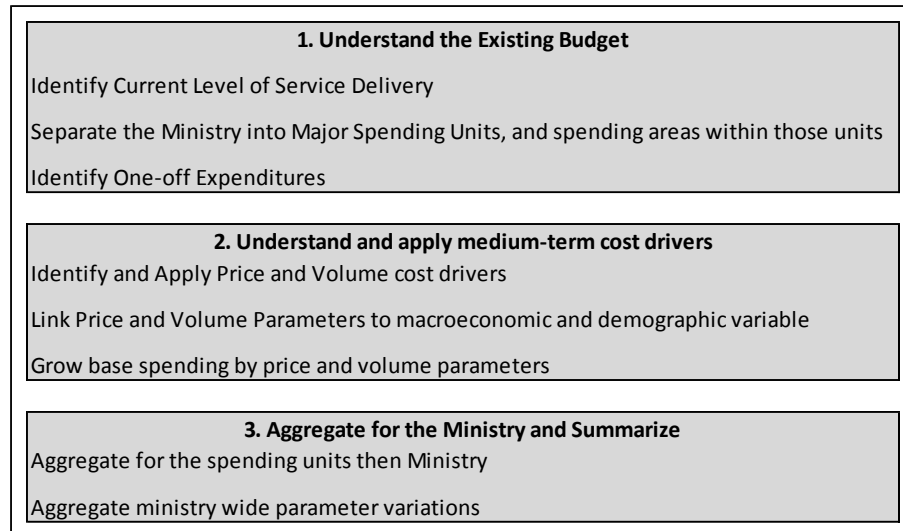
83. Improving the quality of forward estimates is a first step to enhance the credibility of the MTEF. Currently, line ministries provide their budgetary estimates to the MoF without distinguishing the cost of existing policies (forward estimates baseline) from the cost of new policies. While existing policies are costed by the MoF, this is not done in a systematic way, and does not consistently involve the line ministries. A basic set of steps, drawn from best practice, that can be adopted to prepare forward estimates baseline is provided in Figure 13.

84. In addition, line ministries are not required to provide detailed costing of new policies when submitting their bids for the MTEF. A sound practice is to require a multi-year impact assessment for any new policy proposed. This would allow decision makers to prioritize new initiatives based on their future costs, and not just on the fiscal implications for the coming budget year.

85. Robust forward estimates can enhance the decision-making process and help set more binding ministerial ceilings. Comparing bottom-up forward estimates with the projected resource envelope from the macroeconomic framework allows a proper identification of the available fiscal space (positive or negative) in the medium-term. As the MTEF process matures, and the forward estimates become more accurate, the government may then be able to introduce more binding multi-year ministerial ceilings. With inaccurate forward estimates, binding ceilings may lead to arbitrary increases or cuts in spending by line ministries.

86. However, the use of forward estimates to set ministerial ceilings can reinforce incrementalism. The underlying assumption when preparing forward estimates is that existing policies will continue to be relevant to Government’s policy objectives in the future, which may not be the case. Thus, the use of forward estimates in setting binding ceilings can commit an unnecessarily large proportion of spending in the future, making the MTEF a process that reinforces rather than reduces incrementalism in budgeting.

Figure 12. Major Steps in Producing Forward Estimates



Identifying Spending Inefficiencies

87. A second step is to complement the MTEF with assessments of the quality of existing spending. Some countries implement comprehensive spending reviews (UK and France), where all spending is assessed every four or five years, while others focus on one or two spending areas at a time, and roll through the whole of spending over a longer period (Australia, Canada, Korea). The former is highly resource intensive (involving teams of 20 to 30 people over a period of 9 months), while the latter spreads resources over longer periods. Both approaches have proven successful, but the one approach that does not work is trying to do comprehensive spending reviews annually (zero based budgeting) as this translates into a continuous overly-resource intensive cycle that wearies both reviewers and line agencies.

88. While some forms of spending reviews have been tried in Armenia, the process has delivered limited results, and room for improvement remains. International experiences with spending reviews have shown that their effectiveness is often overstated. Typically, savings options are disputed by line ministries and rolled back through the budget process, which has also been the case in Armenia in the past. Nevertheless, this process could be improved in the future if there are: (i) more broad-based staffing of review team from line ministries; (ii) a clear engagement that spending reviews are not about making cuts, but about identifying inefficiencies (i.e., line ministries can keep part of the gains to improve their service delivery); and (iii) clearly defined links between spending reviews and the budget process.

89. Beyond the occasional spending reviews, expenditure prioritization should become an integral part of the MTEF process. While spending reviews serve a valuable role in focusing minds on identifying inefficiencies, they cannot replace constant scrutiny of ministerial spending

and priorities by the MoF and the Supreme Council at every stage of the budgeting process.⁹ For the latter to happen, it is necessary that the Supreme Council is engaged early and regularly during the MTEF and budget process and is provided with essential information (e.g., costing of old vs. new policies, impact assessment of new initiatives).

Improve Accountability Mechanisms within the MTEF

90. Accountability can be improved if successive MTEFs are fully reconciled with each other. It was shown earlier that the MTEF can diverge substantially from the budget and realization, especially in outer-years. Yet, while the MTEF document contains a review of the recent macroeconomic and fiscal developments, there is no reconciliation between vintages. Explaining the inevitable differences between years 2 and 3 of the previous MTBF and years 1 and 2 of the current MTBF, and the source of these differences (changes in macro-economic and/or price or volume parameters, new policy measures, accounting adjustments, carryovers, over/under spending) is important to hold the Government accountable. A typical reconciliation table is shown in Figure 14 below.

Figure 13. Illustrative MTBF

	2018	2019	2020	2021	2022
2018 Budget	Budget year	BY+1	BY+2		
Forward Estimate	100	110	120		
Reconciliation in terms of:					
- Price variation	-5	-6	-8		
- Volume variation	3	4	6		
- Policy adjustment	0	5	3		
- Technical Adjustment	2	2	2		
Total Variation	0	5	3		
2019 Budget	Estimated Actual	Budget year	BY+1	BY+2	
Forward Estimate	100	115	123	130	
Reconciliation in terms of:					
- Price variation		2	13	15	
- Volume variation		-2	-2	-3	
- Policy adjustment		0	-11	-12	
- Technical Adjustment		-3	-2	-1	
Total Variation		-3	-2	-1	
2020 Budget	Estimated Actual	Budget year	BY+1	BY+2	
	112	121	129	139	

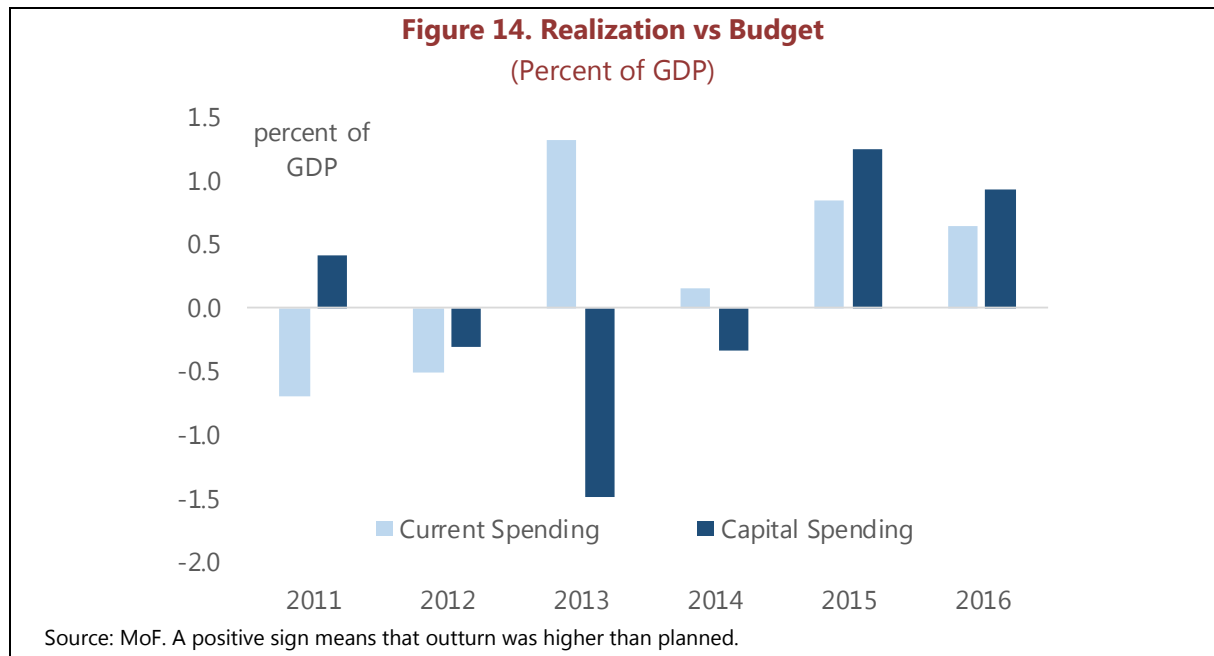
B. Improving Budget Execution

91. Despite its small size, the uneven execution of the capital budget contributed significantly to budget deviations (Figure 15) and this can be the result of the loose control over the execution of foreign-funded projects. Article 23-8 in the BSL allows foreign-funded projects managed by Program Implementation Units to spend to the extent that funding is

⁹ This is generally done in countries with a mature budgeting process, where the government has in-built mechanisms to constantly review spending efficiency. For example, in Australia, a sub-committee of cabinet (known as the Razor Gang because of its role in expenditure rationalization) scrutinizes all new policy proposals, including savings measures, as part of the annual MTBF process.

disbursed, even if this exceeds appropriation. In the face of tight budgetary measures in 2017, this loophole has been closed by government decree. It is advisable that it be closed permanently in the law.

92. The pace of project execution matter and the macroeconomic impact of large swings in capital spending in an open economy like Armenia should not be underestimated. The absorption capacity of the domestic economy should be an important consideration --frontloading can lead to poor quality, rising costs and affect the rest of the economy through higher wages and prices. When capital inputs are principally imported, large and lumpy capital spending can also lead to non-negligible swings in the real exchange rate.



93. Further loopholes that need to be closed include:

- **A usual provision in the Annual Budget Law that allows spending to increase by up to 10 percent without requiring parliamentary approval**, under some conditions (essentially when revenue exceeds forecasts, or when budgetary loan repayments exceed planned levels). While this provides room for discretionary spending, it can create a procyclical bias in good times when revenue over-performance is used to ratchet up current spending. The provision should be eliminated if a new ER is to be adopted to enhance coverage of the rule.
- **A law on sequestration of spending can potentially conflict with the new set of fiscal rules.** Article 23(7) in the Budget Systems Law that gives the Government the right to sequester up to 10 percent of budget allocations if budgetary revenue underperforms. Sequestration requires that cuts to be proportional across budgetary units. This will pose two problems:

- By authorizing expenditure cuts below the annual budget law only when receipts are below projections, may be in contradiction with a new correction mechanism for the 60 percent debt ceiling that requires expenditure cuts or freezes. The reason being that factors other than a revenue shortfall, such as an exchange rate depreciation, may be responsible for bringing debt above 60;
- By requiring that reductions are proportional, Article 23(7) will not be applicable in the context of an ER limited to current expenditure and should be reassessed particularly if productive capital spending is to be encouraged at the expense of current spending.

C. Clarify Accounting Principles

94. As creative accounting can be a challenge for the monitoring of ERs, accounting definitions and their applications need to be tightened. Several areas where this could occur include:

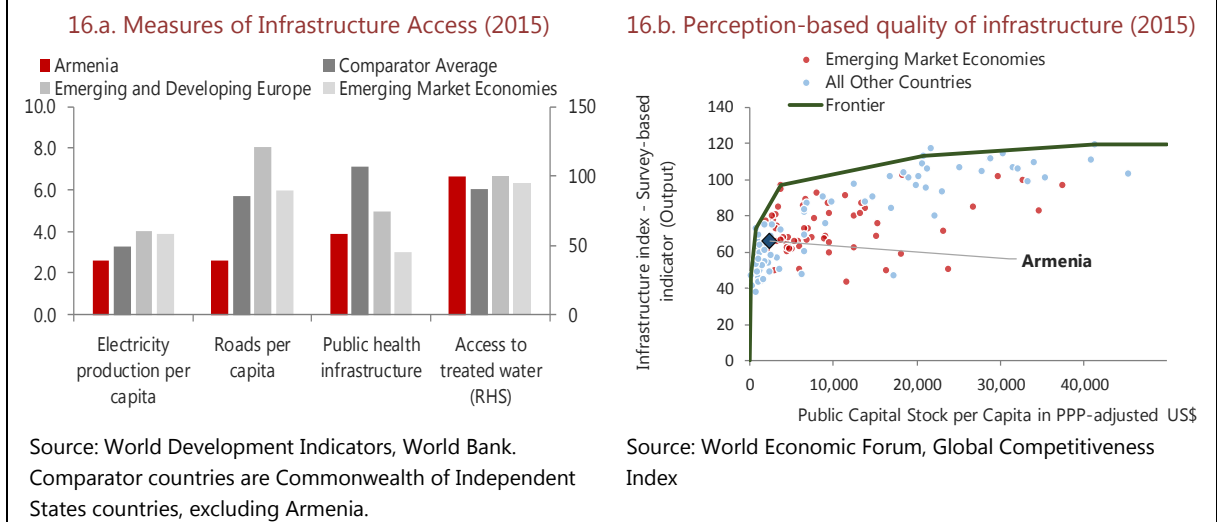
- classifying equity injections or loans that have no reasonable expectation of generating an economic return as financing, instead of as transfers, thereby understating expenditure;
- classifying as financing, other expenditure transactions that are close to the boundary between expenditure and financing;
- in the context of an ER that excludes capital spending, classifying current spending as the former (e.g., military spending when the decomposition is not known);
- payment of an invoice after year end as a transaction in accounts payable rather than as expenditure;

In addition, there could be a general shift away from spending towards tax expenditures (e.g. providing exemptions, deductions and tax credits) as a fiscal policy instrument.

D. Improving Public Investment Management

95. While an upgraded fiscal rules framework can support increasing public investment, improving the quality of public spending will be critical. Measures of infrastructure access show that Armenia does well in terms of access to treated water relative to peer, but fares less well on electricity production, roads and health infrastructure relative to other CIS and Emerging European countries (Figure 16.a). An index that aggregates investor-perception on the quality of infrastructure in different countries show that many countries with similar public capital stock score better, suggesting that efficiency gains can be reaped (Figure 16.b).

Figure 15. The Quality of Public Infrastructure



96. Although a more thorough study of public investment management practices is warranted, some gaps in planning, budgeting and implementation are apparent. These include:

- **The absence of a centralized planning process.** Both the MTEF and the budget contain a list of ongoing and planned projects, but this list is indicative. New projects are added during the year without going through the budgetary process. A database has been created to provide a better understanding of on-going projects, including their future cost implications, but this is limited to externally-funded projects.
- **Lack of coordination between planning and budgeting** has led to unrealistic budgeting, which has translated into under-execution (until 2013), followed by inevitable over-execution (after 2014). The main hurdles between budgeting and execution, typically delays in procurement and in disbursement by development partners are not properly factored in when the costing and budgeting are undertaken. This has undermined the credibility of the budget.
- The **absence of a uniform evaluation methodology** has led MoF to accept the cost-benefit analysis performed by external financiers, which use different methods, and discount rates. This has the possibility of undermining the effective ranking of projects, affecting the quality of projects being executed.
- **As noted earlier, budget appropriations have not been binding for externally-funded projects.** This intentional loophole, used in the past when under-execution of these types of projects was common, has been temporarily closed in 2017, in the context of strict budget ceilings. In the past, this practice has undermined the credibility of the budget, and may have led to inefficient spending.

E. Recommendations

Recommendation 6.1. Improve the design of future MTEF by (i) working closely with line ministries to develop bottom-up estimates of the cost of ongoing policies, using a forward estimates approach; (ii) provide, on this basis, the available fiscal space to the Supreme Council at an early stage of the budget process; and (iii) establish a framework for reconciling forecast vintages

Recommendation 6.2. Establish mechanisms for identifying spending inefficiencies and reviewing mandated spending. This could include the institutionalization of spending reviews, based on current best practice.

Recommendation 6.3. Remove the legal provisions that affect the execution of the budgets and can conflict with the upgraded framework. These include Articles 23.7 and 23.8 of the BSL, and the annual provision in the Budget Law that allows spending increase without Parliamentary approval.

Recommendation 6.4. Take steps to improve public investment management, by ensuring that all projects are approved within the budget process; extending the project database to all projects; review the impact of methodological differences in cost-benefit analysis done by development partners on the choice of projects.

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Appendix I. Current Fiscal Rules in Armenia

Armenia's public finances are currently subject to several numerical rules, which are enshrined in the PDL or the BSL:

- A **debt ceiling** of 60 percent of previous year's GDP (PDL, Article 5-6). This limit used to apply to state debt, that is the consolidated financial liabilities of the government and the central bank, but the coverage has been reduced to government debt in 2015. It also includes guaranteed debt. The ceiling was initially set at 50 percent of GDP, but then increased in 2009.
- A **deficit ceiling** of 7.5 percent of GDP (BSL, Article 12-3). This ceiling was initially set at 10 percent, then lowered at 5 percent in 2002, then increased to 7.5 percent in 2009.
- A **debt brake** of 50 percent of last year's GDP (PDL, Article 5-7): beyond this threshold, the budget deficit should be kept at below 3 percent of average GDP over the last three years.

The first and third of these rules are forcefully enforced, as above these limits, any public debt (or publicly guaranteed debt) issuance is deemed void.

In addition to these fiscal rules, the budget and its execution must comply with procedural rules: in-year reallocation ceilings, contingency reserve, freeze of credits, etc.

Appendix I. Box 1. Relevant excerpts from the PDL and BSL

Article 5 (PDL). State Debt of the Republic of Armenia

6. Government debt as at December 31 of the year in question shall not exceed 60 percent of GDP of the previous year.

7. Where state debt as at December 31 of the year in question exceeds 50 percent of GDP of the previous year, the state budget deficit of the next year shall not exceed 3 percent midpoint of the annual average GDP for the previous three years.

8. Any instrument originating state debt, which is inconsistent with paragraphs 6 and 7 of this Law, shall be deemed void.

Article 12 (BSL). The Deficit and Surplus of the Budgets

3. (...) The deficit of the state budget in the state budget draft law for the forthcoming year submitted to the National Assembly as per this Law shall not exceed 7.5% of the gross domestic product of the forthcoming year specified in the government message on the budget. (...)

Appendix I. Table 1. The Current Fiscal Rule vs. Characteristics of Good Fiscal Rules

<i>Simplicity</i>	Debt and deficit ceilings are straightforward to communicate and monitor.
<i>Sustainability</i>	The existing fiscal rule provides an easy to understand link with public debt sustainability.
<i>Stabilization</i>	The rule does not contain any cyclical consideration and might currently add macroeconomic volatility.
<i>Operational Guidance</i>	Unless when the ceiling is (about to be) breached, the debt and overall fiscal balance rules do not translate into clear guidance for the annual budget process.
<i>Resilience</i>	Ceilings and definitions have been changed several times, and would need to be changed again to face a shock or exceptional circumstance that would require debt to exceed 60 percent.
<i>Verification</i>	It is straightforward to verify if the government has complied with the rule, both ex ante and ex post, even though the applicable definitions are quite unusual.

Appendix II. Estimating an Optimal Level of Public Debt from a Growth Model

The literature on the optimal level of public debt is both vast and inconclusive.

¹ It is well recognized that public debt has both positive and negative effects on economic development. On the one hand, debt can finance growth-enhancing public spending, typically education, institutions, health, and infrastructure whose benefits will last several generations. It also generates a Keynesian effect on the current level of activity. On the other hand, it can crowd out private investment, trigger Ricardian effects through expected taxation, and raise the risk premium in the economy. Yet, a quantification of these tradeoffs is not straightforward.

To provide an illustrative empirical quantification of the optimal public debt in Armenia, we adapt the methodology outlined in Checherita-Westphal and others (2014). Namely, we derive the level of public sector debt level that maximizes output growth in an infinite horizon model with flexible prices and wages, with a production function that includes labor (L); private capital (K); and public capital (G). Output is given by an augmented Cobb-Douglas production function, which assumes a decreasing rate of return of public capital:

$$Y = A L^\alpha G^\beta K^{1-\alpha-\beta}, \quad \alpha, \beta, \alpha + \beta \in]0, 1[$$

Assuming that public debt is used exclusively for public capital financing ("golden rule"),² the optimal debt-to-GDP ratio can be expressed as a function of the output elasticity of the public capital stock (β):

$$D^* = \frac{G^*}{Y^*} = \left[\frac{\beta}{(1-\beta)^2} \right]^{1-\beta}$$

Under these assumptions, the estimation of the optimal level of debt boils to down to that of the output elasticity of public capital. We use data from the Penn-World Tables version 9.0 (Feenstra and others, 2016) and from the IMF's Investment and Capital Stock Dataset (FAD, 2015) to estimate the following empirical model:

$$\ln \frac{Y}{L} = c + (1 - \alpha) \ln \frac{K}{L} + \beta \ln \frac{G}{K}$$

Given the relatively short history of Armenia as an independent country, we use a fixed-effect panel estimator, with Driscoll-Kraay standard errors to general forms of both cross-sectional and temporal dependence. While Checherita-Westphal and others (2014) focus on advanced economies, we consider in turns Central, Eastern, and Southeastern European Economies (CESEE) and Emerging Economies (EMs). Results are presented in the table below and point to an

¹ For surveys of this literature, refer to IMF (2016) and Eberhardt and Presbitero (2015).

² This is, in a way, a best-case scenario. Most countries would also rely on debt to finance less productive spending, in which case the virtues of debt are likely lesser. Thus, our estimation of optimal debt should be seen as an upper bound.

elasticity that is substantially lower than for OECD and EU countries, which translates into a lower level of optimal public debt—around 40 percent of GDP.

Nevertheless, this estimate is subject to several caveats. Namely, the model focuses exclusively on the growth implications of public debt (e.g., it omits accounting for the risk premium) and makes the stringent assumption that there is no borrowing constraint.

Appendix II. Table 1. Estimates of the Output Elasticity of Public and Private Capital

			Checherita-Westphal et al. (2012)		
	CESEE	EMs	OECD-22	EU-13	EA-11
ln(G/K)	0.220*** [0.062]	0.179*** [0.042]	0.2839***	0.2781***	0.2347***
ln(K/L)	0.756*** [0.039]	0.727*** [0.023]	0.9634***	0.9160***	0.7871***
Constant	3.593*** [0.458]	3.553*** [0.284]			
Obs.	665	3335	1100	700	550
Sample	1960-2014	1960-2014			
R-squared	0.744	0.789	0.35	0.38	0.59
<i>Optimal debt</i>	45.2	33.6	65.5	63.5	49.6

Appendix III. Determining a Safety Margin for Public Debt Using Stochastic Simulations

This appendix presents the methodology used to estimate the safe debt level, of which a full description can be found in FAD (2017, forthcoming). This stochastic approach generates macroeconomic and fiscal shocks and simulates the corresponding public debt paths, using a debt accumulation equation and a fiscal reaction function.

First, we estimate the joint dynamics of the macroeconomic (non-fiscal) variables from either a quarterly, unrestricted vector autoregressive model (VAR) or a multivariate normal distribution at annual frequency. We have a relatively short balanced dataset—limited annually to 1995–2016 and quarterly to 1999Q1–2016Q4. This gives us the joint distribution of shocks on real domestic and foreign interest rates (r_t and r_t^*), real GDP growth (g_t), and the exchange rate (e_t). In other words, we are able to calibrate not only shocks on the various variables that matter for debt dynamics, but also the correlation between these shocks. We thus yield a random shock sequence using the distribution estimated on the past.¹

Second, a fiscal reaction function aimed at capturing the main features of fiscal policy is estimated for a panel of 26 emerging economies, including Armenia. The fiscal reaction function captures the government’s response to public debt—a positive semi-elasticity of the primary balance to the debt ratio—, as well as cyclical conditions (as measured by the output gap). The estimated equation includes country fixed-effects and heteroskedasticity and takes the following form:

$$pb_{i,t} = c_i + \beta pb_{i,t-1} + \gamma^- og_{i,t} \mathbb{I}_{og_{i,t} < 0} + \gamma^+ og_{i,t} \mathbb{I}_{og_{i,t} > 0} + \zeta d_{i,t-1} + \varepsilon_{i,t}$$

where $pb_{i,t}$ denotes the ratio of the primary fiscal balance to GDP; $d_{i,t-1}$ the gross public debt-to-GDP ratio at the end of the previous year; $og_{i,t}$ the output gap; \mathbb{I}_H a dummy variable equal to 1 when the condition H is true and 0 otherwise; and c_i the country fixed effects. To account for the fact that fiscal policy outcomes are not necessarily in line with plans, we include fiscal policy shocks $\varepsilon_{i,t} \sim \mathcal{N}(0, \sigma_i)$, with country-specific variance. In addition, the function is restricted by the assumption that the primary surplus that Armenia can achieve is capped at 2 percent of GDP, following Escolano and others (2014)’s result for emerging economies.

Third, debt trajectories are obtained for each macroeconomic scenario by combining the macro-fiscal shocks, the fiscal policy response, and the debt accumulation equation. Stock-flow adjustment shocks are also included; they notably account for the realization of contingent/implicit liabilities. A projected debt path is computed for each set of country-specific shocks, taking into account the share α_{t-1} of foreign-currency-denominated debt:

$$d_t = -pb_t + sfa_t + \frac{(1+r_t)(1-\alpha_{t-1}) + \alpha_{t-1}(1+r_t^*)e_t/e_{t-1}}{1+g_t} d_{t-1}$$

¹ Given the volatility of recent history, especially for the VAR at quarterly frequency, we constrain the median of some variables to follow the latest IMF projections.

The algorithm generates a large number of random shock sequences over the 6-year forecasting period and computes for each sequence of shocks the corresponding debt paths. This allows for a probabilistic analysis of debt trajectories—it is thus possible to compute the share of the debt paths that cross a given debt limit at a certain date.

The validity of this approach is conditioned on the quality of the statistical model used to produce the forecasts. Important shortcomings include the possibility that relationships estimated using past data may not be relevant for the future in the case there is structural breaks and the importance of a satisfactory goodness-of-fit of the forecasting model.

Appendix IV. International Experience Following the Global Financial Crisis

Examples of Countries' Non-Compliance with Fiscal Rules

Country	Non-compliance issue	Amendment
Australia	Not achieved fiscal strategy of underlying cash balance, on average, over cycle	Fiscal strategy amended several times (changed ER, updated BBR). Debt ceiling introduced in 2007 (revised 2009, 2011, 2012, 2014, 2017). Established Fiscal Council (2012).
Chile	Non-compliance with balance rule.	Revised (2008, 2009) target for structural surplus. Introduced transition path for returning to target (2010-14). Established Fiscal Council (2013).
Colombia	ER exceeded.	Introduced (2011) structural balance rule to guide path of fiscal consolidation. Established SWF.
Ecuador	Breached national BB rule.	Introduced (2010) a new ER and modified existing DR.
Iceland	National ER exceeded.	Suspended then discontinued due to financial crisis.
Ireland	Exceeded EU norms.	Established (2011) fiscal council to observe compliance with SBR and debt reduction plan. Significant progress made on debt.
Israel	National ER and BBR rules exceeded.	Temporarily relaxed requirements of BBR and ER. Tied design of ER to actual level of debt vs target.
Maldives	Exceeded national debt ceiling.	Authorities (2015) pushed back date for DR threshold lowering from 60 to 50 (from 2013 to 2018).
Netherlands	Exceeded EU deficit and debt norms.	Removed highly cyclical items from coverage of ER. Gradual fiscal repair achieved through expenditure restraint, revenue growth, economic growth. Debt returned to below 60 percent.
New Zealand	Exceeded national requirements in light of shocks and natural disasters.	Regular updates to medium-term targets to ensure credibility. Tight expenditure control and limited new policy measures.
Panama	Exceeded national BBR and DR requirements, and also revised thresholds under escape clause.	Various changes to thresholds and target dates, and adoption of more detailed escape clause rules reflecting nature of shocks. Establishment of national savings fund.
Sri Lanka	Exceeded national BBR and DR ceilings. Various postponements of targets.	Enacted revised debt ceiling with medium term adjustment path (2013). Debt declined temporarily but has risen again in recent years.

Examples of Countries that Met Existing Debt Rules, but Implemented Other Changes

Country	Post GFC compliance	Amendment
Bulgaria	Exceeded EU deficit norms, but kept debt below threshold.	Amended national ER (2012) to apply ceiling on expenditure to GDP ratio. National balance rules updated (2012) consistent with Fiscal Compact.
Denmark	Exceeded EU deficit norms, but kept debt below threshold.	Implemented new rules in 2009 and 2014 – initially to apply a tighter ER and then to relax it.
Ecuador	Breached national BB rule.	Introduced a new ER (2010) and modified existing DR.
Kosovo	Did not appear to breach main EU norms.	Introduced new national DR (2010) and new BBR (2013).
Latvia	Exceeded EU deficit norms, but kept debt below threshold.	Introduced new ER (2014). Updated (2013) national BBR and DR in line with Fiscal Compact.
Lithuania	Exceeded EU deficit norms, but kept debt below threshold.	Updated ER (2015) to broaden its application and link to historical GDP growth rather than revenue growth. Updated national BBR (2015) in line with Fiscal Compact.
Luxembourg	Did not appear to breach main EU norms.	Modified ER (2010) to bring expenditure growth back to the medium-term growth path once the response to crisis phased out.
Peru	Exceeded national BBR requirements, remained in compliance with DR.	BBR suspended to allow for stimulus. Tougher requirements imposed once situation stabilized. Invoked pre-existing escape clause. Fiscal Council monitors compliance.
Poland	Exceeded EU deficit norms, but kept debt below threshold.	National ER (2011) and DR (2014) introduced after GFC. Implemented other aspects in line with Fiscal Compact.
Romania	Exceeded EU deficit norms, but kept debt below threshold.	Implemented national ER (2010-2012) to restrict growth in total general government spending to nominal GDP until return to surplus; and set up Fiscal Council in 2010.
Slovakia	Exceeded EU deficit norms, but kept debt below threshold.	Implemented national DR and BBR post crisis, including debt brake. Fiscal Council reports on policy steps to address non-compliance.
Sweden	Did not appear to breach main EU norms, but temporarily breached its national BBR.	Deficits and debt have remained relatively low. Long-standing ER, BBR, Fiscal Council.

Sources: IMF Fiscal Rules Dataset 2016; Mission analysis.

Notes: BBR, Debt Rule (DR), Expenditure Rule (ER), European Union (EU), General Government (GG), Global Financial Crisis (GFC), Sovereign Wealth Fund (SWF). The Mission's review considered the experience of over 50 countries in terms of their compliance with pre-existing debt rules and changes to their fiscal frameworks.

Appendix V. Summary of Key Design Options for an Expenditure Rule

Design element	Pros	Cons	Examples
GENERAL			
Nominal vs real	<p>Nominal: Simple, better cyclical properties in the short term</p> <p>Real: More robust over multiple years, permit changes in relative prices or structure of economy</p>	<p>Nominal: Assumes relative prices and structure of economy are static</p> <p>Real: Need for inflation forecast error adjustments, sectoral deflators</p>	<p>Nominal: Sweden, Denmark</p> <p>Real: Netherlands, Israel, Finland</p>
Forward vs backward looking	<p>Forward: more stable growth trajectory</p> <p>Backward: simple, formula-driven and not prone to bias</p>	<p>Forward: subject to optimism bias, independent forecasts needed</p> <p>Backward: potentially volatile and not always a good current estimate</p>	<p>Forward looking: EEG#</p> <p>Historical GDP growth: Israel (previously), Lithuania</p>
COVERAGE			
Capital expenditure	<p>Include: Better link to debt sustainability and 'size of government' objectives</p> <p>Exclude: Allows shift towards public investment, and its use as stimulus</p>	<p>Include: Investment continues to be a savings target to comply</p> <p>Exclude: Less overall discipline, risks of creative accounting</p>	<p>Include: Israel, Romania</p> <p>Exclude: EEG, Columbia</p>
Interest	<p>Include: Better link to debt sustainability objectives with embedded incentive to reduce debt</p> <p>Exclude: Stronger discipline and less volatility in other current spending</p>	<p>Include: Future interest savings likely to flow through to current spending, not budget bottom line</p> <p>Exclude: Weakens link to balance and debt objectives if interest rises</p>	<p>Include: Netherlands, Israel</p> <p>Exclude: Sweden, Denmark, Brazil, Poland, EEG, Columbia</p>

Note: EEG: European Expenditure Guideline

Design element	Pros	Cons	Examples
COVERAGE (Cont'd)			
Cyclical expenditure (e.g., unemployment benefits)	<p>Include: Better link to debt sustainability objectives</p> <p>Exclude: Improves cyclical properties of the rule</p>	<p>Include: Compliance made difficult if cyclical expenditures are significant</p> <p>Exclude: Added complexity, could over-compensate if other features provide flexibility (escape clauses)</p>	<p>Include: Netherlands, Sweden</p> <p>Exclude: Latvia, EEG#, Poland</p>
Revenue adjustments	<p>Allow: Incentivizes revenue mobilization and gradual improvements in quality of services</p> <p>Disallow: Simpler and makes spending profile less susceptible to forecast or policy costing errors</p>	<p>Allow: Incentives to inflate new policy estimates</p> <p>Disallow: Might incentivize greater use of tax expenditures</p>	<p>Link to historical/actual: Lithuania</p> <p>Adjust for prospective effect of net new measures: EEG, South Africa</p> <p>Only for large changes: Poland</p>
OTHER			
ACMs	<p>Can improve link to the overall sustainability objective and improve credibility</p>	<p>Makes rule more complicated</p> <p>Can introduce undesirable procyclical properties if automatic adjustment is too abrupt</p> <p>Can undermine credibility if automatic adjustment is too slow</p>	<p>Change spending rule based on debt level: Slovakia, Poland, EEG, Israel</p> <p>Bring forward specific measures: EEG, Bulgaria</p> <p>Special Sitting of Parliament: Slovakia, Poland</p>
Escape clauses	<p>Additional flexibility to deal with significant 'tail' events without formal non-compliance</p> <p>Improves credibility if these are well-defined in advance</p>	<p>Makes system unduly complicated; Parliament's approval often needed</p> <p>Can undermine credibility if used too often</p>	<p>Pre-legislated: Columbia, Jamaica, Peru, Panama</p> <p>Requiring Fiscal Council Approval: Latvia, Slovakia, Romania</p>

European Expenditure Guideline (EEG).

Appendix IV. When is a Good Time to Move to Cyclically-Adjusted Rules?

When adopting a CAB rule, countries typically aim to combine the objectives of: (i) constraining discretion in fiscal policy; (ii) signaling commitment to fiscal sustainability; and (iii) avoiding procyclicality, by accommodating the endogenous response of budgetary aggregates to cyclical developments (automatic stabilizers).

Variations in the budget deficit, such as volatile revenue or one-off items, can give a misleading picture of the underlying fiscal stance. This is especially true during upswings, when a temporary improvement in revenue may mask a deterioration in the underlying position of public spending (the traditional problem of bad policies in good times). However, it is also true during downturns when a temporary deterioration in revenue may overstate the deterioration in the underlying fiscal position. A CAB rule helps disconnect the path of expenditure from actual revenues (Fedelino and others, 2009).

Such analysis helps strengthen the understanding of the underlying drivers of fiscal positions and helps fiscal policy be set with a more medium-term perspective. This appendix seeks to lay down the various preconditions that must be fulfilled for such a technical evolution to successfully take place. It is also important to note that the CAB rule only provides flexibility to respond to the business cycle, but is not enough *per se* to dictate an optimal fiscal policy.

Computing the CAB with a reasonable level of confidence. The first, obvious roadblock is the ability to produce in a sufficiently robust and consensual way, a CAB. A good fiscal rule must be measurable and open to evaluation, which means the main instrument must be sufficiently well measured.

The estimation of the CAB requires gauging: (i) the output gap; and (ii) the elasticities of revenues and expenditures with respect to the output gap.¹ Thus, national accounts, labor market, financial, and fiscal data are necessary on a frequent, timely, and reliable basis. Times series should be not only available over a long period, but also methodologically consistent and comparable over time.

In the case of Armenia, the recent change of System of National Accounts and the relatively short, modern history as an independent country may be problematic. In addition, the supply side of GDP, from which the potential is usually derived, is less well-documented than the demand side, and it remains difficult to ascertain to which extent the GFC has represented a structural break for the Armenian economy.

¹ In the case of Armenia, one could also consider the possibility of excluding other cyclical elements, such as the effect of commodity prices or remittances.

Timing. A reasonably stable macroeconomic environment and a relatively low level of debt, especially at the outset of the rule, is often warranted by the literature (Ter-Minassian, 2010; FAD, 2009). CAB rules have typically been adopted to lock-in fiscal adjustment gains.

According to international experience, fiscal rules have a higher likelihood of being introduced when countries have already made at least some initial progress toward fiscal consolidation and macroeconomic stability. Economic instability is found to complicate the establishment of an appropriate fiscal target and the implementation of policies to attain it.² Conversely, a well-designed fiscal rule can be instrumental in stabilizing expectations and help build credibility—which only happens if the rule is well-understood (see next bullet).

Communication and institutions. The credibility of a fiscal rule depends on its transparency and predictability. Since the CAB rule is quite tricky, adequate external scrutiny, not only ex-post (through the traditional audit institutions), but also throughout the budgetary process, through independent fiscal watchdogs, may be desirable.

Political commitment is key, which may mean a willingness to legislate the rule. A fiscal rule should be easy for citizens and politicians to understand (Marcel, 2013). One way forward is to start communicating objectives, as part of the medium-term fiscal framework or the fiscal strategy, in terms of CAB before instituting it as a fiscal rule. In any case, the government should be able to make the case for switching to a CAB rule.

For most countries, the tipping point is when robust and efficient automatic stabilizers need to play freely. Yet, with a small size of government and a little progressive tax system, automatic stabilizers in Armenia remains relatively weak (El-Ganainy and Weber, 2010).

Public financial management. Since a CAB rule is prominently forward-looking, its successful implementation depends on PFM capacities. At minimum, the following are necessary:

- formulating reliable budgetary projections,
- monitoring the execution of the approved budget and responding on a timely basis to developments threatening the achievement of the rule’s target,
- transparently reporting budget execution, and:
- adopting good accounting standards.

² For example, fiscal rules were introduced in Argentina in the context of extreme economic volatility in 1999 and were ineffective and later reversed.

Debt and cash management. A CAB rule may permit large swings in the overall deficit, which can deteriorate substantially during downturns and increase gross borrowing needs, in turns putting a strain on cash and debt management.

Therefore, debt managers must be proactive in accessing financial markets and develop adequate strategies and instruments to borrow large amounts on a regular basis. To support this effort, all cash resources should be made available. An excessive segmentation of cash deposits or revenue earmarking would be detrimental. Cash managers must thus manage all public funds in a consolidated way and maintaining appropriate cash buffers to meet cash outflows, particularly when the ability to borrow is constrained.

Eventually, the decision to move to a CAB rule should be the conclusion of a cost-benefit analysis. While rules that are simpler to communicate are sub-optimal in terms of economic stabilization, a more sophisticated rule like the CAB rule might run the risk to be badly calibrated or difficult to implement. The experience in Chile shows for instance that the rule went through several rounds of finetuning and institutional changes before reaching a satisfactory stage (Marcel, 2013).

Appendix VII. Simulating Fiscal Rules

This appendix summarizes the assumptions underpinning the simulations presented in sections III and IV. Contrary to the simulations described in Appendix 2, this exercise is purely deterministic. The simulations are based on several assumptions:

- Tax revenues respond to growth with an elasticity of 1., while expenditure and nontax revenues are supposed delinked from the cycle. The same elasticities are used to compute the CAB:

$$CAB_t = R_t^{tax} \left(\frac{Y_t^*}{Y_t} \right) + R_t^{nTax} - G_t$$

- In turn, GDP is affected by discretionary fiscal policy through a set of fiscal multipliers. We use the DSA's assumptions about the multiplier and its persistency (IMF, forthcoming). In addition, we assume that current spending has slightly less effect on growth:

	t	t+1	t+2	t+3	t+4	t+5	Beyond
Tax and capital expenditure measures	0.89	0.53	0.32	0.19	0.12	0.07	0
Current expenditure measures	0.71	0.43	0.26	0.15	0.09	0.06	0

Compared with the baseline, GDP in alternative scenarios is thus computed as:

$$Y_t - Y_t^0 = \sum_{1 \leq k \leq 5} +\eta_k^{cap} (G_{t-k}^{cap} - G_{t-k}^{cap,0}) + \eta_k^{curr} (G_{t-k}^{curr} - G_{t-k}^{curr,0}) - \eta_k^{rev} (R_{t-k} - R_{t-k}^0)$$

- In all the scenarios presented in this report, we assume no tax policy response, so as to focus on the trade-off between current and capital expenditure.

These stylized scenarios are merely illustrative and additional refinement would be necessary to inform future policy decisions. This would require additional policy guidance and more comprehensive and broken-down data. In addition, sensitivity analyses should be conducted using alternative and more realistic parameters. Assumptions regarding output elasticity of revenue and expenditure could, for example, be refined.

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