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Fiscal Consolidation:

Taking Stock of Success Factors, Impact, and Design

Vybhavi Balasundharam, Olivier Basdevant, Dalmacio Benicio, Andrew Ceber, Yujin Kim, Luca Mazzone, Hoda Selim, and Yongzheng Yang

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ABSTRACT: Surges in public debt in many countries since the COVID-19 pandemic have rekindled interest in fiscal consolidations, which often entail difficult policy choices in the face of economic and political constraints. This paper presents findings from a survey of the literature on fiscal consolidations, focusing on the pre-existing conditions, impact and design aspects of past consolidation episodes. These findings provide insight into factors that influence the chance of successful consolidations, their growth and distributional impact, the pace, phasing, duration and policy mix of reforms to mitigate the impact, and the role of fiscal institutions and capacity development in successful consolidations.

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Authors' E-Mail Addresses:	VBalasundharam@imf.org, OBasdevant@imf.org, DBenicio@imf.org, ACeber@imf.org, YKim9@imf.org, LMazzone@imf.org, HSelim@imf.org, YYang@imf.org

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Glossary

AEs	Advanced Economies
CD	Capacity Development
IMF	International Monetary Fund
FTE	Fiscal Transparency Evaluation
ECB	European Central Bank
EMs	Emerging Market Economies
ERM	Exchange Rate Mechanism
IEO	Independent Evaluation Office of the International Monetary Fund
LIDCs	Low-Income Developing Countries
OECD	Organisation for Economic Co-operation and Development
PFM	Public Financial Management
PEFA	Public Expenditure and Financial Accountability
PIMA	Public Investment Management Assessment
SDGs	Sustainable Development Goals
TADAT	Tax Administration Diagnostic Assessment Tool
ZLB	Zero-Lower Bound

Introduction

Unprecedented surges in public debt in many countries since the COVID-19 pandemic have rekindled interest in fiscal consolidation. Although debt-to-GDP ratios have declined somewhat in many countries in the wake of economic recovery and higher than expected inflation in 2022, they remain elevated and above pre-pandemic levels in most countries. In the coming years, many countries will need to bring down fiscal deficits to rebuild fiscal space, and for some, this task is urgent as their current public debt levels have become unsustainable. In fact, about 60 percent of low-income countries and 30 percent of emerging market economies are at high risk of or already in debt distress (IMF, 2022a). Moreover, many countries will have to address mounting spending pressures over the coming years, including those from infrastructure investment, climate change mitigation and adaption, and ageing population, which will increase spending on pension and healthcare, especially in advanced economies (AEs) and emerging market economies (EMs) (IMF, 2022b).[1] For many low-income developing countries (LIDCs), it is daunting challenge to meet their sustainable development goals (SDGs) in the face of economic scarring caused by the pandemic while keeping their debt at a sustainable level.

Fiscal consolidation is a complex undertaking and often entails difficult policy choices to achieve policy objectives. The fiscal consolidation debate is not new and has initially focused on the short-term output impact. Over time, however, it has evolved to understand more specific aspects of consolidation design. For example, policymakers have to decide how much they have to reduce the fiscal deficit, whether the deficit reduction should come from raising additional revenue or cutting expenditure or from both, when is the best time to start the consolidation process, how long and how fast the consolidation effort should be, whether to frontload or backload the policy measures, as well as what role, if any, to give to fiscal institutional reform. In making these choices, policymakers will also need to consider political and social feasibility and ramifications in addition to their economic impact.

This paper aims to provide an overview of the lessons learned from past fiscal consolidation episodes based on a literature survey. International institutions such as the IMF and OECD undertake periodic reviews and *ad hoc* studies of fiscal consolidation issues to guide their operational work (OECD, 2010, 2012 and 2013; IMF, 2014a; Eyraud and Weber, 2013; IMF, 2010a; IMF, 2010b, and Daniel et al., 2006), but there has been no comprehensive update in recent years. There are also streams of research focusing on specific issues related to fiscal consolidations, such as fiscal multipliers (Auerbach and Gorodnichenko, 2012; Ilzetzki, Mendoza, and Végh, 2013) and their economic impact (Carrière-Swallow, David, and Leigh, 2021; Guajardo, Leigh, Pescatori, 2014). Moreover, the global economic landscape has changed substantially since the Global Financial Crisis, which prompted an increase in the research on fiscal consolidation issues focusing initially on AEs. A clearer understanding of the lessons learned from the past experiences could help policymakers formulate appropriate strategies for fiscal consolidation in meeting both their short- and long-term challenges.

This paper contributes to the literature on fiscal consolidation across several dimensions. First, it provides a comprehensive stocktaking of the literature, including the considerable amount of research since the Global Financial Crisis. Second, the literature survey covers all income groups of countries—LIDCs, EMs, and AEs—and attempts to differentiate lessons learned for these groups. Third, given the increasing interest in the issue of inequality among policymakers, this survey also covers the impact of fiscal consolidations on income distribution in addition to economic growth. Fourth, efforts are also made to shed light on the political economy of fiscal consolidations, an area that is not yet as developed as other areas in the literature, even though it has been increasingly recognized as an important aspect of program impact and design. Finally, a review of the role of fiscal institutions and capacity development—an increasing focus of policymakers and development partners in LIDCs—is also provided.

The rest of the working paper is organized as follows. Section II examines the historical record of fiscal consolidations and factors that influence their chances of success, followed by a survey of growth and distributional

[1] IMF (2022b) Methodological and Statistical Annex, Tables 23–25.

impacts of fiscal consolidations—including estimates of fiscal multipliers—in Section III. Issues related to approaches to fiscal consolidation in terms of size, pace, duration, phasing, and composition of the adjustment are taken up in Section IV, and those on how fiscal institutions and capacity development can support fiscal consolidation are discussed in Section V. The paper concludes in Section VI with key takeaways on policy implications.

It should be noted at the outset that, despite a voluminous empirical literature, any patterns in the surveyed studies and data should be seen as suggestive rather than conclusive. Specifically, many empirical regularities summarized in this paper are tentative, and not necessarily robust to changes in sample or methodology. Moreover, the focus of the literature has been on AEs. The reader should thus exercise caution, particularly when interpreting and using the findings on AEs in the context of an EM and LIDC, with the latter two groups also possibly needing differentiation. Table 1 below provides a summary of the key findings of this survey and serves as a quick guide. The reader is encouraged to read the corresponding sections of this paper to fully appreciate the nuances of these findings.

Table 1. Summary of Key Literature Findings on Fiscal Consolidations

Topic	Findings	Applicability *
Pre-existing conditions conducive to success of fiscal consolidations: In addition to program design (see below), what factors may contribute to the success of fiscal consolidations?	The success rate of historical consolidation episodes is found to be 1/5–2/3, depending on the approaches and criteria used to assess the outcome.	AEs
	Factors that increase the probability of success include: • high income levels, • favorable global and domestic environment, • strong fiscal institutions, • a strong track record in fiscal management, and • broad-based political support and good communication.	All
Growth and distributional consequences: How do fiscal consolidations affect economic activity and income distribution, and how do the outcomes in turn affect the consolidation process?	Fiscal consolidations often have short-term adverse growth and distributional impacts compared to the pre-consolidation period. Even so, consolidations may improve growth performance relative to the counterfactual of no-consolidation.	All
	Short-term growth impact as measured by the fiscal multiplier depends on structural characteristics and cyclical conditions of the economy, e.g., larger impact in more closed economies and during economic downturns.	All
	In past episodes, expenditure-based consolidations widened income inequality more frequently than tax-based consolidations; faster consolidations also more often worsened inequality.	AEs; All
	Accommodative monetary and exchange rate policies and reforms to facilitate adjustment in labor and product markets, and targeted social assistance can alleviate short-term adverse output and distributional impacts of fiscal consolidation.	All
	Consolidations can boost growth and improve equality in the long run, especially if public investment and social spending are protected.	All

	Growth and distributional impacts feed back to the consolidation process and affect final outcomes via social and political repercussions, as well as economic channels.	All
Approaches to fiscal consolidation (program design): what do we know about the size, pace, duration, phasing, and policy composition of past fiscal consolidations and their implications?	Program design should reflect credible commitment to fiscal reforms. A credible plan eases financing constraints and allows for greater policy space.	All
	Most consolidation episodes improved the cyclically adjusted primary balance (CAPB) by 1-2 percent of GDP per year and lasted 3-4 years; faster consolidations were likely driven by larger and more urgent needs for reform.	All
	Front-loaded consolidations were often driven by concerns about fiscal sustainability and/or credit risk premia (financing constraints).	EMs and AEs
	Gradual and back-loaded consolidations tend to stabilize debt more permanently with more contained output losses; they also allow time for capacity development in LIDCs. However, such consolidations require external financing and market confidence.	All, but more relevant for EMs and LIDCs
	Revenue-raising measures are found to be more durable in developing countries where revenue-to-GDP ratios are modest to begin with.	EMs and LIDCs
	Large consolidations generally require both revenue and expenditure measures.	All
	Protecting the vulnerable helps mitigate the short-term distributional impacts and minimize social and political costs of fiscal consolidation.	All
	Cuts in capital investment, education, and health should be avoided to preserve growth potential in the long run.	All
	Tax measures should ideally target less distortionary bases such as property taxes, excise duties on sin goods, and environmental taxes.	All
	An effective communication strategy should be part of the design and implementation of fiscal consolidation programs.	All
The role of institutions and capacity development: what role do they play in program design and implementation through their impact on capacity, transparency, and accountability?	Fiscal consolidation programs should be underpinned by a credible medium-term fiscal framework supported by sound institutions.	All
	Sound fiscal rules and public financial management (PFM) systems help strengthen fiscal discipline and meet adjustment targets.	All
	Transparency contributes to successful fiscal consolidations by improving program design (e.g., realistic	All

	macro-forecasts and public debate) and government accountability.	
	Building strong budgetary institutions takes time and needs to be well sequenced and undertaken early on.	LIDCs and EMs
	Capacity development should be part of the design of fiscal consolidation programs, tailored to the countries' needs, and start as early as possible.	LIDCs and EMs
	Capacity development should focus on revenue mobilization and core PFM functions in low-capacity countries.	LDICs

* Findings are indicated to be applicable to a particular country group either because the results are based on research on that group or considered to be broadly relevant for that group. All—all countries; AEs—advanced economies; EMs—emerging market economies; LIDCs—low-income developing countries.
Sources: Authors' compilation of the findings in this paper.

Pre-Existing Conditions for Successful Fiscal Consolidations

This survey suggests that the success rate of historical fiscal consolidations ranges from 1/5 to 2/3, depending on the approaches and criteria used to assess its outcomes. Several factors increase the chances of success, including a supporting global and domestic environment, strong fiscal institutions as reflected by a good track record in fiscal management, and broad-based political support and effective communication.

What makes a fiscal consolidation successful? A fiscal consolidation is considered successful when a minimum level of ex-post control over fiscal balance and/or debt ratio is achieved or maintained over a specified period, including when compared with ex-ante objectives. It is usually marked by sustained improvements in the cyclically adjusted primary balance (CAPB)[2] and/or in the gross public debt-to-GDP ratio to meet certain threshold for some period after the consolidation. However, the chance of success for a fiscal consolidation is influenced not just by its design.[3] Knowing their contributing factors and risks of failure would help strengthen program design and prepare remedial actions and contingency plans.

Success rates of fiscal consolidation range from about 1 in 5 episodes to 2 in 3, largely depending on the approach taken and the threshold applied to define success.[4] Among the two broad approaches for definitions of successful fiscal consolidations in the literature, the first approach examines whether a fiscal consolidation episode achieves ex-post outcomes in line with ex-ante objectives/targets. The second approach focuses exclusively on ex-post achievement of a minimum threshold improvement in key macro-fiscal outcomes (i.e., fiscal balance and debt ratio) and assesses whether they are achieved over a specified time or long lasting. The review of the literature based on the first approach (Mauro and Villafuerte, 2013; and Mauro, ed., 2011) suggests that the success rate ranges from 38 to under 50 percent, whereas that under the second approach ranges from 21 to 65 percent (McDermott and Westcott, 1996; Alesina and Perotti, 1995; Afonso and Jalles, 2011; Afonso, 2010; IMF, 2010a; and Lambertini and

[2] The CAPB measures discretionary fiscal policy and other noncyclical factors by excluding, in addition to interest payments, the automatic effects of business cycle fluctuations (through transfers and taxes) on the budget.
[3] Policy choices, as reflected in the design features of a fiscal adjustment program, are discussed in Section IV.
[4] The studies examining pre-existing conditions for successful consolidations surveyed here covered only consolidation experiences of advanced countries over broadly similar periods, mostly ranging from 1960/70s to mid/late 1990s, with some studies spanning a longer time period from 1970 to 2010s.

Tavares, 2000). Not surprisingly, for the latter approach, the more stringent the criteria the lower the success rate, and vice versa.[5] That said, the different criteria applied only explain part of the widely dispersing success rates. Mauro and Villafuerte (2013) found that for the G7 during 1976-2007 and EU countries during 1991-2007, deviations of *ex-post* outcomes from *ex-ante* plans were frequent and large and often stemmed from unforeseen macroeconomic shocks that affect growth, interest rates, and exchange rates.

High income levels and favorable global and domestic conditions are found to increase the probability of success. High-income OECD countries are more likely to succeed in their consolidation efforts relative to EMs and the same finding holds for EMs relative to LIDCs (Adam and Bevan, 2003; and Heylen and Everaert, 2000). This could be because higher income is often associated with stronger institutions and thus a greater capacity to design and implement fiscal reforms. Additionally, strong global and domestic growth, low interest rates, a competitively valued currency and rising net export demand increase the probability of success.[6] The literature is not conclusive on the role of an exchange rate regime in improving success rates. However, Lambertini and Tavares (2000) find that successful consolidation among OECD countries is almost always preceded by large nominal and real exchange rate depreciation while unsuccessful ones are preceded by revaluation and followed by depreciation. Moreover, they find that depreciation is a significant predictor of the persistence of adjustments.

The quality of fiscal institutions is key to the success of consolidation programs.[7] IMF (2014b) examined G-20 countries and found that those with stronger fiscal institutions i) delivered a significantly stronger fiscal adjustment, ii) were quicker to put together a fiscal adjustment plan, iii) tended to protect public investment in the consolidation, iv) tended to implement the plan better because they adhered to their annual budget, and v) were better at responding to external shocks and able to reallocate expenditure and stick to the original adjustment plan. Further, a strong track record in fiscal management can improve the likelihood of successful consolidation. In contrast, a history of poor fiscal management as measured by recurring large deficits and elevated debt seems to have adverse effects on achieving and maintaining a sustainable fiscal stance. A poor legacy dissipates rapidly for OECD and middle-income countries, but not for LIDCs (Adam and Bevan, 2003). This finding may point to the importance of institutions, commitment to reform, and credibility for sound policymaking. Moreover, these observations suggest that there may be a minimum threshold of institutional quality above which capacity to carry out fiscal consolidation can increase rapidly.

Broad-based political support is conducive to successful consolidation efforts. Mauro and Villafuerte (2013) find that whereas cross-country evidence yields mixed results on the role of political factors, the presence or buildup of public support, lower parliamentary fractionalization and perceptions of greater political stability are to some extent associated with better viability or implementation of consolidation plans. Baldacci et al. (2004) and Clements, Gupta, and Jalles (2022) provide evidence that governments with a parliamentary majority and facing no imminent elections are more likely to succeed in fiscal consolidations. This is consistent with the theory that political cycles drive fiscal outcomes (Persson and Tabellini, 2003) and the evidence that newly elected governments are more likely to sustain a consolidation (Molnár, 2012). Moreover, various types of government have undertaken successful consolidations, but coalition governments seem to have a less successful track record (Alesina and Perotti, 1995), perhaps owing to inherent challenges for a coalition government in consensus building and sustained implementation of consolidation measures. It should also be noted that there is a two-way relationship between fiscal consolidations and political dynamics. Large deficits prior to election years are found to reduce the incumbent's re-election chances in democracies (Brender and Drazen, 2005). And fiscal retrenchment is found to correlate with increased social instability and potentially carries large electoral costs, thereby undermining the durability of fiscal consolidations (Alesina et al., 2021; Ponticelli and Voth, 2020; and Chen et al., 2019).

[5] Among the surveyed studies, Alesina and Perotti (1995) reported the lower-end success rate of 21 percent using the criteria of at least 5 percent of GDP decline in gross debt three years following consolidation *and* an increase in the structural primary balance by at least 1.5 percent of GDP per year during 1960-92. By contrast, Afonso and Jalles (2011) identified the upper-bound success rate of 65 percent based on the criteria of two-year improvement in the CAPB by at least one standard deviation of the sample (1.6 percent of GDP).

[6] This assumes that the primacy of maintaining sound monetary and exchange rate policies is not compromised in such policy settings.

[7] For a more detailed discussion of institutions in the context of fiscal consolidation, see Section V.

These findings on the political economy of fiscal consolidations suggest that policymakers should have an effective communication strategy for fiscal consolidation programs. Given that certain revenue and expenditure measures have predictable impact on various interest groups, policymakers need to engage with key stakeholders early on during program design and strike the right balance in the policy mix to overcome political headwinds to consolidation, rather than delay necessary reforms. In this regard, Mauro (2011) stresses the critical role of a comprehensive plan in shaping public opinions regarding fiscal consolidation. The study highlights the role of international institutions, international rating agencies, national research institutions, and the media in stressing the urgency to address unsustainable debt.[8] As political and economic shocks are frequent during a fiscal consolidation, policymakers also need to ensure that program design is robust by having contingency plans in place to deal with shocks and maintain political support for reform. Finally, strong fiscal institutions, which should be built early on as it takes time to bear fruit, would help policymakers mitigate political pressures by increasing transparency and credibility of reform measures.

Growth and Distributional Impacts of Fiscal Consolidations

Fiscal consolidations generally have a negative short-term impact on economic activity relative to the prior period, but a positive impact compared to the counterfactual of no consolidation. The magnitude of output losses depends on the size of fiscal multipliers which in turn depends on conjunctural factors and structural characteristics of the economy, as well as program design. Fiscal consolidations also often lead to a deterioration in income distribution in the short run, but complementary policies may help mitigate such impact. On the other hand, successful consolidations can improve growth performance and possibly income distribution in the long run.

The growth and distributional outcome of a fiscal consolidation program is not only a key measure of its success or failure, but also an important part of the feedback loop to the reform process. In fact, Fatas and Summers (2018) find evidence of self-defeating fiscal consolidations whereby fiscal consolidations likely resulted in a higher debt-to-GDP ratio through their long-term negative impact on output in AEs after the global financial crisis. Similarly, the distributional impact of a fiscal consolidation program can affect the political sustainability of the program as well as the country's social and development objectives (IMF, 2014c; and Cournède et al., 2013). Thus, even though policymakers cannot fully control the outcome of a fiscal consolidation program, they need to realize that a program that produces poor growth and distributional outcomes will diminish the chance of its success. Lower growth increases the debt-to-GDP ratio not only by lowering its denominator but also by raising the numerator via reduced revenue, which in turn raises the primary deficit and increases borrowing (see Box 1 for this mechanism on conditions of a self-defeating consolidation). In addition, lower growth can fuel public resistance to ongoing reforms.

Fiscal consolidations tend to have adverse growth and distributional consequences in the short term even though they are premised on an improvement in long-term economic performance. Based on Keynesian reasoning, a fiscal consolidation (more taxes and/or less spending) reduces aggregate demand and output, at least in the short term, compared to the pre-consolidation period. Empirical work has confirmed this prediction in AEs and EMs (Carrière-Swallow, Davis, and Leigh, 2021; Guajardo, Leigh, Pescatori, 2014; and Hernández de Cos and Moral-Benito, 2013).

[8] In Chapter 1 of Mauro (2011), Sancak, Liu, and Nakata cited Canada's communication campaign in 1994-95 as a good example. The authorities issued a report titled "A New Framework for Economic Policy" to inform the public about the importance of fiscal adjustment long before the 1995 budget was presented. The key messages of the report were shared, including at national and regional conferences organized by the Finance Minister and substantive public debate across the country among interest groups from different backgrounds.

Dampened economic activity also leads to more unemployment, smaller wage shares in value added, and lower disposable incomes for low-income and credit-constrained groups (McManus, Ozkan, and Trzeciakiewicz, 2021; Furceri, Jalles, and Loungani, 2016; Agnello and Sousa, 2014; Ball et al., 2013; Woo et al., 2013; and Mulas-Granados, 2005). These outcomes can be mitigated by increased spending on social protection, as seen in Portugal's 2011-14 fiscal consolidation program (Box 2).

Nevertheless, some research has found a few cases of expansionary fiscal consolidations even in the short-term. It was argued that in these cases some non-Keynesian effects were at play. In fact, based on the rational expectations theory, the contractionary effects of fiscal retrenchment would be more than offset by factors such as favorable market sentiment, especially when a consolidation was needed to achieve macroeconomic stability and a credible commitment to fiscal adjustment was able to boost private sector confidence and investment, which would result in a wealth effect on consumption and lower interest rates (Segura-Ubiergo, Simone, and Gupta, 2006 on transition economies; Gupta et al., 2003 and 2005 on EMs and LICs; Giavazzi and Pagano, 1990; Afonso, 2010; Alesina and Ardagna, 2010 and 2013 on AEs). The empirical evidence on expansionary consolidation using ex-post cyclical adjustment methods to identify consolidation episodes has been challenged with more accurate methodologies used to estimate discretionary changes in fiscal policy based primarily on the narrative approach (Guajardo, Leigh, and Pescatori, 2014; Alesina, Favero, and Giavazzi, 2015; and Carrière-Swallow, David, and Leigh, 2021).[9] However, more recent work still finds that expenditure-based consolidations could be expansionary under certain circumstances, such as in economies that are very open to trade or in those that start consolidation with high debt levels (exceeding 60 percent of GDP) and increased interest rate risk premiums (Ilzetzki, Mendoza, and Végh, 2013; and IMF, 2008).

Box 1. Self-Defeating Fiscal Consolidations

DeLong and Summers (2012) present a reduced-form framework for assessing conditions under which fiscal consolidation can be self-defeating by resulting in a higher debt-to-GDP ratio through their long term negative impact on output. Here we derive these conditions using the fundamental debt dynamics equation (see, for example, Debrun et al., 2019):

$$B_t = \frac{(r - g)}{(1 + g)} D_t \qquad \text{(Eq 1)}$$

where B_t stands for the primary fiscal balance in year t (in percent of GDP) that is consistent with the stable long-term debt-to-GDP ratio D_t, g real GDP growth rate (assumed constant), and r real government borrowing rate (assumed constant). Taking the first difference of Eq 1, we have:

$$\Delta B_t = \frac{(r - g)}{(1 + g)} \Delta D_t \qquad \text{(Eq 2)}$$

Let G_t stand for government primary spending in percent of GDP in year t, T_t taxes in percent of GDP in year t, and Y_t the level of GDP in year t. Suppose that the government introduces a fiscal consolidation plan that involves a reduction in spending, $\Delta G_t = G_t - G_{t-1}$, measured in percent of GDP. The change in spending is likely to negatively affect GDP in the short run with the magnitude depending on the short-term fiscal multiplier (μ): $\Delta Y_t = \mu \Delta G_t$. Assuming a baseline marginal tax-and-transfer rate τ, the spending cut will result in change in the level of debt in percent of GDP in year t by:

[9] In contrast to the ex-post approach that relies solely on the outcome to identify fiscal consolidation episodes, the narrative approach attempts to link the outcome to consolidation policy measures, thus isolating the assessed impact from the effects of factors other than those measures. Also see Box 3 on the narrative approach in the context of estimating fiscal multipliers.

Box 1. (Continued) Self-Defeating Fiscal Consolidations

$$\Delta D_t = \Delta G_t - \Delta T_t = \Delta G_t - \tau \Delta Y_t = \Delta G_t - \mu\tau\Delta G_t = (1 - \mu\tau)\Delta G_t \quad \text{(Eq 3)}$$

Inserting Eq 3 into Eq 2,

$$\Delta B_t = \frac{(r-g)}{(1+g)}(1 - \mu\tau)\Delta G_t \quad \text{(Eq 4)}$$

The spending cut thus allows the government to run a lower primary balance by ΔB_t (in percentage points of GDP) in maintaining a long-term debt-to-GDP ratio. However, this may not capture the full impact of the spending cut, as fiscal consolidation may have long-term ramifications for output due to its hysteresis effect. Assuming the hysteresis effect on potential output is ΔY_t^p and it is related to the cyclical change in output (ΔY_t), this will result in a permanent loss of government revenue equal to:

$$\tau \Delta Y_t^p = \tau\eta\Delta Y_t = \tau\eta\mu\Delta G_t \quad \text{(Eq 5)}$$

where η is the hysteresis parameter. Combining Eqs. 4 and 5 implies that a fiscal consolidation is self-defeating (i.e., the debt-to-GDP ratio will increase) if the loss in tax revenues from hysteresis (Eq 5) exceeds the net savings from the spending cut (Eq 4), i.e.,

$$\tau\eta\mu\Delta G_t > \frac{(r-g)}{(1+g)}(1 - \mu\tau)\Delta G_t \quad \text{(Eq 6)}$$

Rearranging this relationship and omitting (1+ g), which is constant and close 1, we obtain the DeLong-Summers result that a fiscal consolidation is self-defeating if:

$$r - g < \frac{\tau\eta\mu}{(1-\mu\tau)} \quad \text{(Eq 7)}$$

It is clear from Eq (7) that the lower the government's real borrowing cost and the higher the economy's potential growth, the more likely a fiscal consolidation is self-defeating. Given the difference between the borrowing cost and growth potential ($r - g$), the greater the hysteresis and multiplier effects are, the more likely a fiscal consolidation is self-defeating. For example, if r = 5%, g = 2.5%, τ = 1/3, a fiscal consolidation is delf-defeating for μ = 2.5 as long as $\eta > 0.005$; it is delf-defeating for μ = 1.5 as long as $\eta > 0.025$. In calibrating Eq (7), DeLong and Summers (2012) use μ = {0, 2.5} and η = {0, 0.2} for a severely depressed economy at the zero lower bound, a situation when a fiscal consolidation is more likely to be self-defeating.

A caveat is in order. It is assumed in the above analysis that the government's real borrowing rate is exogenous. However, if financial markets expect a fiscal consolidation to take place even when it would be self-defeating at the prevailing borrowing rate, they could push the borrowing rate higher if the government decided not to undertake the expected fiscal consolidation. This could turn fiscal consolidation into a self-fulfilling prophecy.

Although fiscal consolidation generally results in short-term output losses relative to the prior period, it could have a positive impact on growth outcomes relative to the counterfactual of no consolidation in the same period.[10] In fact, there is evidence that successful Fund-supported programs had a positive impact on growth outcomes relative to the counterfactual of no-program and thus played a stabilizing role (Kim et al., 2021; and Kuruc, 2022). Using the propensity scoring approach to correct for sample selection bias, these studies conclude that the growth effects are hump-shaped and fade in the medium-run, consistent with positive signaling effects, which boost investor confidence

[10] Fiscal consolidation is usually preceded by a period of lax fiscal policy that yields growth. Hence, comparing growth during the consolidation period to the period before consolidation would likely result in evidence of contractionary fiscal consolidation.

and liquidity conditions, thus easing the external financing constraints.[11] Evaluations also showed that fiscal adjustments under successful IMF financial arrangements typically led to improvements in the fiscal position in General Resources Account (GRA)-funded programs (IEO, 2021; and ECB, 2019).[12] However, program growth assumptions have been found to be too optimistic, suggesting that program designers underestimated the negative impact of planned consolidations on short-term growth by possibly assuming lower ex-ante fiscal multipliers among other factors (IMF, 2019).[13] As a result, public debt-to-GDP ratios have tended to rise rather than decline as programmed (IEO, 2021). However, in countries where debt vulnerabilities were initially high, debt sustainability improved under Fund-supported programs in one-third of the cases (IMF, 2019).

The extent of output losses associated with fiscal consolidations depends on the size of the *fiscal multiplier*. This key gauge is defined as the ratio of a change in output (ΔY) to a discretionary change in government spending (ΔG) or tax revenue (ΔT). Thus, the fiscal multiplier measures the effect of a $1 change in spending or revenue on the level of GDP. If fiscal multipliers are large, then lower spending or higher taxes could lead to significant output losses.

The literature presents various types of multipliers. The simplest form of them is the impact multiplier measuring the contemporaneous effect of fiscal policy shock or the effect at some future horizon (Spilimbergo, Symansky, and Schindler, 2009). The literature also presents the peak multiplier, which measures the largest response over any horizon, and the cumulative multiplier, which captures the cumulative change in output over the cumulative change in fiscal policy over a period. For expenditure multipliers, there is also the present value (PV) multiplier, which measures the present discounted value of the output response over time divided by the discounted value of the fiscal shock (Mountford and Uhlig, 2009).[14]

Research indicates that the size of multipliers depends on a set of structural characteristics of an economy. Fiscal adjustments tend to generate large output responses in economies that are less open and have greater labor market rigidities, limited automatic stabilizers, and a less flexible exchange rate, among others (IMF, 2014a). Based on these aspects, multipliers might be expected to be higher in developing countries where such structural characteristics are often more prevalent than in advanced economies. Moreover, public investment multipliers should be higher in developing countries because they tend to have a smaller initial stock of public capital, which implies higher marginal productivity of public investment (Baxter and King, 1993). However, empirical evidence on these predictions is mixed, as structural weaknesses in public finances in developing economies lead to more leakages that weaken the impact of fiscal policy. Multipliers in LIDCs could also be reduced by larger precautionary savings stemming from a more uncertain environment; low efficiency of public expenditure; difficulty in unwinding expenditure; low revenue levels; and lower fiscal policy credibility (Miyamoto et al., 2020; and Ilzetzki, Mendoza, and Végh, 2013). In addition, significant spending leakage through imports (e.g., via imports-intensive projects) as well as a large informal economy may also result in lower multipliers (Colombo et al., 2022; and Dime, Ginting and Zhuang, 2021). More recent findings have highlighted the role of corruption in enabling tax evasion and thus undermining tax collection efforts, which may force the government to adopt policy changes that are larger than necessary in order to achieve the required consolidation (IMF, 2019).

[11] The propensity scoring approach involves two stages of modeling. In the first stage, the probability of participating in an IMF-supported program is estimated. In the second stage, the growth rate is estimated using the data weighted by the inverse propensity obtained from the first stage model. See Caliendo and Kopeinig (2008) for some general guidance on this approach.

[12] IMF funding for its supported programs mainly consists of two sources: General Resources Accounts (GRA) and the Poverty Reduction and Growth Trust (PRGT). The IMF charges non-concessional (market-based) interest rates for lending from the first source and offers concessional rates (currently zero) on loans from the second source. In 2022, the IMF also started to provide concessional funding through its Resilience and Sustainability Trust (RST) to address longer-term challenges, including those related to climate change and pandemic preparedness.

[13] IEO (2021) found that fiscal multipliers were especially underestimated for PRGT programs, especially revenue multipliers, even though revenue mobilization tended to underperform during the program period (IEO, 2021).

[14] The literature has also looked at fiscal multipliers at the industry level, but these are beyond the scope of this paper.

Box 2. Portugal: Cushioning the Distributional and Social Impact of 2011-14 Fiscal Consolidation

Portugal embarked on an ambitious fiscal consolidation program in 2011 as part of a macroeconomic stabilization program after years of slow growth, rising public debt, and large external imbalances. The 2011-14 program was aimed at restoring economic growth and credibility of public finances following a sudden stop in capital inflows. By many metrics, the fiscal consolidation program, which resulted in a 5.7 percent of GDP reduction in the primary deficit, from 8.7 percent of GDP in 2010 to 3.0 of GDP in 2014, was large and successful. After three years of negative growth from 2011-2013 with a cumulative contraction of 6.7 percent in real GDP, growth turned positive in 2014 and averaged 2.6 percent per year from 2015-19, compared with 0.6 percent during 2005-10. Public debt started to trend downward from 2015 onward, while the external current account balance improved rapidly and turned to a surplus in 2013.

To cushion the impact of the fiscal consolidation, the authorities increased social protection spending by 1.6 percent of GDP from 2010 to 2014 despite the overall reduction in government expenditure (including gross fixed capital formation), which accounted for one-third of the total consolidation. This helped mitigate the impact on the poverty headcount which increased by over 2 percentage points between 2010 and 2014, compared to 5½ percentage points had there been no increase in net government transfers. Similarly, increased social protection helped keep disposable income Gini broadly unchanged during the reform while market income Gini increased by nearly 2¾ percentage points. These numbers underscore the importance of social protection in mitigating the short-term adverse impacts on poverty and income distribution, but they also highlight the challenges in eliminating such impacts when the economy suffers large contractions in output and employment during a consolidation.

Portugal's experience also highlights the need to undertake granular analysis of poverty and income distribution impact in designing a consolidation program and assessing its outcome. Data shows that disposable incomes declined the most for households in the bottom decile as well as the top two deciles during 2010-14, while households around the middle of income distribution fell the least. This outcome partly reflects the fact that overall changes in taxes and transfers between 2010-14 favored households around the middle of distribution and the second richest group—though the latter still experienced the largest fall in disposal income. These findings underscore the difficulties in adequately targeting social assistance to anticipate and prevent income distribution from worsening during a fiscal consolidation.

The analysis of Portugal's program also points to the importance of structural reforms to address broad social consequences of fiscal consolidation. The consolidation led to a fall of nearly 1½ of GDP in spending on public education, but OECD data indicated that Portugal continued to close its educational performance gaps with other EU countries during the program, thanks to such measures as targeted incentives to improve student performance and greater autonomy for schools in planning teacher schedules and subjects. On the health front, there was a similar reduction in government spending, and yet a 2015 OECD review found that Portugal was able to increase the quality of its healthcare through measures that increased the number of nurses and physicians per 1,000 people and reduced the procurement costs of pharmaceuticals and medical devices.

Source: IMF (2022c).

Conjunctural factors such as the state of the business cycle and the degree of monetary accommodation to fiscal policy changes also affect the size of multipliers. Multipliers have been found to be larger during downturns than upswings and there is now a quasi-consensus in the literature that a fiscal policy change is more powerful when there is slack in the economy (Auerbach and Gorodnichenko, 2012; and Baum, Ribeiro, and Weber, 2012). One possible channel of the larger impact is that the proportion of credit-constrained households and firms increases during economic downturns and these agents are unable to offset the reduction in their disposable income and revenues by borrowing (Mineshima, Poplawski-Ribeiro, and Weber, 2014; and Canzoneri et al. 2016). Moreover, multipliers behave asymmetrically with business cycles. They steadily increase if the initial spending shock occurs in a recession while they steadily decline if the shock happens in an expansion (Auerbach and Gorodnichenko, 2012). A more recent study (Kinda, Lengyel, and Chahande, 2022) has found that during health crises, social distancing and uncertainty may lower multipliers which then increase in magnitude as economies re-open and pent-up demand is unleashed.

Multipliers could be larger when monetary policy is constrained at the Zero-Lower Bound (ZLB) relative to normal times. In theory, the ZLB strengthens the contractionary effects of fiscal consolidation. Public spending cuts at the ZLB reduce aggregate demand, subdue inflation, and lead to rising real ex-ante interest rates. As monetary policy is not able to provide any accommodation, these dynamics would further reduce consumption and output (IMF, 2014a; and Christiano, Eichenbaum, and Rebelo, 2011). In contrast, cuts in the policy rates in normal times would reduce real interest rates, help crowd-in private demand and soften the contractionary effects of fiscal consolidation. Similarly, the contractionary effects of tax increases are also larger at the ZLB relative to normal times, but possibly to a lesser extent than those of expenditure cuts. For example, consolidations via high labor taxation may result in real wage increases as workers push for higher pay to compensate for the reduced after-tax income, leading to an increase in inflation expectations and therefore lowering the real interest rates (Schwarzmüller and Wolters, 2014). Empirical evidence of higher multipliers at the ZLB has been provided by Goode, Liu, and Nguyen (2021) and Amendola et al. (2019) with the latter showing that the ZLB leads to higher multipliers only in the medium-term.

Reflecting these factors and methodologies and data used, empirical work shows a wide range of estimates of fiscal multipliers depending on the methodology, country coverage, and the type of multipliers estimated. Table 2 provides a summary of the estimated multipliers and the identification strategy. Box 3 outlines the key methodologies used for estimation in the literature. Overall, the estimated multipliers consistently capture the short-term contractionary effect of fiscal consolidations. Specifically, spending multipliers are found to be positive and at peak they hover around a range of 0.6-1 but are lower (0.3-0.6) during the first year (Guajardo, Leigh, and Pescatori, 2014; Ilzetzki, Mendoza, and Végh, 2013; IMF, 2010a; and Blanchard and Perotti, 2002). Public investment multipliers tend to be higher than consumption multipliers, with some evidence that the former are even higher in LIDCs than in AEs (Izquierdo et al., 2019; and Ilzetzki, Mendoza and Végh, 2013). On the other hand, peak tax multipliers are more often above one with the first-year magnitude estimated at 0.6-1 (Mineshima, Poplawski-Ribeiro, and Weber, 2014; IMF, 2014a; and IMF, 2010a).[15,16] There is also some evidence suggesting that multipliers are often lower for LIDCs, with estimates of 0.7 for cumulative spending multipliers and less than 0.2 for impact multipliers, while the latter for taxes were estimated at about 0.3 (Honda, Miyamoto, and Taniguchi, 2020; Ilzetzki, Mendoza, and Végh, 2013; and Ilzetzki, 2011).

Accommodative monetary and exchange rate policies and structural reforms are found to alleviate the output and distributional impacts of fiscal retrenchments. IMF (2021; 2010a), Guajardo, Leigh, and Pescatori (2014), and Krugman (2010) note that a fiscal consolidation is likely to be less contractionary when there is scope for interest rate reduction and exchange rate adjustment to reflect fundamentals (i.e., more flexibility). Structural reforms such as labor and product market liberalization could positively impact the supply side of the economy and help offset some of the contractionary effects of fiscal adjustments via the demand side (Alesina and Ardagna, 2013), and reforms that improve the efficiency of public services in education and health as well as base-broadening reforms can alleviate the

[15] When a multiplier is above 1 in a tax-based consolidation, output contracts more than the amount of additional revenues. This, however, does not necessarily imply that overall revenues go down: multipliers go above 1 even “to the left” of the Laffer curve peak.

[16] Following the literature convention, the tax multipliers are multiplied by -1, with negative estimates presented in positive numbers.

distributional effects of consolidation programs (Cournède et al., 2013). Policies that support both equity and growth objectives such as targeted social transfers could mitigate the losses (Rawdanowicz, Wurzel, and Christensen, 2013; IMF, 2014c).[17]

Program design—timing, composition, and pace of consolidation—has significant implications for distributional outcomes of fiscal adjustments. A fiscal contraction may be less harmful to inequality when implemented during an economic boom in AEs and EMs (McManus, Ozkan, and Trzeciakiewicz, 2021; Mulas-Granados, 2005; and Woo et al., 2013).[18] Not surprisingly, expenditure-based consolidations often widen income inequality more than a tax-based approach, especially in AEs whose existing expenditure policy is more progressive than in LIDCs (IMF, 2014c).[19] Tax-based consolidations can be designed to either improve or worsen equity outcomes: raising value-added taxes without returning the revenue to the poor tends to be regressive in both advanced and developing economies, whereas raising personal income taxes has in some cases yielded more progressive outcomes (IMF, 2014c; McManus, Ozkan, and Trzeciakiewicz, 2021; and Peralta-Alva et al., 2018). Finally, econometric evidence is relatively scarce on the speed of consolidation. However, a recent study using a DSGE model shows that faster fiscal consolidations have a larger negative impact on output and income distribution (McManus, Ozkan, and Trzeciakiewicz, 2021).[20]

In the long term, successful consolidation programs can boost growth and improve equality. A successful consolidation that lowers high initial levels of public debt can bolster medium to long term growth by crowding in private investment (reflecting a lower equilibrium real interest rate), reducing policy uncertainty, and strengthening a country's resilience to shock. The potential growth dividends from fiscal stabilization are stronger for AEs compared to EMs and LIDCs where developmental priorities dominate (IMF, 2015). In the case of developing economies, the long-term growth dividends appear to be non-linear, with the effects disappearing or reversing when fiscal contraction is large (Adam and Bevan, 2005).[21] Gradual, credible, and durable consolidations increase the likelihood of stronger medium- to long-term growth. Significantly lower domestic financing costs stemming from fiscal consolidation are associated with stronger growth dividends (Gupta et al., 2005). Income distribution may also improve or recover in the long run as stronger growth following a successful consolidation can improve the wage share or reverse its decline and reduce interest rates, which reduces capital income for richer households (IMF, 2014c; McManus, Ozkan, and Trzeciakiewicz, 2021; and Sakkas and Varthalitis, 2019).

Overall, fiscal consolidations involving protection of public investment, including in physical and human capital, and targeted social spending to mitigate the impact on inequality seem to yield lasting growth dividends (Kim et al., 2021). Such growth-enhancing adjustment programs that reduce inflation and correct macroeconomic imbalances can also reverse the detrimental impact on equality (IMF, 2014c; Albanesi, 2007 and Agénor, 2002). Recent analysis also suggests that a green investment push in the context of revenue mobilization through carbon pricing can offset some of the short-term output losses and result in stronger growth in the long term (IMF, 2020).

[17] It should be noted that even targeted fuel and food subsidies may be a second-best measure. Targeted protection through social safety nets is likely a more efficient approach if available and well designed.

[18] Woo et al. (2013) mentions increased unemployment as a potential catalyst for the worse distributive outcomes of fiscal adjustments during economic downturns.

[19] Studies on EMs and LIDCs find limited or no distributive effects due to less progressive spending and tax policies in place before or during consolidation (Azevedo et al., 2014; Bastagli, Coady, and Gupta, 2012; Goñi, López, and Servén, 2008).

[20] Heimberger (2018) and Woo et al. (2013) finds that longer consolidations may widen inequality. This strand of literature, however, acknowledges that the results may be due to the correlation between longer and larger consolidations.

[21] Adam and Bevan (2005) identify a threshold of 1.5 percent of GDP, beyond which, fiscal consolidation might not yield growth dividends. This may be because a larger consolidation tends to entail cuts in 'productive expenditure' such as on health, education, infrastructure, public order and safety, and public administration, all of which are essential for long-term growth.

Table 2. Selected Multiplier Estimates

Study	First-Year T	Peak T	First-Year G	Peak G	Notes
Advanced Economies					
Blanchard and Perotti (2002)	1.1	1.3	0.6	0.9	sVAR with Choleski decomposition of residuals; US in postwar periods; the estimates are based on stochastic trends.
Ramey (2009)	-	-	-	1.0-1.1	sVAR with narrative evidence; US defense spending news from 1939 to 2008.
Mountford and Uhlig (2009)	0.9	3.6	0.3	0.7	VAR with sign restrictions; US from 1955 to 2000; Peak T multiplier is -3.57 in the 7th quarter; Peak G multiplier is 0.65 in the 1st quarter.
Romer and Romer (2010)	1.2	3	-	-	VAR with narrative series of tax changes unrelated to business cycles; US from 1950 to 2006.
Coenen et al. (2012)	-	-	1.1-1.3	1.1-1.3	Seven structural models across six institutions, including IMF's GIMF, Fed Board's FRB-US and SIGMA, ECB's NAWM, OECD's Fiscal; Global as well as US-based models; The G multiplier is based on government investment; The estimates are of the U.S., with 1-year monetary accommodation.
Guajardo, Leigh, and Pescatori (2014)	0.4	1.5	0.3	0.6	Narrative method using the identificaton of policy changes from historical documents; 17 OECD countries.
Sims and Wolff (2018)	Consumption: 0.2 Labor: 0.3 Capital: 1.4	Consumption: 0.6 Labor: 1.4 Capital: 2.7	-	-	Medium-scale DSGE model using the steady state tax revenue response with taxes on labor, capital and consumption; Allows for non-linear dynamics; Calibrated to US economy.
Alesina and Ardagna (2010)	1.2	2	0.5	0.3	Narrative method using the identification of austerity plans from official documents; 16 OECD countries.
Chodorow-Reich (2019)	-	-	-	1.7	Geographical variation across US states in the implementation of the American Recovery and Reinvestment Act, then weighted aggregation; Present-value multiplier.
Horvath et al. (2019)	-	0	-	1.1	New Keynesian model; US; T multipliers reflect the results from payroll tax change. Estimates on sales and capital tax are available. The reported multipliers are based on the scenarios with (1) a flat Phillips curve where the link between economic activity and inflation is weak and (2) zero-lower bound.
Developing Countries					
Ducanes et al. (2006)	0.3	-	1	-	Structural macroeconomic model simulations; Bangladesh, China, Indonesia, and Philippines; The reported values are the average multipliers across the countries.
Ilzetzki and Vegh (2008)	-	-	0.4	0.6	VAR; 27 developing countries; The estimates are as cited by Spilimbergo, Symansky, and Schindler (2009).
IMF (2008)	Elasticity-based: 0.2 Regression-based: 0.1	-	Elasticy-based: 0.2 Regression-based: 0.2	-	Elasticity- and regresstion-based (Arellano-Bond estimator) fiscal impulse measure; 20 emerging economies from 1970 to 2007 (the list is available in the report); The estimates are as cited by Spilimbergo, Symansky, and Schindler (2009); The estimates are based on revenue-based policy changes (T multiplier) and expenditure-based policy changes (G multiplier).
Tang, Liu, and Cheung (2010)	0.7	-	-0.1		sVAR; ASEAN countries; The reported values are the average multipliers of the five ASEAN countries.
Ilzetzki, Mendoza, and Végh (2013)	-	-	-0.03 (Impact)	-0.7 (Cumulative)	Structural VAR approach; 24 developing countries; Developing countries include non high-income countries by WB income classification.
Ilzetzki (2011)	0.3 (Impact)	0.8 (Long run)	0.17 (Impact)	0.15 (Long run)	OLS, GMM, sVAR; 28 emerging countries.
Gonzales-Garcia, Lemu, and Mrkaic (2013)	~0	~0	0.4	0.6	VAR approach; Eastern Caribbean Currency Union; The G multiplier is based on investment expenditure.
IMF (2017)	0.2	0	< 0.1	0	Local projections method; SSAs from 1990-2016; The third-year multipliers are 0.7 for public investment and 0.5 for public consumption.
Honda, Miyamoto, and Taniguchi (2020)	-	-	0.1	0.1	Local projections method; 42 low-Income Countries excluding resource-rich countries from 1995 to 2017.

Box 3. Methodologies for Estimating Fiscal Multipliers

Estimating the fiscal multiplier is a complex exercise because growth and fiscal policy depend on each other. In fact, growth can affect fiscal policy indicators because fiscal components (such as tax revenues and transfers, e.g., unemployment benefits and subsidies) vary with changes in economic activity. At the same time, fiscal policy affects aggregate demand through both automatic stabilizers and discretionary measures. This two-way causality has made the accurate measurement of the impact of fiscal policy on growth quite challenging. However, techniques have been attempted to filter out the parts due to cyclical changes (e.g., automatic stabilizers) from those due to discretionary measures. This box divides existing estimates into three main classes, following Ramey (2019): (1) aggregate country-level time series or panel estimates; (2) estimated or calibrated New Keynesian dynamic stochastic general equilibrium (DSGE) models; and (3) subnational geographic cross-section or panel estimates

Aggregate Estimates. Empirical macro approaches use narrative strategies or structural vector autoregression (sVAR) to perform *causal inference* (see Nakamura and Steinsson, 2018). Both aim to identify an instrument that represents a credibly exogenous variation in policy, and to use it to measure relevant multipliers. The narrative approach relies on official documents to create new data series of exogenous changes. Official documents report changes in tax legislation (Romer and Romer, 2010), a set of legislative and budgetary measures (Attinasi and Klemm, 2016), news about military buildups (Ramey and Shapiro, 1998), or the details of multi-year fiscal consolidation plans (Guajardo, Leigh, Pescatori, 2014; Alesina, Favero, and Giavazzi, 2019). The sVARs identify shocks by combining two strategies: first, regress relevant policy variable on multiple quarterly lags of itself, other fiscal variables, output, and possibly a time trend. A fiscal shock is then obtained by exploiting lags in policy implementation under the assumption that controlling for lags of taxes, spending, and output eliminates all endogenous variation, as in Blanchard and Perotti (2002) or Ilzetzki, Mendoza, and Végh (2013). An alternative strategy for the second step is to rely on sign restrictions on impulse responses based on theory, as in Mountford and Uhlig (2009). For the pros and cons of these approaches, interested readers could refer to Barro and Redlick (2011), Ramey (2009), Leeper, Walker, and Yang (2013), Ramey (2016), Guajardo, Leigh, and Pescatori (2014), Auerbach and Gorodnichenko (2012), Ramey and Zubairy (2018), and Riera-Crichtona, Végh, and Vuletin (2016).

Structural Models. Coenen et al. (2012) perform a comprehensive exercise by comparing simulation results across the large-scale New Keynesian DSGEs models adopted by the world's main policymaking institutions. Their work focuses on the effects of a fiscal expansion, with and without the aid of expansionary monetary policy. As such, results do not immediately translate for fiscal consolidations, especially if one is interested in the role of monetary policy. Estimates are consistent with other model-based evidence provided by Cogan et al. (2010), and Leeper, Traum, and Walker (2017). Noticeably, spending multipliers lie in a range that is broadly similar to the estimates from purely empirical approaches. Model based tax multipliers, on the other hand, are generally smaller. Sims and Wolff (2018) build a medium-scale model calibrated to the US economy and finds high multipliers only for capital taxation. In their model, the size of multipliers is pro-cyclical rather than counter-cyclical, in contradiction to what is found in the empirical literature. As reconciling the two approaches is not straightforward, the combined evidence on tax multipliers appears less robust than spending multipliers across methods.

Box 3. (Continued) Methodologies for Estimating Fiscal Multipliers

Cross-Sectional Estimates. The Bartik instruments (see Goldsmith-Pinkham, Sorkin, and Swift, 2020) allow researchers to exploit geographical variation to identify exogenous shifts in fiscal policy by removing any potential measurement biases in the multiplier. So far, this has been primarily used to shed light on spending multipliers. Using this approach, Nakamura and Steinsson (2014) argue that evidence on large regional multipliers provide validation to models in which output responds strongly to demand shocks. In these models the aggregate multiplier is large when monetary policy is accommodative (for example, at the zero lower bound). Chodorow-Reich (2019) generalizes this approach and attempts to aggregate estimates of regional multipliers into a national one, obtaining large spending PV multipliers. He furthermore argues that they represent a "lower bound" for national multipliers, as regional estimates suffer from downward bias due to spillover effects. Adopting the corrections suggested by Ramey (2019), however, national multipliers fall again within the ballpark of previous studies. It must be stressed, in any case, that cross-sectional estimates are very reliant on assuming the environment is described by a closed economy, with a no-monetary-policy-response, deficit-financed expansion. Each violation of the above-mentioned hypothesis would imply an upward bias.

Approaches to Fiscal Consolidations

Successful consolidations are typically underpinned by credible commitment to reform and sound program design. Most consolidations are found to be paced at an annual improvement of 1-2 percent of GDP in the CAPB. Gradual and back-loaded consolidations tend to mitigate output losses and stabilize debt more permanently by allowing time for needed structural reforms; faster and more frontloaded consolidations are often driven by larger and more urgent need for retrenchment and lack of financing. Although the exact policy mix of consolidation measures is a function of country circumstances, successful consolidations often safeguard public investment and social protection and target less distortionary tax bases.

It is clear from the previous sections that the design of a fiscal adjustment program affects its outcomes, including the chance of its success and impact on growth and inequality. When planning a fiscal consolidation, policymakers need to make choices about three main design aspects: (i) the size and pace of consolidation, (ii) its phasing (how to spread it over the reform period) and duration (how far to stretch it over time), and (iii) its composition by type of policy measure. Policy choices depend on consolidation objectives, initial socio-economic conditions, and policy constraints.

Whatever approach policymakers may adopt for program design, it is critical that their commitment to consolidation is credible. IMF (2021) defines "fiscal credibility" as the public's confidence in the government's fiscal plans and its ability to achieve its commitments. In the context of fiscal consolidation, a credible plan provides the market with confidence and allows the government greater policy space to maneuver.[22] David, Guajardo, and Yépez (2022) find that sovereign spreads barely move when austerity measures are announced by the executive branch but decline significantly following news that such measures have been legislated, particularly in economies with high sovereign spreads, elevated debt levels, and low credit risk ratings. These effects are found to be even larger in the presence of an IMF-supported program. Hatchondo, Martinez, and Roch (2020) estimate that a credible commitment can reduce sovereign spreads by as much as 80 percent and cut the probability of default by half. Similarly, End and

[22] As noted in section II, building this confidence goes hand in hand with a well-designed communication strategy to raise public awareness about a country's fiscal challenges (Villafuerte et al., 2010).

Hong (2022) find that markets reward credibility with more favorable sovereign financing conditions, and Caldas-Montes, Bastos, and Oliveira (2019) show that fiscal announcements and credibility reduce uncertainty surrounding public debt.

While it is not surprising that the pace of a fiscal consolidation episode tends to be linked to its size, most consolidation efforts involve an annual average improvement of 1-2 percent of GDP in CAPB. Evidence for post-WW2 consolidations shows that cumulative improvements in the CAPB were on average about 3-5 percent of GDP and took place over 3-4 years (Escolano, Jaramillo, and Mulas-Granados, 2018), equivalent to about 1 percent of GDP per year, which echoes the findings of IMF (2010a). Larger consolidations in the order of 7-8 percent of GDP (equivalent to 2 percent or more per year) have also occurred in some countries, with the magnitude occasionally up to 5 percent per year during periods of economic crisis (Escolano, Jaramillo, and Mulas-Granados, 2018; Molnár, 2012; and Tsibouris et al., 2006).[23] Some large consolidations are found to last for 4-8 years (Escolano, Jaramillo, and Mulas-Granados, 2018).

Gradual and back-loaded consolidations tend to stabilize debt more permanently with more contained output losses, especially when retrenchments are large. The literature indicates that around 40-60 percent of consolidations are front-loaded with at least 50 percent of the total adjustment occurring in the first half of the consolidation episode (Tsibouris et al., 2006; and Baldacci et al., 2004). Yet, the advantage of a gradual consolidation, especially when it is large, is that it spreads out output losses over time, making it more politically and socially acceptable and hence giving the overall consolidation plan a higher likelihood of success (Escolano, Jaramillo, and Mulas-Granados, 2018; and Molnár, 2012).[24] Backloaded consolidations may be more appropriate for countries undergoing protracted economic contractions as under these circumstances multipliers remain high into the medium-term (Dell'Erba, Koloskova and Poplawski-Ribeiro, 2018). Such consolidations could also avoid hysteresis effects associated with persistent fiscal shocks (DeLong and Summers, 2012). However, gradual consolidations, if occurring over an extended horizon, face a higher risk of being reversed as they are more likely to induce adjustment fatigue (von Hagen, Hallett, and Strauch, 2002).

Moreover, back-loaded large consolidations seem to be more successful in EMs and LIDCs as they allow time to undertake structural reforms to strengthen fiscal institutions (Baldacci et al., 2004; Heylen and Everaet, 2000; and Mauro and Villafuerte, 2013). This finding seems to lend support to the recent approach to the design of Fund-supported programs in LIDCs and poorer EMs, which are found to be typically back-loaded to allow time for countries to address fiscal imbalances, which are often structural in nature. Such an approach also better accommodates limited institutional capacity and lower political and economic tolerance of income shocks in these countries. Backloaded adjustment under PRGT-funded programs allows for some fiscal easing in the first year of the program and provides more time for tax mobilization to finance higher capital spending (IEO, 2021). This approach seems to mark a shift from the one found in earlier programs where the majority of programs were frontloaded (Tsibouris et al., 2006; and Baldacci et al., 2004). However, adjustments are found to remain more front-loaded under GRA-funded programs.

Front-loaded consolidations tend to occur under fiscal pressures. Countries that opted for large and quick consolidations were often those with concerns about fiscal sustainability or high credit risk premia (Escolano, Jaramillo, and Mulas-Granados, 2018; Molnár, 2012; Kumar, Leigh, and Plekhanov, 2007; and Gupta et al., 2003).[25] Some front-loaded consolidations were motivated by the desire to signal a credible reform commitment to the private sector (Giavazzi and Pagano, 1995). However, as noted earlier, quick and large adjustments often came with large output losses (Escolano, Jaramillo, and Mulas-Granados, 2018; and Pennings and Pérez Ruiz, 2013). Quick

[23] The average size of the consolidation is also sensitive to the indicator used to measure the size of adjustment (primary balance or cyclically adjusted primary balance), and the time period examined, with larger consolidations estimated by studies focusing on crisis periods such as 1970-2001 (debt crisis in the 1980s, breakdown of the ERM in the early 1990s and the Asian Financial Crisis in the late 1990s).

[24] The pace referred to here is that for every additional year of adjustment, its size increases by 1 ppt in advanced countries and 0.6 ppt in developing countries.

[25] An EM starting the episode with debt at 60 percent of GDP could be expected to adjust its CAPB by 1¼ percentage point of GDP more than another that started with 30 percent (Escolano, Jaramillo, and Mulas-Granados, 2018).

consolidations may also be more appropriate for EMs seeking to maintain or regain market access, as such actions are shown to contribute to reducing sovereign risk premia in EMs with low fiscal stress (Born, Müller, and Pfeifer, 2020). In the context of Fund-supported programs, front-loaded consolidations may be needed to demonstrate countries' commitment to reforms or to seize the momentum of reform, especially if program conditionality is in place for a relatively short period of time (e.g., typically three years under a Stand-By Arrangement).

The most effective revenue-expenditure composition of adjustment remains unclear. Early work found that consolidations based on current expenditure cuts, mainly on the wage bill and transfers, tend to result in lower output losses than tax increases in AEs (Alesina and Perotti, 1995; McDermott and Westcott, 1996; and Kumar, Leigh, and Plekhanov, 2007). It was further noted that such consolidations were more likely to last. However, these conclusions, based on fiscal-adjustment episodes identified based on ex-post outcomes, were contested by subsequent evidence. Announced fiscal consolidations often intended to rely on expenditure cuts rather than revenue hikes, but in practice, spending was cut by less than planned and policymakers ended up relying more on revenue increases, often reneging on tax cut promises (Abbas et al., 2011).[26] Some results, based on the narrative approach, still show that spending-based fiscal adjustments lead to smaller output losses than tax-based fiscal adjustment (Yang, Fidrmuc, and Ghosh, 2015). However, a recent study indicates that revenue-raising measures were less contractionary for LIDCs (IMF, 2017).

In general, large consolidations require multiple policy instruments. Molnár (2012) argues that when consolidations are large, both tax and spending measures seem to be necessary to stabilize debt permanently. Baldacci et al. (2004) find that expenditure cuts accompanied by revenue reforms were successful in achieving and maintaining fiscal stability in EMs. Similarly, Adam and Bevan (2003) note that when revenues are low and consolidation needs are large, multiple instruments are needed and revenue reforms play a major role, both in LIDCs and in AEs. Moreover, revenue-raising measures are found to be more lasting in LIDCs and EMs where revenue-to-GDP ratios are modest. This is especially the case when there is scope for revenue gains through unexploited sources such as excise taxes, property taxes, and value added taxes (Gupta et al., 2004). When tax revenues are not so low (no less than 25 percent of GDP), spending-based adjustments prove more lasting but not necessarily less contractionary (Tsibouris et al., 2006).

Whatever the policy mix of consolidation measures a country may choose it must be underpinned by lasting structural reforms that help promote growth and protect the vulnerable. Genuine structural reforms, rather than temporary measures, help ease trade-offs between consolidation, equity, and long-term growth objectives (OECD, 2013).

- On the revenue side, policy measures should ideally be based on a tax policy review and guided by a medium-term revenue mobilization strategy. In general, measures that would result in immediate revenue gains but are inconsistent with efficiency or distributional objectives should be avoided (OECD, 2013).[27] It is more effective to focus on raising less distortive taxes like property taxes (though often difficult to undertake in the short term in developing countries) or environmental taxes (Cournède et al., 2013; and Attinasi and Klemm, 2016). Box 4 provides an overview of the potential and challenges in leveraging climate-related policies for fiscal consolidation. Rationalizing tax expenditures and broadening the tax base—including by curbing fraud and evasion and replacing tax holidays with tax credits or investment allowances—can also help generate lasting revenue gains.
- On the spending side, it is more effective for cuts to be based on an overall medium-term expenditure review that identifies spending priorities and saving measures to address emerging pressures (Doherty and Sayegh,

[26] Notwithstanding these results, revenue-based consolidations seem to have larger electoral costs than expenditure-based consolidations in advanced economies (Arias and Stasavage, 2019; and Ziogas and Panagiotidis, 2021). On the other hand, expenditure-based consolidations are politically more detrimental to liberal-leaning government but beneficial for conservative-leaning governments (Alesina et al., 2021).

[27] For instance, raising personal and corporate income taxes or social security contributions could reduce incentives for labor force participation or productivity (OECD, 2013). As another example, a tax amnesty may generate some immediate revenue, but it risks creating perversive incentives for compliance in the long run.

2022; and Daniel et al., 2006).[28] In principle, cuts in capital expenditure, particularly in the areas of infrastructure, or in education and health, should be avoided, because such measures would have not only social consequences but also adverse impact on long-term growth, including though negatively affecting private investment (OECD, 2013; Daniel et al., 2006; and Honda, Miyamoto, and Taniguchi, 2020). In fact, there is some evidence that supports increases in such spending. The IEO report (2021) found that a 1 percent increase in public investment and social spending during an IMF-supported program period produced lasting growth benefits of 0.07 and 0.18 percentage points, respectively. If, however, cuts on capital expenditure are unavoidable, new projects should be postponed rather than cancelling existing ones. Attention should also be given to improving the efficiency of investment in countries where gaps exist compared to best performers. Overall, it is generally less harmful to cut current expenditure, such as public sector wage bills and subsidies for SOEs. If such cuts affect utility services, they should be accompanied by tariff increases to achieve full cost recovery.

High inflation poses additional challenges to fiscal consolidation. Higher-than-expected inflation has the potential—while it lasts—to raise more revenue, reduce some real expenditures, and lower debt burdens in most countries in the short run. But inflation also boosts political and societal demands for lower taxes and higher expenditures to mitigate the impact of higher prices, in addition to generating greater uncertainty over medium-term outlook for growth (Box 5). In general, countries should avoid responding by reducing taxes permanently, including excise taxes on fuel taxes, consumption taxes, and income taxes and increasing general subsidies. Such measures may be unaffordable, difficult to reverse, inconsistent with efficiency and equity objectives, and ultimately ineffective. Instead, where possible, policy should focus on protecting the vulnerable through targeted assistance (Amaglobeli et al., 2023). To neutralize the impact of inflation on taxes, policymakers can consider indexing key tax parameters to inflation, such as personal income tax brackets, allowances and credits, VAT registration thresholds, etc. (Beer, Griffiths, and Klemm, forthcoming).

Countries that have recently suffered from a banking crisis may consider prioritizing growth and restoring banking sector stability in their consolidation efforts. Post-crisis consolidations were often sizable and consisted of lowering the debt-to-GDP ratio by 20-40 percentage points of GDP (Baldacci, Gupta, and Mulas-Granados, 2010). Consolidations of such magnitude are challenging and altogether less successful. First, they face a high probability of reversal. Second, the collapse of the banking sector would impede efforts to raise revenue as private sector activity declines (Tsibouris et al., 2006). Further, spending cuts could trigger increases in already high sovereign premia as the initial spending cuts may be more than offset by revenue losses from further depressed private sector activity (Born, Müller, and Pfeifer, 2020; also see Box 1). For these reasons, some studies recommend strategies that give priority to promoting growth or at least minimizing output losses, restoring banking sector stability, and maintaining exchange rate stability, or ideally fostering some appreciation. Fiscal consolidations could start once the dust settles (Baldacci, Gupta, and Mulas-Granados, 2010; and Barrios, Langedijk, and Pench, 2010).

When it is difficult or too costly to maintain or achieve debt sustainability through fiscal consolidations alone, debt restructurings may become necessary. The need for sovereign debt restructuring is country-specific, as debt tolerance varies greatly across countries (IMF, 2006). Many countries, in the run up to debt restructuring, experienced large depreciations of their currencies as well as economic recessions, triggering a rapid increase of debt ratios and debt servicing difficulties. Evidence suggests that debt restructuring is often delayed (IMF, 2014d), leading to more adjustment costs for the debtor as investment and growth are negatively affected and financial uncertainty increases. Debtors often delay debt restructuring out of fear of losing market access, but also for the impact it can have domestically, notably through balance sheet effects—especially when debt owed to the private sector is involved. All these suggest that when debt restructuring becomes inevitable, it is important to move quickly to ensure an orderly process and to minimize economic disruptions. Preemptive and collaborative restructuring operations are more likely

[28] Spending reviews refer to the process of conducting in-depth assessments of existing public expenditure in order to identify opportunities to reduce or redirect spending from low-priority, inefficient, or ineffective spending (Robinson, 2014).

to be associated with lower haircuts, a shorter duration of debt restructuring negotiation, quicker re-access to international capital markets, and significantly lower output losses (Asonuma and Trebesch, 2016).

Box 4. Role of Climate Policies in Supporting Fiscal Consolidation[1]

Climate policies can generate significant fiscal resources for fiscal consolidation. For example, eliminating explicit fossil fuel subsidies globally by correcting their underpricing relative to supply cost is estimated to unlock about half a trillion U.S. dollars, or 0.6 percent of global GDP annually in 2021-25 (Parry, Black, and Vernon, 2021). This is broadly similar to the estimate of additional spending needed to achieve SDGs in 49 LIDCs (Gaspar et al, 2019). Carbon prices of $50 per ton would raise revenues of about 0.5–2 percent of GDP across countries in 2030, with revenues being larger in countries with higher emissions intensity. In addition, climate policies would improve the efficiency and redistributive impacts of public spending and taxation and reduce fiscal risks (e.g., containing volatile fuel subsidy bills) (Parry, Black, and Zhunussova, 2022).

However, there are significant challenges to leverage climate policies for fiscal consolidation. First, although current fuel subsidy regimes are often inefficient and regressive, switching to a targeted and more efficient regime takes time because of weak social safety nets and other constraints in many countries. Second, political economy and technical challenges can generate social tensions and make potential revenue streams less predictable. Third, in some cases revenue gains from climate policies may not create fiscal space for fiscal consolidation because the revenue gains are insufficient to offset either the revenue losses from reduced fossil fuel demand or additional investment needs for climate adaption.

Even so, it is important to integrate climate policies into the macro-fiscal framework to support fiscal consolidation while achieving climate objectives. The current environment of higher inflation and higher fuel and food prices makes it difficult to introduce additional climate policies to raise revenue, but countries can draft and announce reform plans now and implement them as energy prices and inflation recede from their peak levels. This would lock in carbon pricing and energy subsidy reform without an increase in energy prices relative to recently experienced levels. Where domestic prices are administered, countries should allow the more recent fuel price signals to pass through to domestic prices to contain the subsidy bill and improving targeted assistance to cushion the price impact on the vulnerable (Amaglobeli et al. 2023).

Overall, comprehensive planning is required to leverage climate policies for fiscal consolidation. To start with, policymakers need to know the volume and timing of revenue streams from climate policies based on their climate commitments. In this regard, the World Bank-IMF's CPAT Climate Tool can help estimate such revenue gains under various scenarios. Second, concrete plans are needed to mobilize projected revenue streams from climate policies, ideally under a medium-term revenue mobilization framework. Third, policymakers need to tackle broad challenges in implementing climate policies to address concerns over social impact (households), cost (firms), and SOEs inefficiencies to improve the acceptability of reforms. The communication strategy for fiscal consolidation should include targeted engagement on climate policies and rally broad stakeholder support. Finally, securing revenue streams from climate policies requires good international cooperation, including delivering on promised aid to developing countries, sharing climate technologies, and addressing cross-border competitiveness concerns (Parry, Black, and Zhunussova, 2022).

[1] Defined here as Fuel Subsidies Reform, Carbon Tax, and Emission Trading Schemes (ETS).

Box 5. Impact of Inflation on Fiscal Consolidation

Higher than desirable inflation strengthens the case for fiscal consolidation, to support monetary policy in fighting inflation as well as to improve public finances. By reducing aggregate demand, consolidation alleviates inflationary pressures. Carrière-Swallow, David, and Leigh (2021) document examples of countries who pursued improvements in CAPB to reduce inflation and stabilize reserves.

Higher-than-expected inflation helps reduce deficits and debt in the near term, but its impact cannot be relied upon for long. The Fiscal Monitor of April 2022 finds that a surprise of 1 percentage point in the annual inflation rate could increase nominal revenues by 0.8 percent in EMs and 0.3 percent in AEs. Beer, Griffiths, and Klemm (forthcoming) identify the following channels through which inflation can increase real tax revenues:[1]

- Non-indexed elements of the tax code can lead to "bracket creep" and hence increase income tax collection, or reduce the real value of credits, deductions, and exemptions. Conversely, the real value of tax collections can decline with higher inflation if tax payments are delayed (Tanzi effect).
- Higher inflation increases the tax burden on capital income. For example, inflation erodes the real tax benefit of depreciation deductions expressed in nominal terms and spread over several years. Similarly, capital gains tax liability could rise in real terms as high nominal gains are taxed.

Inflation might also facilitate control of expenditures that are set in nominal terms, to the extent that these real cuts can be made permanent. Molnar (2012) shows that higher inflation seems to be accompanied by steeper and shorter consolidations (i.e., front-loaded consolidation). Inflation can also reduce the real value of debt if nominal interest rates do not keep pace with it. Examples include during post-World War II in some AEs and in Latin America in the 1980s and 1990s (Abbas et al., 2014; Reinhart and Sbrancia, 2015).

Although inflation can reduce debts and deficits especially in the near term, using it as a debt reduction strategy is undesirable and often ineffective. The challenge is particularly pronounced for EMs and LIDCs because of their relatively weak institutions and fragile confidence (Ha, Kose, and Ohnsorge, 2019). Any debt reduction from inflation might only be temporary when high debt levels result from an overly expansionary fiscal policy, persistent spending pressures, or revenue weakness. Furthermore, debt service burden could increase in EMS and LIDCs with mostly short-term, indexed, or foreign currency-denominated debt.[1] Finally, a major increase in inflation would be needed to significantly reduce today's debt-to-GDP ratios (Fukunaga, Komatsuzaki, and Matsuoka, 2021). If high inflation expectations become entrenched, reducing the real debt burden through inflation is possible only if combined with costly capital controls or financial repression (Reinhart and Sbrancia, 2015).

Sustained high inflation poses significant risks and challenges to successful fiscal consolidation. Moderating inflation appears to increase the likelihood of a successful consolidation as it may generate positive confidence effects that help stabilize debt (Molnar, 2012), whereas high and sustained inflation could undermine investor confidence and decrease economic efficiency, thereby undermining growth, while the subsequent need to return to low and stable inflation would be economically and politically costly in terms of higher unemployment and lost output (Abbas et al., 2014). Moreover, high inflation could weaken the case for expenditure-based consolidation if it involves cutting subsidies for essential goods (such as food and energy) and services (such as water and electricity) (Rawdanowicz, 2014). When food and energy prices are high, governments are under pressure to increase subsidies and transfers, reduce taxes (including fossil fuel taxes and VAT) and expand tax exemptions. The likelihood of an economy entering a wage-price spiral also increases when inflation and its expectations are high and when unemployment is low (Carstens, 2022). This illustrates the difficulties in revenue mobilization and expenditure

Box 5. (Continued) Impact of Inflation on Fiscal Consolidation

control for fiscal consolidation when inflation is high—in addition to a potential rise in political and public resistance to reforms.

[1]/ The Penn Wharton Budget Model estimates that, in steady state, US federal revenue would increase by around 0.2 percent of GDP for every 1 percentage point increase in inflation (at inflation rates of 3-4 percent) due to these effects.
[2]/ According to the Fisher hypothesis, nominal interest rates on newly issued debt will rise in line with expected inflation. Likewise, inflation is also often accompanied by exchange rate depreciation that raises the debt service burden of foreign currency-denominated debt.

The Role of Institutions and Capacity Development

Fiscal consolidation should be underpinned by a credible medium-term fiscal framework, supported by strong fiscal institutions for sound design and robust implementation. Well-designed fiscal rules and sound PFM systems are found to facilitate fiscal consolidations by strengthening transparency and accountability in achieving fiscal targets. Sustained and well-integrated capacity development can support fiscal consolidation, though it often takes time to bear fruit and should therefore start early on.

Many institutions are relevant for fiscal adjustments, but budgetary institutions have the most direct influence on fiscal consolidation efforts and fiscal policy in general. IMF (2013a) defines budgetary institutions as laws, procedures, rules, and conventions—including the bodies created by those norms—that influence fiscal policy decision making and management. IMF (2014b) identifies 12 specific budget institutions[29] that increase the probability of success for a country undertaking a fiscal consolidation and categorize them according to the stage of a consolidation episode: i) understanding the fiscal challenge, ii) developing a consolidation plan, and iii) implementing the plan through the budget process. Other studies have focused on a more specific set of budgetary institutions such as fiscal rules and independent fiscal councils, top-down budgeting as well as fiscal transparency (OECD, 2010).

A recent IMF (2022d) study advocates a risk-based flexible medium-term fiscal framework. This framework is implemented through four key steps/components: (1) formulate a medium-term fiscal plan that should be at the core of the budget process; (2) set clear medium-term anchors and fiscal strategy that are consistent with policy goals and ensure a path to fiscal sustainability; (3) establish operational fiscal rules that translate medium-term fiscal plans into actions; and (4) use independent forecasts to strengthen credibility. This framework is intended to provide an overarching approach to fiscal consolidation and highlights the role of institutions and the need to strike an appropriate balance between flexibility and credibility in recalibrating fiscal rules in the post-pandemic era.

Empirical evidence indeed suggests that sound fiscal rules and public financial management (PFM) facilitate fiscal consolidation.[30] The presence of strong national fiscal rules that extend to sub-national governments is associated with greater probability of meeting adjustment targets and stabilizing debt ratios (Mauro and Villafuerte, 2013; and Molnár, 2012). Other empirical studies find that countries with strong fiscal rules are more likely to stick to their

[29] 1. Fiscal Reporting, 2. Macro-Fiscal Forecasting, 3. Fiscal Risk Management, 4. Independent Fiscal Agency, 5. Fiscal Objectives and Rules, 6. Medium-Term Budget Framework, 7. Performance Orientation, 8. Intergovernmental Fiscal Arrangements, 9. Budget Unity, 10. Top-Down Budgeting, 11. Parliamentary Approval, 12. Budget Execution.

[30] The nature of fiscal rules varies. Some countries use fiscal rules to strengthen transparency or accountability mechanisms, while others have implemented procedural rules through a strong medium-term fiscal framework (MTFF) that sets hard ceilings on ministerial spending in the budget process. Numerical rules can also be set on the stance of fiscal policy or place limitations on key fiscal policy aggregates (i.e., expenditure or budget balance rules). MTFFs can be powerful devices for fiscal discipline as they are often approved by cabinet and/or legislature (van Eden, Khemani, and Emery Jr., 2013).

consolidation plans (Heylen, Hoebeeck, and Buyse, 2012; and Molnár, 2012).[31] As medium-term expenditure targets are made more legally binding, actual compliance with spending targets improves. Contingency reserves are helpful to build space for potential adverse shocks.

Fiscal rules can strengthen fiscal discipline and add credibility to a country's overall fiscal framework, but they must preserve some flexibility. Earlier generations of fiscal rules that involved only a nominal deficit cap may have encouraged procyclical fiscal policy, diverted spending away from high-quality investment and led to off-balance sheet operations or creative accounting (Eyraud et al., 2018). In the context of exceptionally large economic shocks, a potential drawback of rigid fiscal rules is that governments may be constrained in such difficult times to stabilize the economy. Escape clauses allowing for deviations in times of need can provide useful flexibility. To protect the credibility of the framework, however, these escape clauses should be well specified and activated only for rare events beyond the government's control. Following the shock, returning to the rule requires careful consideration and, in some instances, a recalibration to enhance the credibility of the fiscal framework. A recalibration may be necessary when, for example, existing rules are inadequate to accommodate large adjustment needs (IMF, 2021; Ardanaz et al., 2021; and Basdevant et al., 2020). Adding to the complexity of fiscal adjustment, frameworks may also need to be updated to incorporate long-term challenges with respect to aging and climate change (IMF, 2022d)

Transparency is found to contribute to successful fiscal consolidations by strengthening program design and accountability. Independent fiscal councils help strengthen fiscal consolidation efforts through more realistic macro-fiscal projections and independent assessments of policies (IMF 2022d; and OECD, 2010).[32] More transparent budget processes also help fiscal consolidations in AEs (European Commission, 2007).[33] Likewise, there is some evidence that more transparent budget processes in LIDCs have the biggest impact on improving the primary fiscal balance (Dabla-Norris et al., 2010). The publication of public sector balance sheets provides the most comprehensive statement of what a country owns and owes and may improve the level of policy debate through enhanced fiscal transparency (IMF, 2018).[34]

However, it takes time to build such strong budgetary institutions to support the implementation of a credible medium-term fiscal framework and the effort needs to be well sequenced, especially in LIDCs. A review of reforms in LIDCs shows that progress has been slow (Allen, 2013). Unfortunately, there are no off-the-shelf solutions, and reforms must ultimately be country-specific and be mindful of non-technical factors, including political economy considerations (Allen, 2013; and Diamond, 2013). Moreover, reforms need to follow their logical sequence. For instance, implementing fiscal rules in a country that has weak PFM systems, including in its annual budget process, is unlikely to be successful. Reforms in LIDCs should therefore concentrate on core PFM functions, with a focus on establishing accounting, regulatory and IT systems. With this platform in place, countries can move up to annual and medium-term budgeting then eventually to program and performance-based budgeting (the latter two are not seen as pre-requisite for fiscal rules).

Experience with IMF-supported programs also points to the need to consider country capacity in the design of fiscal adjustment programs, as capacity reflects the constraints of local institutions. In a study covering 112 countries during the 1990s, Bulı´rˇ and Moon (2006) found no quantitative evidence that structural conditionality aimed at raising revenue was successful. Meanwhile, post-program expenditure compression was much stronger in countries with structural conditionality, but the risk of reversal was higher too, especially in sub-Saharan Africa. Similarly, a recent study by the IEO (2021) found that countries with IMF-supported programs had modest success in revenue mobilization during the program period often because of political or internal capacity constraints (IEO, 2021). The

[31] This finding should be treated with caution as fiscally conservative countries are more likely to adopt fiscal rules.

[32] One of the earliest fiscal councils is the CPB in the Netherlands (the Netherlands Bureau for Economic Policy Analysis) which plays the role of an independent advisory group. It is now responsible for costing election commitments of political parties and may lead to improved public debate and transparency (See IMF, 2013)

[33] This paper examines fiscal consolidation episodes in European economies since 1970.

[34] For instance, New Zealand measures its intertemporal net worth and finds that despite the country's static net worth of 41 percent of GDP, deficits over the next 40 years result in intertemporal net worth of -57 percent GDP. This transparency helps policymakers and the public understand the country's adjustment needs today.

same study also found that in some cases, tax revenue mobilization was only achieved after the program period with the continued capacity building and institutional reforms. Evidence also suggests that countries that had weak expenditure controls saw an accumulation of domestic arrears. Where programs were designed to be growth-friendly through protecting public investment, there have been questions on the effectiveness and efficiency of that public investment with countries not seeing productivity gains. A lack of data and tracking has meant that there is very little evidence that floors on social spending have been effective (IEO, 2021). All these suggest that where country capacity is weak, fiscal consolidation programs need to be paced more gradually and supported by well-integrated capacity development and should anticipate modest chance and degree of success. Program designers can gain a deep understanding of individual country circumstances using diagnostic tools such as FTE, TADAT, PEFA and PIMA (IEO, 2021).

These findings suggest that policymakers and development partners should take a long-term view in approaching institutional and capacity issues. Even though the payoff from institutional building and capacity-development may well extend beyond the fiscal consolidation episode, countries should be encouraged to adopt the reforms today as such efforts may help minimize short-term risks to consolidation programs (e.g., strengthening cash management to avoid arrears) and improve fiscal management in the long run. Moreover, fiscal consolidation programs may help reveal weaknesses and provide an impetus to strengthen institutions and capacity. Development partners can support such reform efforts by adopting a tailored, country-centric, and medium-term focused approach to capacity development. In low-capacity countries, such as fragile and conflict states, continued, long-term CD engagement in capacity development is essential.

Policy Implications

Post-COVID fiscal adjustments pose some unique challenges. By historical standards, many countries will have to undertake large fiscal consolidations given the elevated fiscal deficits and the need to reduce public debt from unprecedented levels. At the same time, many countries may find that in the near future they cannot count on monetary policy supporting the economy as inflation is high and monetary policy is in a tightening cycle. On the external front, rising global interest rates and the current food and energy crises will reduce policy space and external demand while increasing the need for larger consolidations. Geopolitical tensions may lead to increased disruptions to global supply chains as well as fragmentation in trade, technology, and investment, increasing uncertainty and dampening confidence. Moreover, the prospect that many countries will need to undertake fiscal consolidations simultaneously in the coming years could depress global demand.

This means that policymakers may need to contend with relatively slow paced, protracted fiscal consolidations to avoid large short-term output losses and likely deterioration in inequality. For LIDCs and small EMs, this would also leave more resources along the way to deal with scarring caused by the COVID-19 pandemic and to spend on social sectors, infrastructure, and climate mitigation and adaptation. However, in some cases, such a gradual approach is feasible only if financing remains available, which in turn may depend on external support, debt restructuring, and the credibility of policymakers' commitment to reform.

With slow and long consolidations and increased uncertainty, policymakers will need to be mindful of reform fatigue and exogenous shocks (setbacks) in the period ahead. Even so, many countries may not have the luxury to time and pace their consolidations as high debt and exogenous shocks could quickly lead to the loss of market confidence. In such cases, policymakers will be forced to balance restoring credibility quickly against limiting output losses through more front-loaded and faster consolidations. To gain greater control over the timing and pace of consolidation, policymakers should strive to increase the credibility of their fiscal plans to buttress market confidence.

Strengthening medium-term fiscal frameworks early on—including the underlying institutions—and having a contingency plan would help policymakers anchor expectations and sustain reform efforts.

A combination of expenditure and revenue measures will most likely be needed in post-COVID fiscal consolidations given their large magnitude. The exact mix of revenue and expenditure measures should be tailored to country circumstances. Those that have a large government will have more room to cut current expenditure, especially on wage bill and transfers, while mindful of social and political repercussions. Meanwhile, social spending and public investment should be relatively protected for the sake of poverty reduction and long-term growth. For countries with low revenue at present, greater weight should be given to revenue mobilization. This may prove necessary not only for fiscal consolidation, but also for addressing long-term challenges such as poverty reduction, climate change, and population ageing. Growth-friendly measures to raise revenue could include reduction of tax expenditures, hikes in property taxes and consumption taxes such as VAT, excise duties and environmental taxes. Finally, in cases when debt treatment operations are needed to restore fiscal sustainability, countries should collaboratively engage with their creditors early on to regain access to international capital markets and lower output losses.

A good design of a fiscal adjustment program should also consider the economic and political dynamics it may generate and the strength of country institutions. Evidence from this survey suggests that for a fiscal consolidation program is more likely to succeed when there is public and political support. In particular, the negative impact on economic growth and income distribution of fiscal consolidations—the likely outcome in the short run compared to the pre-consolidation period—needs to be mitigated to avoid political backlash against reforms. Early and regular engagement with key stakeholders can help not only implement a fiscal consolidation program, but also improve the very quality of program design.

An effective communication strategy should therefore be an integral part of the consolidation program. In the current environment of heightened volatility and uncertainty, there is added premium on the clarity of consolidation objectives, their expected impact and mitigation policies. Communication cannot substitute for good policy, but it helps strengthen overall policy credibility and anchor expectations about government's fiscal plans and hence bolster confidence in policymakers' commitments to responsibly manage public finances.

Finally, fiscal consolidation programs should include well-integrated structural reforms and capacity development support to strengthen fiscal institutions. Such reforms would support raising revenue and improving the efficiency of expenditures, especially when fiscal space is limited and over the medium term. Efforts should also target product and labor market reforms to facilitate resource allocation and boost private sector activity. Capacity development should start early on, well-sequenced with a medium-term focus, and integrated with reforms to strengthen budgetary and tax institutions. For many LIDCs, this means initially focusing on core PFM functions along with revenue administration.

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PUBLICATIONS

Fiscal Consolidation: Taking Stock on the Success Factors, Impact, and Design

Working Paper No. WP/2023/063