



Enhancing Chile's Fiscal Framework

Lessons from Domestic and International Experience

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Contents

ACKNOWLEDGMENTS	4
FOREWORD	5
SUMMARY OF THE MAIN TAKEAWAYS FROM THE CONFERENCE	7
1 An Evaluation of Chile’s Fiscal Rule	16
<i>Rodrigo Cerda</i>	
2 Chile’s Fiscal Framework: An Outsider’s Perspective	18
<i>Metodij Hadzi-Vaskov and Luca Antonio Ricci</i>	
3 Fiscal Rule for Normal and Difficult Times	20
<i>Vittorio Corbo</i>	
4 Getting Rules Into Policymakers’ Hands: A Review of Rules-Based Macro Policy.....	22
<i>Mario Marcel</i>	
5 Fiscal Policy in Chile: Some Comparisons and Concerns.....	24
<i>Rodrigo Valdés</i>	
6 Factors for Fine-Tuning Fiscal Policy	26
<i>Rodrigo Vergara</i>	
7 Notes on the Fiscal Rule	28
<i>Rosanna Costa</i>	
8 Key Factors for Achieving a Better Fiscal Rule	30
<i>Manuel Marfán</i>	
9 The Fiscal Rule and Institutional Framework During the Past 20 Years.....	32
<i>José De Gregorio</i>	
10 Fiscal Rules for Long-Term Objectives.....	34
<i>Paolo Dudine</i>	
11 Fiscal Rules and Macroeconomic Performance: World Evidence.....	36
<i>Klaus Schmidt-Hebbel</i>	
12 New Zealand’s Fiscal Framework	38
<i>Oscar Parkyn</i>	
13 Fiscal Discipline: From Theory to Practice	40
<i>Charles Wyplosz</i>	
14 Fiscal Rules: What Do We Really Want From Them?.....	42
<i>Eduardo Morón</i>	
15 Fiscal Rules in Latin America and The Caribbean	44
<i>Emilio Pineda</i>	
Bios	46

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Foreword

A robust and well-designed institutional fiscal framework supports responsible, sustainable, and effective fiscal policy. In turn, properly designed fiscal policy contributes to macroeconomic stability, economic growth, while also supporting the needs of the most vulnerable.

Since the early 2000s, Chile's fiscal policy has been guided by a structural rule and complemented by a sovereign stabilization fund. Successful implementation of this design over time has contributed to the reduction of public debt, favorable financial conditions in international capital markets for Chile, macroeconomic stability, and a more effective countercyclical use of both fiscal and monetary policy. However, the deterioration of a broad set of fiscal metrics in recent years, evidenced by one-notch downgrades by major rating agencies in 2017, suggests there is room for improvement in our fiscal framework.

Recognizing the importance of further strengthening Chile's fiscal framework, the Ministry of Finance and the International Monetary Fund (IMF) co-organized the conference "Enhancing Chile's Fiscal Framework: Lessons from Domestic and International Experience" in January of 2019. This booklet summarizes the presentations held during the two-day conference.

As the title of the conference suggests, its objective was to explore challenges and possible opportunities to improve Chile's fiscal framework, including the fiscal rule, by looking at the Chilean and international experience. We were fortunate in securing the valuable participation of current and former senior policymakers from Chile, including former Ministers of Finance ranging across the political spectrum and Central Bank Governors, which provided an experienced perspective and insights in areas for improvement in the realm of fiscal policy. These views were complemented by representatives from the IMF and the Inter-American Development Bank, academics, and country officials from New Zealand and Peru, which provided lessons from the international experience.

While we continue to discuss these ideas, in line with our firm commitment to fiscal responsibility, we have taken action during our first year in office and significantly outperformed our fiscal targets, narrowing effective and structural deficits, and outpacing the medium-term consolidation path of a reduction of 0.2 percent of GDP per year. Looking ahead, we remain committed to a medium-term structural consolidation path towards a structural deficit of 1 percent of GDP by end-2022, balancing fiscal consolidation efforts and social spending commitments. The public debt-to-GDP ratio is projected to level off soon, well below peers.

We have just strengthened the fiscal institutional framework by providing legal and financial independence to the *Autonomous Fiscal Council*, while broadening its mandate. We have also enhanced our fiscal transparency with public quarterly macro-fiscal projections, in line with international best practices.

We hope that the ideas discussed in the conference, which are summarized in this booklet, may provide key inputs to further improve Chile's fiscal framework in the years to come.

Felipe Larraín B.
Minister of Finance of Chile

SUMMARY OF THE MAIN TAKEAWAYS FROM THE CONFERENCE

“ENHANCING CHILE’S FISCAL FRAMEWORK: LESSONS FROM DOMESTIC AND INTERNATIONAL EXPERIENCE”

METODIJ HADZI-VASKOV, LUCA ANTONIO RICCI, AND KLAUS SCHMIDT-HEBBEL

The conference focused on identifying challenges and exploring possible opportunities for improvement with respect to Chile’s fiscal rule, drawing both on the domestic experience related to its implementation so far and, more generally, on the international experience with fiscal rules. The presentations and discussions on Day I converged on a set of suggestions that can be valuable for future considerations related to complementing or modifying Chile’s fiscal rule. Many of these suggestions were supported by the findings from the international experience discussed on Day II.

DAY I: SUMMARY OF MAIN IMPLICATIONS FOR CHILE

Key suggestions for Chile

- Eliminate the spending bias from the output gap cyclical adjustment of about ½ percent GDP per year.
- Complement the fiscal rule with medium-term/long-term anchors (debt, buffers), and calibrate the cyclically-adjusted balance with such anchors and medium-term/long-term objectives.
- Undertake countercyclical fiscal policy via escape clauses without changing targets, and follow up with an adjustment mechanism to offset over time past deviations from targets.
- Enhance transparency and simplicity, by adopting a simpler formula with less complicated parametrization, ensuring it is easier to replicate the cyclical adjustment, and publishing debt trajectories with fan charts.
- Spell out more explicitly guidelines for choosing targets and tie them to medium-term objectives such as debt and buffers.
- More generally, embed the fiscal rule within a comprehensive medium-term fiscal strategy.
- Promote enforcement, preferably via reputation (like requirements to make public statements, presentations in Congress) rather than penalties.
- The participants expressed clear consensus on the importance of the new autonomous fiscal council, with a strong supervisory and advisory role, political independence and adequate resources.

Preamble

The Chilean fiscal rule has served the country well, is well regarded by other countries, and has helped fiscal discipline and medium-term planning.

Nonetheless, the conference aimed at providing a recent assessment of the performance of the fiscal rule and learning from the experience of countries with similar issues in terms of business cycle fluctuations and commodity exposure. This is particularly relevant today, in light of the

deterioration of public finances over the past few years, visible in a declining fiscal balance, rising debt, and the recent sovereign downgrades by credit rating agencies. There was also a sense among the participants that there is too much discretion in choosing targets and final outcomes, and that the rule does not offer an adequate anchor for medium-term debt or buffers.

In light of Chile's strong institutions, it was interesting to note a parallelism between monetary and fiscal rules, in terms of a common theoretical inspiration which is to reduce discretion and uncertainty, increase credibility, and guide market expectations.

In considering possible revisions to the rule, one has to bear in mind that such revisions should be infrequent—in order to avoid affecting the credibility of the rule—and has to pay attention to the typical trade-off between the simplicity of the rule and its precision.

Cyclical adjustment

Bias from cyclical adjustment to output. One striking fact that emerged from the discussion is that the cyclical adjustment to the business cycle has always been one-sided (apart from one year). This was due to a persistent overestimation of potential output, which in turns implies an overestimation of structural revenues, and—for a given cyclically-adjusted balance (CAB) target—higher expenditure. Overall, this bias since 2003 has accounted for an annual average contribution to fiscal deficit in the order of ½ percent of GDP, which implies an extra contribution of the primary balance to debt in the order of about 8 percentage points of GDP from 2003 to 2017. The complication in understanding the source of this bias and correcting it comes from the fact that the components of potential growth are provided by the independent expert committee, and the Ministry of Finance assembles such projection inputs into a path for potential GDP level. Hence, either the committee members tend to have a bias on average, or the formula to convert their projections into a potential GDP path is biased and needs to be revised.

Procyclicality of potential GDP and long-term copper price. The forecasts of these parameters have traditionally been procyclical, which is exactly what the fiscal rule is trying to prevent. Unfortunately, this is a common problem. One possible solution is to smoothen the change in the parameters, so as to reduce the procyclicality. Another possible solution is to adopt simpler formula that relies on less parameters (as the ones in the Corbo Commission Report).

Other smaller parameters have been problematic. There is no structural adjustment to the tax revenues for deviations of inflation from the long-run (target). Elasticities have been changed substantially over time and should be explained better. The conversion of long-term reference US dollar copper price into a peso price should rely on a long-term reference exchange rate and not the actual exchange rate which is subject to significant fluctuations.

Defining targets: less flexibility and better anchoring. More explicitly, guidelines should be spelled out for choosing targets. There should be less flexibility in moving CAB targets, as the countercyclical policy can be implemented via escape clauses. CAB targets should be related to medium- or long-term objectives related to debt and assets, and to considerations related to growth and demographics. It would have been useful to publicly explain the persistent reduction in the CAB target levels since the global financial crisis on the basis of such considerations.

Medium-term anchor and calibration of targets

Establishing a clear anchor by directly linking the cyclically-adjusted balance target to long-term objectives. There is a need to calibrate the CAB targets to a stock variable (debt level, accounting for buffers), that should be directly related to long-term fiscal objectives. This procedure would offer the advantage of providing a direct link with sustainability objectives. One would need to ensure an adjustment mechanism in case of deviations from the target, and feedback from flows to stocks. In order to avoid a drift in debt due to repeated shocks, the adjustment would need to be based on cumulative past deviations, so as to allow the debt ratio to return to the level target.

Debt could serve as key anchor. Hence, the CAB target could be calibrated to medium-term debt ratios, considered as a desirable level or target or ceiling. Several challenges arise. The first

would be the definition of debt, in particular whether gross or net: net would be economically more meaningful, but gross is more standard, and easier to measure and communicate. The second would relate to the difficulty of choosing a desirable or target level of debt ratio in the medium term. This choice should relate to debt sustainability/solvency and cost of market access considerations, as well as to the need to preserve a borrowing buffer to cope with macroeconomic shocks. The latter for Chile is estimated at about 10-15 percent of GDP, implying that if the choice for a debt ceiling is not to exceed X percent of GDP, the operational debt limit as percent of GDP should be X-10 or X-15. An additional consideration is that the continuation of the past practice of providing below-the-line financing to public companies and public institutions may blur the ability of debt to adequately capture financing and hence erode credibility and impair the effectiveness of the fiscal rule.

More generally, the fiscal rule should be part of a broader comprehensive medium-term fiscal strategy. This involves deciding long-term objectives and spending needs related to growth, demographics, productivity, development, social convergence, vulnerability, and so on. One should analyze the implications of these considerations for the path of stocks of assets and liabilities, which would then guide the calibration of the CAB target and inform the overall budgetary processes. This will provide transparency, clearly spell out the long-term (LT) objectives, and guide public expectations.

Introducing an escape clause and an adjustment mechanism

Countercyclical fiscal policy via escape clauses: it would be preferable to allow for deviations from the target via a formal escape clause, spelling out conditions and triggers. For large shocks, a countercyclical response is essential and can be adopted through invoking escape clauses, while for usual business cycle fluctuations it may be necessary only after automatic stabilizers and monetary policy have played their role (for example, when interest rates hit the zero-lower bound). When undertaken, a countercyclical fiscal response should be exercised via formally defined escape clauses without changing targets, and it should be followed by the implementation of an adjustment mechanism to offset past deviations from targets (so as to limit or eliminate the impact on debt ratios over time). Automatic stabilizers are not large and could be increased. The decision to undertake countercyclical policy should weigh the gains from better economic adjustment against the costs of discretion—which leads to the typical fiscal bias—and of the strong inertia found in expenditure patterns (once expenditure is increased it is difficult to re-adjust it). The clause would need to clearly spell out the variables and the respective level that would trigger a deviation, as well as whether the formal request should be discussed in Congress or assessed by an independent fiscal council. This is not a straightforward exercise in practice and one may want to learn from the positive and negative experiences of many countries.

The clause should be accompanied by a clear adjustment mechanism for deviations from targets. Such mechanism should provide instructions for how to offset the cumulative past deviations from target over the next few years. Such provisions would then become binding for future budgetary processes, with the aim to offset the effect of deviations on stock variables (like debt and assets). Hence this would be compatible with both an implicit or explicit debt target.

Caveats. Good communication would be essential to avoid that invoking an escape clause is perceived as missing the target. Clarity in the rule and strict enforcement of the qualifying conditions would be essential to avoid the risk of beggar-thy-next-government behaviors (spending today forcing the new administration to save): one may also consider the possibility of provisions that all deviations need to be recovered within the mandate of the current administration (as probably done in Germany and Switzerland), but this may not be feasible in emerging markets where volatility and shocks are large.

Accountability, enforcement, simplicity

It is essential to enhance transparency. The calculation of the cyclical adjustments should be made easier to replicate, and the rule could be simplified by adopting a formula with less complicated parametrization. It would be very valuable to publish debt trajectories with fan charts.

Enforcement via reputation rather than penalties. International experience shows that enforcement is difficult to achieve via penalties (hard to enforce), while rule designs that leverage on reputation (*like requirements to make public statements, presentations in Congress*) tend to work better.

There was a strong consensus on the importance of a new independent fiscal council. Speakers indicated that the implementation would be essential to verify and ensure that the new fiscal council has a significant supervisory and advisory role, enjoys political independence, and has access to adequate resources for its task.

Discussing alternative rules (debt rules already discussed as possible complement to the CAB rule)

Primary deficit is less relevant as a target in countries with stable interest payments as Chile.

On the one hand, the use of primary deficit as target is more helpful in countries with very volatile interest rates (payments) and less in countries like Chile. Also, it may negatively affect transparency, given that less people are familiar with that concept. On the other hand, using the primary balance as target would shelter spending from fluctuations in debt, which would affect interest expenditure (note that if the CAB rule would be coupled with a debt target, this point loses relevance).

Norway's example, saving and investing all revenues from copper. Instead of adjusting for copper revenues through a complicated mechanism, the country could benefit through saving all of them into a Sovereign Wealth Fund (SWF) and spend the return on the fund. However, there are various caveats. First, Norway was already a rich country when it discovered natural resources, with less need for development and social spending, while Chile has higher returns on investing in domestic infrastructure and social spending. These observations imply that parking all revenues in a fund with the aim to invest internationally would be a sub-optimal strategy. Also, with the currently limited copper revenues it would take a long time to build assets whose return can contribute to the budget. An intellectually interesting suggestion was to sell rights to copper extraction and place immediately the equivalent of the net present value of copper revenues in a SWF and then spend the return; the concern was that it is difficult to clearly identify a country with good institutions that can offer successful example of such an initiative. More generally, the non-mining CAB could be considered as a target: the level of the target would implicitly generate an intermediate savings choice in between the Norway example and the regular CAB target case, but it would have the advantage of not having to formally assess the structural revenues of copper.

Expenditure rules may be easier to implement in some cases, though they cannot easily incorporate changes in revenue policies. Such rules are simple relative to CAB rules and may be easier to implement because they are directly linked to the budgetary process. However, expenditure is not the only driver of the fiscal balance: incorporating the effect of tax changes would complicate the rule, defeating the purpose of choosing expenditure rules for their simplicity.

The cyclically-adjusted balance may be a preferable measure to the structural balance. While both concepts are theoretically legitimate, the problems associated with credibility and transparency of the more abstract structural balance favor the use of CAB. Should one need to make one-off adjustments (sale of companies, special tax regime measures Substitute Tax of the Taxable Earnings Fund (ISFUT), or others), the autonomous fiscal council should be involved to provide justification for the inclusion/exclusion of certain components from their calculation.

Fiscal rule's role in addressing Balance of Payments (BOP) concerns. Besides aiming to address issues related to public debt sustainability, one suggestion was that a broader rule may focus on reducing risks of twin crises by explicitly incorporating BOP aspects, as would have been useful during the Asian crisis when the fiscal deficit was high and the real exchange rate overvalued. However, such concerns are diminished nowadays, as the fiscal rule should prevent large deficits and the exchange rate flexibility should prevent the overvaluation of the exchange rate.

DAY II: SUMMARY OF FINDINGS FROM THE INTERNATIONAL EXPERIENCE

Key conclusions

- Fiscal rules are increasingly adopted in both emerging/developing economies and industrial countries.
- Fiscal discipline is needed because every government is subject to an intertemporal budget constraint. Fiscal rules are adopted to strengthen fiscal discipline.
- Fiscal rules are potentially efficient tools to contribute to fiscal sustainability, solvency, and to macroeconomic performance.
- There is growing empirical evidence that fiscal rules tend to improve fiscal performance.
- Fiscal rules should be designed with a holistic view of the fiscal framework.
- Rules come in all types and shapes, but several rules are improperly designed.
- Complexity and technicality on fiscal rules result in manipulation and less credibility of rules.
- Many countries in Latin America and the Caribbean (LAC) have introduced fiscal rules. However, significant design and compliance problems have hampered their effectiveness in several LAC countries.
- Fiscal rules should preferably target the evolution of public debt-to-GDP ratio—as in New Zealand—because stability of the long-term debt path is at the core of fiscal sustainability.
- A well-designed fiscal rule should be flexible, simple, transparent, rest on a single target, and should be complied with.

The rationale for fiscal rules

Fiscal discipline is a policy cornerstone because every government is subject to a budget constraint. Fiscal discipline is essential to improve and sustain fiscal solvency, good economic performance, and macroeconomic stability. Fiscal discipline is needed to avoid high, unsustainable levels of public debt that damage economic growth and welfare.

Constraining budgetary decisions is needed in response to market failures and political-economy constraints. Governments are subject to intense demands for more spending and political constraints that inhibit the increase of taxes. Public debt through financial markets is another source of financing public spending. However, financial markets can quickly switch from trust to mistrust and abruptly cut lending to governments, leading to highly disruptive crises.

The government budget constraint is about the path of public debt. In order to contain pressures to overspend, so as to ensure fiscal responsibility and debt sustainability, the constraint must be about the evolution of debt. A high level of debt that is set to decline is consistent with discipline, while a low debt level that grows continuously is not. Fiscal solvency and debt sustainability are a central tenet of government policy.

Fiscal rules are adopted to strengthen fiscal discipline and macroeconomic stability. A fiscal rule imposes a long-term constraint on fiscal policy through numerical limits on budgetary aggregates. Fiscal rules typically aim at correcting distorted incentives and containing pressures to overspend, particularly in good times, so as to ensure fiscal discipline. Thus, fiscal rules are instrumental in strengthening the fiscal stance of an economy.

Design principles of fiscal rules

Fiscal rules should be designed with a holistic view of the fiscal framework. Fiscal rules are one component of the comprehensive fiscal framework. Hence their design cannot be improved in isolation from the quality of the overall framework. A well-designed fiscal framework should have a clear long-term objective, an explicit fiscal anchor that guides fiscal policy over the medium term, and a fiscal rule that guides fiscal policy over the short term.

Fiscal rules should support the capacity of fiscal policy to fulfil its three ultimate objectives: smoothing the economic cycle, fostering long-term growth, and promoting inclusiveness.

A well-designed fiscal rule should be flexible, simple, transparent, rest on a single target, and should be complied with. Macroeconomic stability is supported by having sufficient flexibility to accommodate shocks and should not lead to complexity. Escape clauses strike this balance by pre-establishing conditions, modality, and duration of deviations from the rule in case exceptional circumstances materialize.

A multi-target rule does not improve the logic of each target. It is nearly impossible to bring coherence to the various targets, so that in any given year some may be satisfied but others not. The rule should be easily understood by decision makers and the public. Adding too many constraints can impair the ability of the government to achieve its policy objectives, undermining the credibility of the framework. Complexity and technicality result in opacity, and opacity opens the door to manipulation.

Fiscal rules should be complied with. This is more likely to happen if compliance mechanisms are based on incentives, that is by raising the costs of noncompliance and creating more tangible benefits for compliance. Compliance with the rule should be easy to verify, and there should be costs associated with deviations from targets.

Fiscal rules should target the evolution of debt relative to GDP. Theory says that the proper target is the evolution of the debt to GDP ratio in the long term. The long-term debt depends on the whole path of budget balances and on assumptions about interest and growth rates. Stability of the long-term debt path is consistent with the concept of fiscal discipline. This approach does not tie down a government to an arbitrary predetermined numerical target. It rather requires from the government to make the case that its budgetary decisions are disciplined. Fiscal rules will not make much of a difference if the budget horizon is limited to a single year, monitoring and enforcement are weak, and future impacts are ignored when budget decisions are made.

Types of rules in practice

Fiscal rules are increasingly adopted in both emerging/developing economies and industrial countries. Since the 1990s adoption of fiscal rules is spreading around the world, as part of significant reforms of fiscal frameworks, undertaken by many industrial countries and emerging/developing economies. As of 2015, 92 countries have at least one type of fiscal rule in place. Fiscal rules are quantitative targets on levels, GDP-ratios or growth rates of government budget balance, debt, expenditure, and/or revenue.

Rules come in all types and shapes. They target different fiscal aggregates, they are defined for different fiscal and output measures (current or structural, annual or multi-year), and they are not always enforced. Macroeconomic stability is enhanced by counter-cyclical government expenditure, which could be achieved by a budget balance rule (BBR), a debt rule (DR) or an expenditure rule (ER). In 2015, 76 countries have adopted DR, 78 have BBR, 14 have revenue rule (RR), and 45 have ER.

Several rules are improperly designed. Annual targets for the budget balance, focusing on the short run, present two shortcomings. They have limited impact on the long-term evolution of the debt, and they ignore that a key function of fiscal policy is to counteract shocks that lead to expansions and recessions. A BBR defined as an annual budget balance target ratio to current GDP, which is invariant to cyclical conditions, induces pro-cyclicality of government expenditure. A BBR defined as a cyclically-adjusted budget balance ratio to GDP induces a-cyclicality of government expenditure. However, a BBR defined as an average budget balance ratio to GDP over the cycle (allowing pro-cyclical budget balance deviations), induces counter-cyclicality of government expenditure.

Structural balance rules are an extension of cyclically-adjusted rules. They adjust the overall balance beyond the business cycle by correcting revenue and spending for one-off fiscal measures. Targeting the structural balance allows for automatic stabilizers to operate, but it suffers from the difficulty to compute the structural balance with precision. Monitoring and computation are even

more complicated than under cyclically-adjusted balance rules. For example, the designation of one-offs is challenging in practice. It hinges on perceptions about the likely temporary nature of the measures, and policymakers might be tempted to choose them strategically.

Expenditure rules set limits on total, primary, or current spending, and the limits apply to nominal or real expenditure. Targeting expenditure (at annual levels or growth rate) improves government control but is not directly related to fiscal discipline. The adequacy of an expenditure target rests on the evolution of government revenue. To ensure debt sustainability, expenditure rules require specific design features. Basic expenditure rules that do not take the revenue side into account have only a partial impact on debt dynamics.

Adopting and developing fiscal rules

Fiscal rules are adopted to strengthen one or several key policy objectives. Macroeconomic stability is enhanced by counter-cyclical government expenditure, which could be achieved by a BBR, a DR or an ER. Fiscal sustainability and solvency are strengthened by limiting government deficit and debt levels, which could be achieved by any of the four rules. Limiting the size of government is reflected in putting ceilings on expenditure or revenue levels, which is pursued by an ER or a RR.

A wide set of political, structural, economic, and fiscal conditions contribute significantly to the likelihood of having a fiscal rule in place. The role of several variables has been addressed empirically by the literature on fiscal rules. The literature has found that institutional and political conditions contribute significantly to the likelihood of having a fiscal rule in place. While fixed exchange rate regimes do not contribute to explain why countries have rules, inflation targeting regimes do. Capital account openness and financial development contribute to having fiscal rules. Volatility of government revenue inhibits having a rule. Finally, measures of fiscal conditions contribute significantly to having a national fiscal rule in place.

Fiscal councils contribute to fiscal rule effectiveness. Every step in the process of fiscal decisions is subject to potential fiscal bias. For example, government forecasts of macroeconomic variables and government balance and debt levels is often biased in direction of a stronger fiscal balance than what an unbiased assessment would provide. Independent and competent fiscal councils reduce the likelihood of this bias and of inappropriate use of fiscal rules, enhancing their effectiveness.

Effects of fiscal rules

There is evidence that fiscal rules improve fiscal performance. Recent empirical research tests for the contribution of fiscal rules to fiscal-policy performance in a large world sample. One of the studies presented in this conference estimates the effects of three types of rules—ER, BBR, and DR, using *de facto* and *de jure* measures—on four indicators of fiscal performance—cyclicality of government expenditure and fiscal balance, and levels of fiscal balance and government debt—and controlling for 13 other determinants. Neither a BBR nor a DR have a statistically significant effect on the pro-cyclicality of government expenditure. But the latter is significantly reduced by the presence of an ER. Regarding fiscal solvency, the level of the fiscal balance is significantly raised by the presence of any rule: a BBR, a DR or an ER.

There is also evidence that fiscal rules contribute to overall macroeconomic performance. A review of the empirical literature reveals significant positive effects of different measures of fiscal rules (aggregate or any rule, particular rules, Maastricht Treaty rules) on per capita GDP levels and growth rates. Fiscal rules raise the standard deviation of per capita GDP growth but reduce it when rules are interacted with a measure of discretionary fiscal policy.

Fiscal rules in Latin America and the Caribbean

Many countries in LAC have adopted fiscal rules. The adoption of fiscal rules began with only two countries in 2000. To date, 14 countries in the region have adopted fiscal rules. Among them,

Peru adopted a BBR and a DR in 2000, Mexico adopted a BBR in 2006, and Colombia introduced a structural balance rule in 2014.

Fiscal rules should be flexible. While several LAC countries have undertaken fiscal consolidation programs, most of the adjustment falls on capital expenditure. The question is therefore whether fiscal rules can protect investment expenditure in times of fiscal adjustment. More flexible rules that include clearly defined escape clauses, cyclically-adjusted balances, or investment-friendly rules can protect capital expenditure during periods of fiscal adjustment.

The presence of any fiscal rule is not enough to achieve fiscal discipline. LAC's experience shows that the design of fiscal rules is a key factor in their effectiveness. In order to be effective, fiscal rules require: (i) broad institutional coverage; (ii) a sound legal base; (iii) compliance mechanisms; and (iv) flexibility in addressing shocks.

There are multiple design problems with several fiscal rules in LAC. These include a lack of clarity of the fiscal rule (including estimation of structural parameters), excessive use of escape clauses, lack of flexibility, and weaknesses in compliance. From 2006 to 2014, the fiscal rule of Mexico was ineffective due to its complexity and the governments' excessive use of escape clauses and weak fiscal management. In particular, governments faced problems in estimating structural income, which have led to continuous revisions of balance targets, undermining the credibility of the rule.

However, there have been improvements in the treatment of fiscal rules. Governments in LAC are addressing some of the above-mentioned weaknesses by applying broader measures of the government balance as a fiscal target, implementing independent fiscal councils, and defining more transparent fiscal rules. Although these changes represented significant progress, several challenges have yet to be addressed, including more precise definitions of conditions under which escape clauses can be invoked. Mexico has improved its fiscal rule by applying it to the broadest measurement of the balance as a fiscal target and by adopting a structural expenditure rule. Peru has improved its fiscal rule through several policies aimed at higher fiscal prudence. In particular, Peru has started a Maslow-type approach regarding fiscal prudence levels and has adopted an independent fiscal council.

Fiscal frameworks must take care of the potential fiscal impact of tail risks. Materialization of tail risks—low-probability but very adverse shocks—causes crises and deep recessions unless preventive fiscal policies prepare for such scenarios. Peru has prepared to deal with tail risks by broadening its toolbox of financial instruments to better hedge against such risks.

Fiscal rules have the potential to be valuable tools in achieving sustainable fiscal policies in LAC. However, design and compliance mechanisms are as important as the choice of fiscal rule. Rules that are based on a broad public-sector coverage, sound compliance incentives, effective oversight institutions (foremost a fiscal council), and flexibility in addressing shocks are more likely to be effective.

New Zealand's fiscal framework

New Zealand's fiscal framework has endured over nearly three decades. The main features of the fiscal framework are its emphasis on principles of fiscal responsibility, transparency, and independence in reporting, standards, and auditing. New Zealand's fiscal framework has been effective in supporting fiscal sustainability.

New Zealand has used a debt rule to guide fiscal policy. The form of the debt anchor has changed over time, reflecting changes in policy and economic circumstances. This includes changes to the definition (net debt, gross debt), form (range, ceiling, point targets), and target levels for the debt anchor. Determining a prudent level of debt requires an on-balance judgement, considering the buffer needed to manage shocks, wider macroeconomic vulnerabilities, structural changes that will influence long-term fiscal sustainability, intergenerational equity, public investment and debt dynamics.

The fiscal rule is supplemented by other short-term targets that provide operational guidance. A wide range of indicators is used to develop the fiscal strategy, including a full balance sheet. Reporting in budget documents is also broadening to include a wider range of wellbeing indicators.

The fiscal rule adopted by New Zealand is relatively simple, flexible, and targeted at medium-term outcomes. There is wide public and cross-party commitment to keeping public debt at prudent levels. Targeting medium-term outcomes also avoids the need for setting fiscal targets in cyclically-adjusted terms, as the output gap is expected to be closed in the medium term. Cyclically-adjusted targets are more complex, and subject to estimation uncertainty, making them harder to communicate. A medium-term budgeting framework is important for ensuring the fiscal anchor provides operational guidance to the annual budget process.

The fiscal framework has been resilient to political and economic changes. The moderate changes and improvements to New Zealand's fiscal framework have reflected successive governments' priorities, setting their own fiscal strategies while reinforcing strong political commitment. Rather than relying on enforcement of legislated numerical fiscal rules, New Zealand's framework provides effective incentives for governments to conduct responsible fiscal policy.

AN EVALUATION OF CHILE'S FISCAL RULE

RODRIGO CERDA

NATIONAL BUDGET DIRECTOR OF THE MINISTRY OF FINANCE OF CHILE



Chile's fiscal rule, in operation since 2001, has been a benchmark for international observers as a result of its acyclical fiscal policy and its widely recognized effectiveness in fiscal and macroeconomic management. The rule's main contributions include making counter-cyclical spending possible, promoting a competitive exchange rate, and enabling Chile to maintain a low sovereign spread with respect to the region and the world.

However, Chile has had almost 12 years of structural deficits, with a deterioration in the fiscal accounts reflected in the persistent effective deficits observed in recent years. Gross public debt is close to levels not observed since the early 1990s, registering sustained increases since 2008, and interest payments as a percentage of GDP are once again on the rise.

As a result, we must evaluate Chile's fiscal rule. A three-dimensional approach is proposed: impact on expenditure growth, the rule's complexity, and institutional setting.

1. Impact on expenditure

While the implementation of the rule has not led to stable expenditure growth during all periods, the effective revenue variance has been greater than the expenditure variance for the past 27 years. During the period 1990-2017, we observe three structural breaks in expenditure: in 2001 with the introduction of the fiscal rule; in 2009 with the global financial crisis; and in 2014 with the structural reforms associated with higher spending levels.

In terms of expenditure patterns, we observe that expenditure has a certain tendency to persist above its trend levels, i.e., it is more difficult for expenditure to adjust in the downward direction to reach its trend level than in the upward direction.

Expenditure performance under the rule, beyond the periods with *de facto* escape clauses, permitted expenditure increases in line with the levels experienced in other economies. When we compare Chile with other OECD economies during the period in which they experienced per-capita GDP (PPP) increases similar to those observed in Chile during 2001-2017, we observe that Chile is above the average level.

2. Complexity of the rule

As far as the rule is concerned, there is a trade-off between simplicity, predictability, and accuracy in the calculation of the cyclically-adjusted revenue parameter. The changes that have occurred since the rule was established were designed to make the calculation of structural revenue more accurate, albeit with a limited loss of simplicity and predictability. However, the adjustments made in 2009 greatly reduced these two features. Subsequently, the simplicity and predictability of the rule were restored with the adjustments incorporated into the 2011 Budget Law.

3. Institutional setting

Chile has only one type of fiscal rule, in contrast to other OECD economies that also have expenditure, revenue, and public debt rules. In this context, Chile's Fiscal Council had lagged substantially with respect to international best practice across several dimensions, including the fact that it did not consider long-term sustainability analysis, *ex-post* analysis, public reporting, media impact, nor did it have legal nor operational independence. However, substantial progress has been made in these aspects in recent months with the submission of a methodological decree at the level of the Comptroller General's Office on the calculation of the cyclically-adjusted balance indicator, and the

approval of the Autonomous Fiscal Council Bill that will include all of the functions discussed above, leading to a substantial improvement with respect to international benchmarks.

However, a series of challenges remain to be addressed in the future:

1. Need to improve Chile's fiscal position and restore its sovereign credit rating;
2. Need to promote transparency while improving the replicability of the instrument and access to information;
3. Need to fine-tune the calculation of the indicator, and more specifically, to make the reference parameters (such as trend GDP, the reference price of copper, and non-copper cyclical adjustments) less procyclical.

We conclude by saying that Chile's experience in the use and maintenance of the structural balance rule has been successful. However, certain fiscal metrics have deteriorated. The challenge is to strengthen the rule, leading to an improved fiscal position in the medium term.

Some tasks are still awaiting completion, such as restoring the structural balance, explicitly defining escape clauses and criteria for returning to the target, making the calculation of structural parameters less procyclical, strengthening institutional behavior in the operation of expert committees, improving reporting and fiscal transparency, and enhancing medium and long-term public financial planning.

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CHILE'S FISCAL FRAMEWORK: AN OUTSIDER'S PERSPECTIVE



METODIJ HADZI-VASKOV AND LUCA ANTONIO RICCI
INTERNATIONAL MONETARY FUND

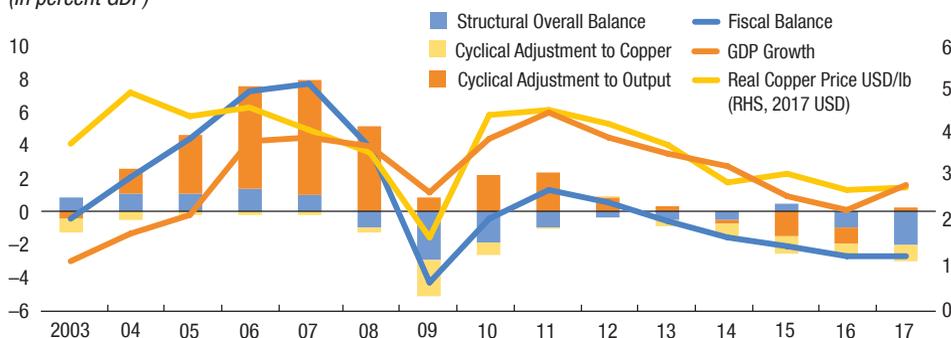
Chile's fiscal rule has served the country well, helped strengthen fiscal discipline and medium-term planning, and contributed to both building buffers ahead of the Global Financial Crisis (GFC) and keeping debt low by international standards. In addition, the fiscal rule is very well regarded internationally and has been considered a model to emulate by many countries. Nonetheless, in light of the decade-and-a-half experience with the fiscal rule, as well as the upward trajectory of public debt, this analysis aims to provide a fresh assessment of the fiscal rule's effectiveness and explore scope for further improvement.

When trying to provide an assessment, it is helpful to set the stage by looking at the two main standard objectives of fiscal rules: macroeconomic stabilization, by reducing procyclicality of expenditure, and ensuring fiscal sustainability and preservation of net wealth. In the context of Chile, the stabilization objective refers mainly to fluctuations of the fiscal balance around the structural balance target, while sustainability is mainly linked to the choice of level for the structural balance target. In addition, it is generally desirable for fiscal rules to be simple, transparent, resilient, easy to monitor and enforce, and able to provide operational guidance for the annual budget process.

Chile's fiscal rule has provided substantial correction for copper and business cycles, which have been strongly correlated among themselves (see Figure 1). As desired, the fiscal balance has tended to follow the cycles, while the structural balance has been much smoother, thereby implying considerable cyclical adjustment. In turn, real expenditure has shown countercyclical behavior mainly during the GFC, and somewhat afterwards, though not in the early period.

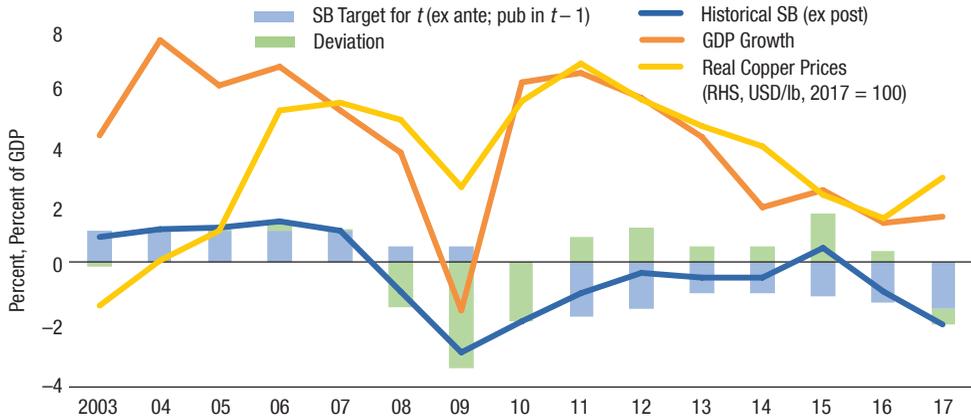
When decomposing the structural balance into targets and deviations (see Figure 2), one can see two features. First, the mild countercyclicality of the structural balance has been only slightly due to setting the target (mostly around the GFC), but mainly due to deviations from the target (particularly in 2008-13 and 2016-17). Were target changes essential for countercyclicality? Not necessarily; the international best practice suggests that it is better to link the structural balance targets to long-term objectives, and implement essential countercyclical policy via escape clauses, to enhance credibility. Second, there was a persistent downward shift in structural balance targets after the GFC: addressing cyclical policy was not the main reason for changing targets, which points to the need to anchor the targets to long-term objectives, such as trend of potential growth and debt sustainability.

Figure 1. Fiscal Balance, Structural Balance, Copper, Output & Cyclical Adjustment
(In percent GDP)



Sources: DIPRES, Central Bank of Chile, Bloomberg, and IMF staff calculations.

Figure 2. Structural Balance, SB Targets and Deviations, Copper and Output



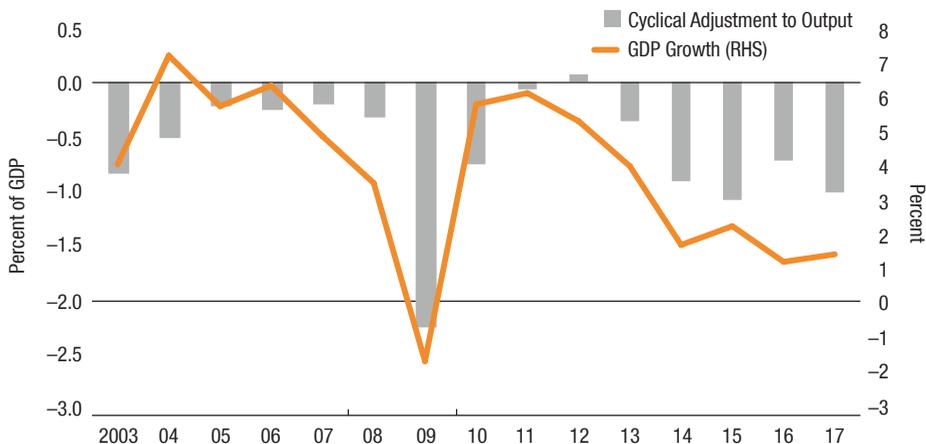
Sources: Dipres and IMF staff calculations.

Note: No official targets were set for 2011–2014. SB targets are based on what is stated in *Informe de Finanzas Públicas*.

While the cyclical adjustment has been considerable, the behavior of its two components has been quite different. First, the output adjustment has been asymmetric (see Figure 3), presenting a spending bias, as the ex-ante potential output chosen by the expert committee has turned out to be consistently above actual output in all years but 2012, persistently showing over-optimism and implying positive output gaps. This implied higher structural revenues and hence more room for spending than if the output gap were on average zero. Second, the copper adjustment has been the main driver of fiscal savings in the early period, and has provided extra spending room when copper prices were deemed to be below their long-term level. This is less likely going forward, as copper production costs have been increasing.

The analysis finds that the one-sided cyclical adjustment for output has accounted for virtually the entire contribution of the cumulative primary deficits (8 percent of GDP) to the increase in debt over the past 10 years. Deviations from the structural balance targets have not been a culprit of the debt increase in Chile, as they have tended to cancel out. Neither have been the fiscal projections, as they have not been overly optimistic on average. The analysis concludes by inviting the public to explore the possibilities for: introducing an explicit medium-term anchor; setting the targets in a more structured way and linking them to long-term objectives; defining formal escape clauses for countercyclical purposes; and establishing formal adjustment rule for past deviations from targets.

Figure 3. Output Growth and Cyclical Adjustment to Output



Sources: DIPRES, Central Bank of Chile and IMF staff calculations.

*For bios of the authors see the bios at the end of the book.

FISCAL RULE FOR NORMAL AND DIFFICULT TIMES

VITTORIO CORBO

VITTORIO CORBO AND ASSOCIATES



During the last 25 years, Chile has made substantial progress in the area of macroeconomic stability as a result of its institutional development and its policies. Macroeconomic stability has been supported by a monetary policy aimed at achieving low and stable inflation, managed by an independent central bank; fiscal policy that supports fiscal solvency and stability, governed by a fiscal rule; and appropriate financial regulation and supervision.

The components of this set of policies and institutions have worked together to generate stability, to establish a more favorable framework for entrepreneurial activity and investment, and, along with micro-reforms that include a successful integration to the world economy, have enabled Chile to achieve a long period of high growth, and as a result, has been able to make a substantial jump in its per-capita GDP over time.

The macro effects of the major international financial crisis of 2007-2008 were managed with counter-cyclical monetary policy and a temporary suspension of the fiscal rule. This experience prompted the need to strengthen the fiscal rule by introducing policies designed to manage shocks without affecting fiscal solvency. More recently, the fiscal accounts have deteriorated, as a result, *inter alia*, of the more relaxed objectives of the cyclically-adjusted balance (BCA) targets and spending pressures. Below, we shall suggest some approaches for the treatment of fiscal policy under normal conditions and in difficult times.

When only minor shocks are present in the economy, the use of the BCA as a target promotes macroeconomic stability. In such cases, monetary policy is the most efficient counter-cyclical macroeconomic policy approach. The macro role of fiscal policy should be to serve as an adjunct to monetary policy working as an acyclical rule, thereby ensuring fiscal solvency. The rule must be determined on an *ex-ante* basis and implemented on an *ex-post* basis. However, as the rule is acyclical, there are circumstances in which large domestic or external shocks could result in pronounced changes in domestic demand where the countercyclical role of monetary policy is not enough. In those cases it may be required to complement counter-cyclical monetary policy with counter-cyclical fiscal policy.

In fact, this approach was used in Chile in 2008 to address the effects on domestic demand of the great international financial crisis. In such cases, the important matter is to establish a clear policy on the mechanisms for returning to the rule once the emergency has ended so as to avoid an adverse impact on fiscal solvency over time.

Counter-cyclical fiscal policy can be achieved through a temporary change in the target on an *ex-ante* basis, or with escape clauses. The latter must be regulated and monitored by an autonomous body, and might be contingent, for example, on the size of the output gap. The autonomous body, that in this case could be the Autonomous Fiscal Council (CFA), would be required to express its independent opinion in a report to Congress justifying the suspension of the rule.

There may also be pronounced adjustments in fiscal expenditure for domestic reasons, deriving from sudden changes in the estimation of trend variables, and particularly long-term copper prices. These changes affect macroeconomic equilibria and relative prices, and therefore any error in their estimation can ultimately be costly. On the other hand, fiscal solvency may be affected by various issues of noncompliance or errors in the estimation of the fiscal rule. First of all, there are cases where effective GDP growth is below the potential level and the price of copper is below the trend level on a persistent basis, resulting in a stream of effective fiscal deficits and debt accumulation. Second,

fiscal solvency may be affected by a very relaxed cyclically-adjusted balance target, for example, if the target is set as negative for a number of years. Last, if the BCA target is equal to zero, overestimating the structural parameters used to estimate the cyclically adjusted level of government revenues would lead to *ex-post* deficits. Structural parameters are difficult to estimate. More specifically, the more complex parameters include total factor productivity and long-term copper prices. However, to maintain fiscal solvency, effective fiscal debt must be monitored, and the cyclically-adjusted balance must be calibrated, in addition to the presence of an autonomous oversight body such as the Autonomous Fiscal Council.

Recent episodes that illustrate these points are noteworthy. During the 2008 crisis, the central bank lowered the policy rate all the way to 0.5 percent and the BCA was moved 2 percentage points of GDP below its target, with the “implicit” use of the escape clause. However, in 2010, the country sustained the shock of the earthquake, and then in 2015, the supercycle of copper prices that had been observed since 2012 began to fade. These factors, along with less stringent cyclically-adjusted balance targets, led to a slow normalization of fiscal policy and expenditure pressure, creating strains in the government balance sheet in recent years, and resulting in a deterioration of the fiscal accounts.

To restore fiscal credibility, sustainability must be incorporated more explicitly, with annual objectives, and the structural parameters must be more effectively estimated. One alternative is to place a limit on the stock of government debt while defining a target that includes a buffer to allow the level of debt to increase above the target in the presence of exchange rate or interest rate shocks at the international level.

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GETTING RULES INTO POLICYMAKERS' HANDS: A REVIEW OF RULES-BASED MACRO POLICY

MARIO MARCEL CULLELL, GOVERNOR OF THE CENTRAL BANK OF CHILE



There is a long-running debate as to whether macroeconomic policy decisions should follow pre-defined rules or be left to the discretion of benevolent and informed policymakers.

This article focuses on the reasons and risks behind the popularity of rules-based macro policy, concentrating on monetary and fiscal policy. While there is a vast literature analyzing the causes, effects, design choices and institutional setting and some have underscored the relationship between both in actual experience, it is not common to look at them in a comparative fashion.

MONETARY POLICY

Many central banks have adopted *inflation targeting regimes* (IT), in which price stability is set as the main policy goal, so much so that there is an explicit target for the inflation rate (a *policy rule*). Under this regime, monetary policy is completely oriented to the achievement of the target.

For IT to work, it is not sufficient to announce the target and expect that everyone will believe in it. Indeed, the right institutional setup is as important as the target itself, if not more so. IT does not mean that the Central Bank has to abide by the rule at all times and under any circumstances and may choose to deviate from this path. This typically happens in two circumstances. First, since inflation measurements are likely to include a number of short-term disturbances, most IT focus on medium-term forward-looking inflation (“forward inflation targeting”).

Second, some central banks have dual mandates of price stability and “economic prosperity”, providing a good-enough reason for which central banks may choose to depart from pure IT, so long as the price stability objective is not compromised in the medium term.

FISCAL POLICY RULES

Fiscal rules are more recent and heterogeneous, both in their formal definition as well as in their implementation, and compliance is usually less strict. There is less consensus on what the “right” fiscal rule is, and each country has adopted the rule that fits better with its institutional, political, and economic needs and constraints.

The IMF defines a fiscal rule as one that “*imposes a long-lasting constraint on fiscal policy through numerical limits on budgetary aggregates.*” Fiscal rules can be good for the economy, provided they are well defined and stable, and that the institutional setup of the country is strong enough to ensure compliance. There is always concern that rules may limit the ability of policymakers to react to large and unexpected shocks, aggravated by the fact that it is usually when these shocks hit that counter-cyclical fiscal policy becomes a crucial stabilization tool. To provide some flexibility, fiscal rules may consider exceptions for extreme circumstances too.

Excerpt from Marcel, M. (2019), “Getting Rules into Policymakers’ Hands: A Review of Rules-based Macro Policy,” Economic Policy Paper 66, Central Bank of Chile.

DECONSTRUCTING MACRO POLICY RULES

To better understand the challenges in designing, implementing and attaining macro policy rules, it is useful to examine their six-component architecture:

1. *An underlying measure/indicator that provides the basis for the rule. For instance,*
 - Monetary: indicators such as current, core, or expected inflation measures,
 - Fiscal: rules based on a debt level, structural or cyclically-adjusted balance, or a spending rule.
2. *A numerical target, indicating the value of the measure to be attained, including its time horizon. For instance,*
 - Monetary: a fixed inflation target or a band,
 - Fiscal: a debt to GDP ratio or a structural budget as a percentage of potential GDP.
3. *A regular reporting mechanism to compare the actual value of the indicator versus the target.*
4. *Accountability mechanisms, establishing rewards/penalties to policymakers when complying with/ departing from the target.*
5. *Exception/escape clauses that allow to depart from the rule under exceptional circumstances.*
6. *Convergence provisions, to organize the transition towards the target when departing from a distant position or to return to it after missing the target or resorting to an escape clause.*

WHY ARE MONETARY POLICY RULES MORE COMPLIED WITH THAN FISCAL RULES?

Some factors may stem directly from design choice on the rule's components as listed above. For instance, we noted that while monetary policy rules tend to be stated on end-outcomes closer politicians' and public concerns, fiscal rules are generally geared to intermediate output, not reflecting citizens' well-being. While it could be argued that the latter makes compliance easier, popular support and political commitment may be just the opposite.

Perhaps the greatest difficulties for fiscal rules originate in their complex political background, reflected in two dimensions: (i) goal congestion, as public finances are expected not only to meet macro fiscal objectives but also social areas of public policy; (ii) political time inconsistencies, as governments are likely to have a preference for immediate results as compared to longer-run benefits from fiscal discipline.

Lastly, coherence between monetary and fiscal rules matter more for macroeconomic outcomes of growth and price stability than each of them in isolation. In this sense, a fiscal rule that creates coordination difficulties or outright inconsistencies with a long-established monetary policy rule is likely to succumb more easily, no matter how well pursued.

Rather than interfering with public policy, macro policy rules should be seen as enablers of sustainable and effective public policies in education, health-care and infrastructure. If only for this reason, macro policy rules are worth the effort invested in designing and pursuing them.

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FISCAL POLICY IN CHILE: SOME COMPARISONS AND CONCERNS

RODRIGO VALDÉS

SCHOOL OF GOVERNMENT, PONTIFICAL CATHOLIC UNIVERSITY OF CHILE

While the cyclical component of Chile's fiscal policy in the last 15 years seems broadly appropriate, the fiscal rule has suffered a number of changes throughout this period, suggesting that it was not delivering suitable guidance. At the same time, the fact that the latest structural results are close to 3% of GDP below those 15 years ago, reveals a persistent deterioration that needs attention. Here I present a few comparisons that are useful in identifying areas that need improvement in the fiscal rule design.

First, let's consider the behavior of the overall fiscal balance. Compared to Norway (an exemplary case of a fiscal rule), Chile has a strikingly similar volatility in the last 15 years. In the last five years, however, the deterioration in Chile was smaller. In contrast to Australia, another interesting benchmark, Chile seems to have a more marked cyclical pattern. Finally, in comparison to the average of commodity exporters Emerging Markets (EMs, as per the IMF classification), while Chile had a similar behavior between 2001 and 2013, it suffered a smaller deterioration in the following years. The cyclical behavior has been adequate: significant saving in good times and relevant dissaving in bad times. Notably, the 2009 crisis policy reaction appears quite large.

The second element relates to debt accumulation and levels. In comparison to the average of EMs, Chile's debt accumulation has been smaller, both since 2011 and since 2014, and especially in comparison to oil-exporters. The sharp increase in Chile's debt over the last five years has been the norm across EMs rather than the exception. In fact, compared with all countries with debt data (IMF debt database), Chile's gross public debt-to-GDP ratio has remained stable in the lower 10th percentile since 2012. The only relevant increase against this benchmark happened in 2009-2011.

These comparisons reveal that the (local) notion that fiscal policy was "irresponsible" in the last few years is simply wrong. It is of course debatable whether policies should have been more or less supportive, but such a discussion is very different from the usual (local) perception. Sovereign spreads tell the very same story: they remained low in comparison to all relevant benchmarks (although credit rating agencies downgraded Chile one notch in 2017).

Figure 1. Overall Fiscal Balance (% of GDP)

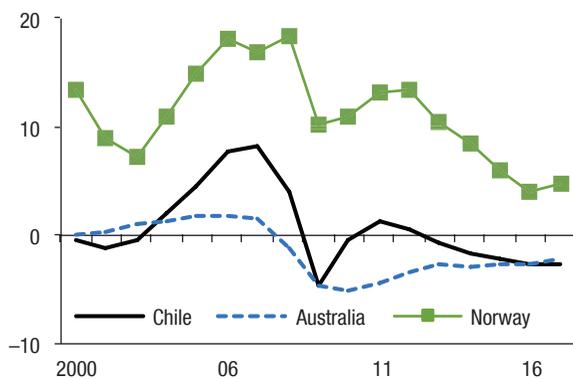


Figure 2. Overall Fiscal Balance (% of GDP)

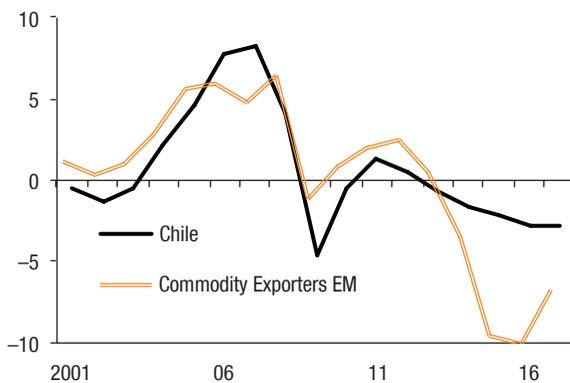
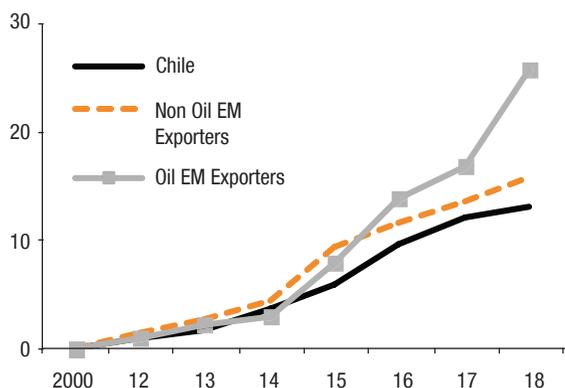
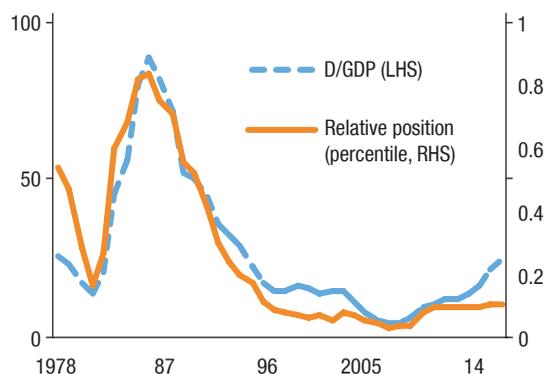


Figure 3. Debt Accumulation (% of GDP)**Figure 4. Chile: Debt to GDP and ratio relative position**

These results, however, were not the consequence of the simple and mechanical application of the fiscal rule. On the contrary, as other sections of this booklet discuss, there have been several changes and tweaks to the rule, including adjustments to the numerical target and the calculation mechanics. To deliver (a cyclically appropriate) fiscal policy, the rule had to change. With this in mind, one can identify four concerns that a new rule design should consider.

Concern #1. Procyclical effects of structural parameter volatility. Chile saved significantly only in 2004-2008. After this period, in 2010-2013 long-term copper prices increased quickly, allowing for what can be considered excessive fiscal space. And when it declined in 2015-2017, the rule had to be adapted (from a level target to yearly changes) to avoid a knee-jerk adjustment, unreasonable from a macro perspective, and politically unattainable.¹

Concern #2. Lack of a proper anchor. The fact that the structural balance had deteriorated by almost 3% of GDP between the early 2000s and 2017 reflects obvious fiscal pressures. But it also reflects the fact that Chile has never seriously discussed an appropriate debt level and the feedback that this should exert into the fiscal target (and rule design).

Concern #3. Lack of an escape clause. Fiscal stimulus after the Global Crisis was appropriately large (albeit the magnitude and spending combination is debatable). However, this contradicted the rule which was de facto abandoned.

Concern #4. Annual targets. In 2010 the government moved to a 4-year horizon target. This was again repeated in 2014, leaving the annual budget process anchorless (until 2015 when annual targets were reinstated). Having clear annual targets facilitates fiscal discipline and monetary/fiscal coordination, and should be the norm.

¹Solution alternatives to these concerns are discussed in Medina, Silva, Soto and Valdés (forthcoming).

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FACTORS FOR FINE-TUNING FISCAL POLICY

RODRIGO VERGARA MONTES
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When viewed from all angles, Chile's fiscal rule can be given a positive assessment. Its operation has been a key factor in responsible public financial management. However, this does not mean that there are no aspects of fiscal policy in which there is room for improvement. A number of concerns are provided below, and measures are proposed to improve the fiscal policy framework.

First and foremost, a fiscal rule must be simple. In Chile's case, the official calculation is very difficult to replicate, and its complexity has increased over time. We should mention that the rule acquired 12 components between 2001 and 2009. Currently, the structural balance is calculated with six elasticities and three prices for copper. We cannot help but wonder whether this level of sophistication is truly necessary. With a simple exercise, Juan Pablo Medina demonstrated that the rule can be replicated with only five parameters.

Another area of discussion relates to the use of the cyclically-adjusted balance or the structural balance, the latter being regarded as somewhat more akin to a permanent revenue and expenditure balance. In Chile, the cyclically-adjusted balance is used as it is more transparent and allows less scope for discretion. In fact, with a structural balance, it is necessary to define whether or not unexpected revenue and expenditure are permanent, which can lead to a substantial level of discretion. With a cyclically adjusted balance, this is not necessary as only GDP and the price of copper are cyclically adjusted, without the inclusion or exclusion of any special items. Even so, we have observed different criteria for different items in recent years. For example, extraordinary taxes in connection with a temporary window to declare capitals abroad and pay a reduced tax rate, were not included in tax revenue as they were one-time levies. By contrast, amounts owed in connection with the Substitute Tax on balances of profits under the Taxable Earnings Fund (FUT), were included in tax revenue, as the one-time-only component of these amounts was not known. It would seem to me that this is a valid discussion and that the new Autonomous Fiscal Council will make an important contribution in this connection. Its involvement will ensure that decisions on issues that will occur in the future will have the technical content required for the rule to be credible and meaningful.

A third point for discussion involves the escape clauses. There are certain special economic circumstances in which the rule cannot be complied with. This was clearly demonstrated in the 2009 crisis. However, the escape clauses should be designed with a formal mechanism. One option is to prepare an explanatory report for Congress that includes information from the Autonomous Fiscal Council providing an opinion on the decision to bypass the rule temporarily, and providing the relevant explanations. However, there is a risk with this clause that the report to Congress will come to be considered routine or normal, and accordingly, it is important to ensure that it is given genuinely extraordinary status.

The discussion as to whether the target should apply to the primary balance or total balance is also an important matter. We should point out that the International Monetary Fund's programs apply to the primary balance, and that the Corbo Commission Report recommended moving in this direction. The problem is that the public has little knowledge or understanding of the primary balance, which may affect its credibility. In addition, since much of the debt is arranged on a long-term basis with fixed rates, the interest is fairly stable and therefore the conclusions obtained using

different measurement techniques do not change substantially. Accordingly, I would propose continuing with the total balance, at least for now.

The discussion as to whether the fiscal rule of the balance should be supplemented with a debt limit is also valid. However, when the level of debt is relatively low, as it is in Chile, how can we prevent the debt limit from gaining attraction? I have no answer to this question, although I am skeptical of a debt rule for this reason, at least in the current circumstances. The other point involves the type of debt that should be used if we intend to establish a debt limit. In my opinion, it is clear that net debt should be used, as it is indicative of a country's solvency.¹

Substantial progress has been made in terms of the institutional framework. The main recent development is the approval of the draft law establishing the Autonomous Fiscal Council. Chile also has a Fiscal Responsibility Law, and the committees responsible for forecasting copper prices and trend GDP are independent. All of these factors taken together form a cohesive institutional framework.

Last, fiscal policy in Chile is self defined as acyclical, leaving the countercyclical role to monetary policy. In this context, there are doubts as to whether Chilean fiscal policy is and has been truly neutral, and if it has, what are the underlying reasons? Why give up a powerful policy instrument? One of the possible explanations for Chile's adoption of an acyclical fiscal policy is simply due to the fear that an active fiscal policy will ultimately lead to substantial deficit levels and unsustainable growth in public debt. Interestingly, one of the proposals of the Corbo Commission was to make fiscal policy somewhat countercyclical, without overlooking long-term equilibrium.

¹We might consider debt net of surplus assets over a minimum level.

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NOTES ON THE FISCAL RULE

ROSANNA COSTA

BOARD MEMBER, CENTRAL BANK OF CHILE



The structure of the presentation reflects an approach in which the fiscal rule is perceived as a valuable practice placed within a broader institutional framework designed to favor fiscal sustainability.

More generally, the macroeconomic framework for our small, open economy involves an autonomous central bank that follows an inflation target, with a flexible exchange rate regime, and in which financing to the government is prohibited. Fiscal policy observes a fiscal rule based on the structural balance,¹ which is acyclical.

Meanwhile, fiscal institutionality seeks to align incentives with checks and balances, for which the proper distribution of roles between the Executive and Congress is essential. Thus, the Executive, being in charge of fiscal policy and public finances, has the exclusive initiative in matters of financial administration of the State. This includes proposing tax amendments, expenditure, and institutional changes to the Congress, and must observe the principle that revenue should not be earmarked. It also involves broad flexibility for budget management, which is subject to centralized administration. By contrast, Congress must approve public expenditure (it may reduce, but not increase or reallocate expenditure). In addition, when financing through an increase in gross debt exceeds the presidential term, a qualified quorum is required for approval, giving Congress a stronger hand in this decision. In other words, the design limits financial commitments that go beyond the presidential term, by subjecting gross debt to approval requirements. This rule was designed when the government had no substantial financial assets to finance expenditure and the only option was increasing debt. Today's asset availability might invite us to explore setting a limit to net debts.

There are a number of other important institutional rules, and our purpose here is not to exhaust their analysis. Some were only mentioned in the presentation, while other requirements, such as lengthy experience with fiscal rules² and a high collective opinion of macroeconomic equilibria and fiscal responsibility, are cultural.

Moving to the more specific analysis of the fiscal rule, which is designed to guide public expenditure in an isolated long-term economic trend, the exercise is based on the estimation of two central parameters: cyclical economic growth and long term copper prices, both unobservable variables. This information is used to establish a trajectory for expenditure, for a given level of structural revenue—given a reference level for the structural balance goal. The level of the goal must be defined by taking account of liabilities, including contingent liabilities, among other factors, so as to ensure convergence with a sustainable level of debt.

One important point is that the structural parameters and the design model for the rule do not isolate the cycle completely, and that structural revenue is more volatile than would be desirable. Moreover, the methodology is highly complex, which reduces reliability and control, while it provides room for potential errors that are difficult to detect in time, and undermines credibility. All of these factors are difficult to compensate for through transparency alone. Efforts are therefore required in the pursuit of simplicity, by giving consideration to the elimination of those adjustments to effective revenues that might be contributing relatively more to the complexity of the rule than to the cyclical adjustment.

¹Conceptually speaking, it is a balance that takes into account revenues adjusted by the economic cycle.

²This goes back at least to the use of the Copper Price Stabilization Fund in its more recent history.

In light of the complexity of the rule, and the recent experience with periods of frequent change, the recent approval of the law creating the Autonomous Fiscal Council is a step forward in terms of ensuring transparency, control, and monitoring in this connection, thereby significantly reducing the impact of these problems.

However, we shall mention a number of complementary tools that would enable the Autonomous Fiscal Council to play an active complementary role. In fact, although the fiscal rule provides an annual target that is compatible with a sustainable trajectory, it is based on unobserved variables and does not include increases in contingent liabilities or future expenditure commitments. While changes in contingent liabilities can be expected to modify the optimal level of the structural balance, optimal corrective mechanisms do not exist. Similarly, future expenditure commitments are not necessarily incorporated as contingent liabilities and certainly not within long-term projections.

It would therefore help to improve the methodology for medium-term revenue and expenditure projections, including budget leeway; to prepare long-term revenue and expenditure projections; to perfect and generate methodologies for committed public expenditure and flexible expenditure; and to refine contingent debt estimates. The medium and long-term projections must also be kept up to date, establishing the requirement that financial reporting under draft laws having a significant medium-term impact must show its impact in the projections (in accordance with the same reasoning as the approval of gross debt extending beyond the presidential term).

Moreover, a number of areas were mentioned that may be worthy of consideration as mechanisms to enhance the mobility of less efficient public programs or to assess the impact of the fiscal rule on public enterprises.

In addition, it is worth stressing that it is more difficult to adjust costs down than up. To the extent that the share of variable expenditure is smaller, the cost of reducing public spending is higher. For this reason, an acyclical rule is more appropriate than a countercyclical one. In other words, it is advisable to limit countercyclical policies to automatic reversal measures such as advance refunds, and avoiding others like unemployment programs which had demonstrated that they tend to become permanent. In fact, as a result of the current volatility of structural revenue and the problems in connection with structural parameters, it is advisable to strengthen the fiscal rule with the establishment of a maximum deficit. However, some exceptional situations require more fiscal stimulus than the rule provides, as well as more substantial effective deficits. In really exceptional cases, departures from the rule should be subject to certain costs and protocols to formalize the exceptional nature of the situation as well as to strengthen the ex-post convergence path.

Rosanna Costa is a board member at the Central Bank of Chile. In the past, Ms. Costa held the position of National Budget Director at the Ministry of Finance, and she was previously the Economics Program Director at the Liberty and Development Institute. Earlier in her career she was an economist at the Central Bank of Chile. Ms. Costa was a board member of the Senior Public Management System and the National Productivity Commission, and she has participated in several presidential commissions. Ms. Costa has a bachelor's degree in business administration from the Pontifical Catholic University of Chile.

KEY FACTORS FOR ACHIEVING A BETTER FISCAL RULE

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The fiscal rule has been one of the main assets of macroeconomic policy in Chile, providing a framework for fiscal policy action based on responsible management of public resources. Currently, the rule is one of the key components of Chile's fiscal framework, and almost 20 years after it was introduced, its contribution to macroeconomic stability is clear.

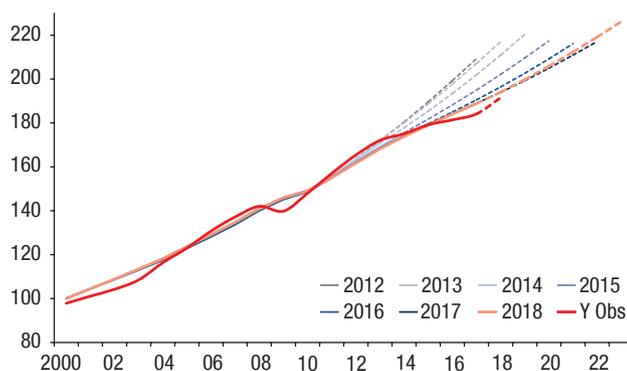
The rule was abandoned with advent of the global financial crisis, which primarily resulted in the failure to meet the target for a longer period than had been expected. However, during the past 10 years, the efforts to restore the target and fine-tune the fiscal framework, including the rule, have brought to light a number of factors that merit far more comprehensive analysis, and, that, if improved, will enable fiscal policy to play its important role in the economy more effectively.

One of the most important roles of fiscal policy is to mitigate economic cycles, and accordingly, the rule is designed to perform this function. However, in practical terms, the estimation of the parameters that determine structural revenue entail problems that might cause fiscal policy to have the effect of accentuating economic cycles.

As we observe in Figure 1, the estimation of long-term economic growth has shown an upward bias in recent years that tends to be corrected negatively during the following year. In addition, as we observe in Figure 2, there has been a close correlation between long-term copper prices and the price for the immediately preceding year, and therefore both parameters add procyclicality to the calculation of structural revenue.

There are also key factors not reflected in the rule that should be taken into account. One of these factors is the definition of a structural GDP growth rate that makes it possible to resolve the misalignments in the current account balance without impacting the exchange rate. Currently, as we observe in Figure 3, if the GDP gap in respect of trend performance is positive, the real exchange rate will appreciate persistently until the gap is less than zero. However, in terms of external equilibrium, long-term GDP will increase as the country becomes more competitive—a factor that should be reflected in the new rule.

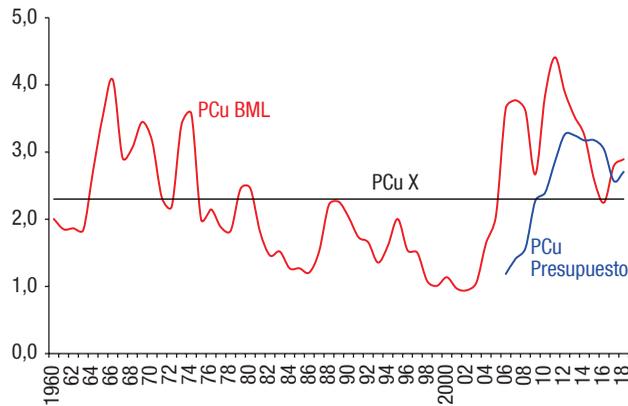
Figure 1. Chile 2000–22: Trend GDP Estimates & Actual GDP¹
(Indices, average 1990–2010 = 100)



¹Dashed lines are estimates.

Source: Estimates based on information by DIPRES, BCCh, and IMF.

Figure 2. Real Copper Price
(2017 USD per pound)

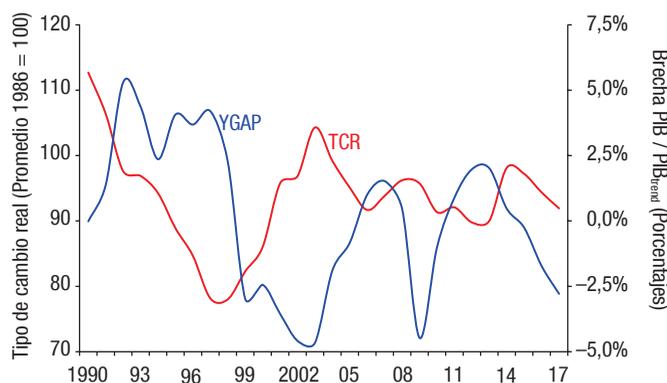


Source: BML copper price deflated by US GDP deflator, according to BCCh, BEA, and OECD.

The rule is designed to safeguard the resources that belong to all Chileans, now and in the future. It is therefore also vital to understand that copper revenue is finite, and efforts should be made to ensure that it can also benefit future generations. A practical way to do so might be to emulate the approach that Norway has taken with great success in regard to the resources from its oil reserves. In simple terms, this involves using oil, a finite resource, to create a variable income fund to ensure profitability in the short term, for the country's spending in the present, as well as resources to be used in the longer term once the utilized natural resources are no longer present.

The global financial crisis created a number of challenges for macroeconomic and fiscal policies, and almost 20 years after the fiscal rule was introduced in Chile, it is important to establish a new design for the fiscal framework that is more effectively adapted to new circumstances.

Figure 3. Real Exchange Rate and Output Gap



Source: Central Bank of Chile and Budget Office.

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THE FISCAL RULE AND INSTITUTIONAL FRAMEWORK DURING THE PAST 20 YEARS



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The fiscal rule in Chile operated adequately until the 2008 global financial crisis. The accumulation of surpluses during the copper boom enabled an unprecedented fiscal policy to be implemented, helping to mitigate the effects of the crisis. However, fiscal policy during the crisis deviated from the rule, even though this was justified by the severity of the crisis. By contrast, the rule was not very stringently applied after the crisis. Figure 1 shows the deterioration in the structural and actual deficits that ultimately led to a substantial accumulation of public debt.

In most emerging economies, we observe the failure to eliminate fiscal stimulus completely (Figure 2), primarily because fiscal expenditure did not decline to precrisis levels (Figure 3). There is substantial fiscal inertia that leads us to question the capacity of fiscal policy, in contrast with monetary policy, as an instrument to stabilize fluctuations, particularly when they are severe, as was the case of the global financial crisis.

The fiscal rule is now somewhat more ambiguous, and has been subject to changes. There are also problems in measuring the structural balance. The structural parameters used for that purpose include the long-term price of copper and trend GDP. The average copper price during the past 17 years is approximately US\$2.6 per pound, exceeding the long-term price used to calculate the

Figure 1. Chile's Fiscal Balance: Effective & Structural Percent of GDP

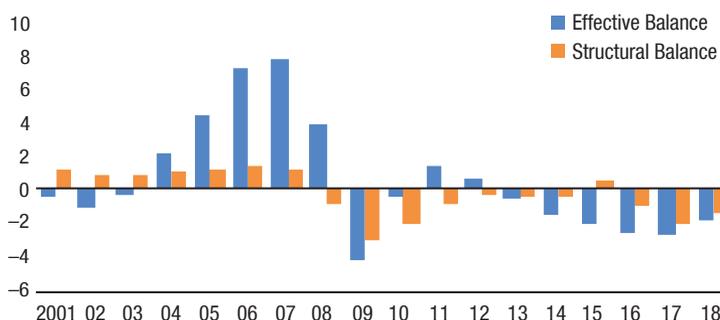


Figure 2. Fiscal Balance for Select Emerging Market Economies (Percent of GDP)

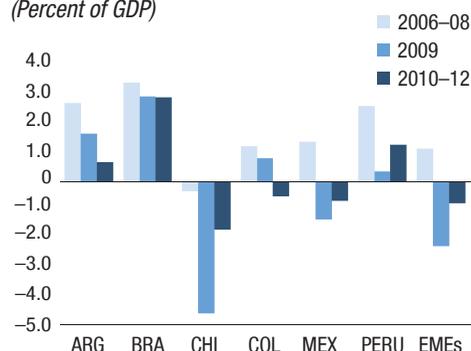


Figure 3. Fiscal Expenditure for Select Emerging Market Economies (Percent of GDP)

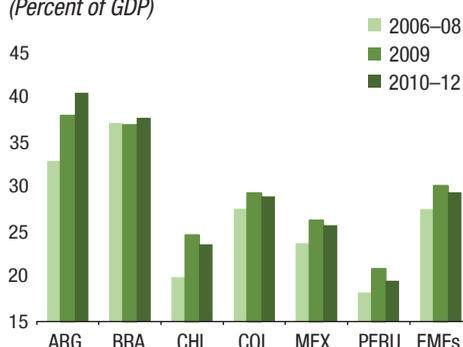
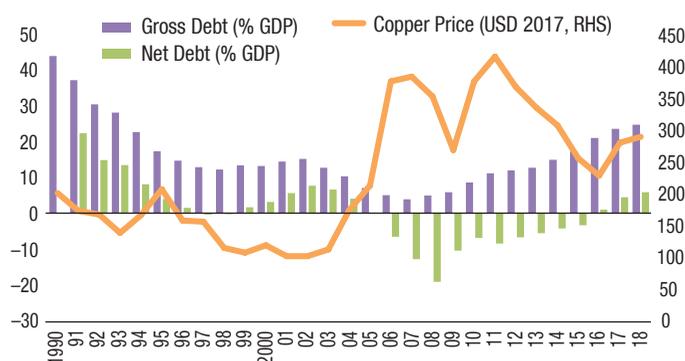


Figure 4. Chile's Public Debt & Copper Price*(Percent of GDP & 2017 USD)***TABLE 1.****Fiscal Deficits & Changes in Public Debt for Select Emerging Market Economies**

	Fiscal Deficit	Gross Debt	Net Debt
Argentina	4.4	2.3	-
Bangladesh	3.4	-0.2	-
Brazil	5.8	2.8	2.1
Bolivia	3.1	1.4	2.3
China	1.9	1.8	-
Chile	1	1.8	2.1
Colombia	2.2	1.3	1.2
India	7.4	0.2	-
Mexico	3.3	1.3	1.1
Pakistan	6.3	1.3	1.2
Peru	0.6	0.1	0.1
Russia	1.2	0.5	-
South Africa	4.5	2.3	2.5
Thailand	0.4	0.2	-
Average	3.2	1.2	1.6
Median	3.2	1.3	1.6

Note: Author's calculations based on IMF data. All expressed in percent of GDP, averaged over 2010-2018.

structural balance by approximately US\$.50. Measurement of the gap between trend GDP and effective GDP is also problematic, and makes it a complicated matter to produce accurate estimates of the structural situation of the fiscal balance.

Interestingly, the effective fiscal balance deteriorated every year from 2012 until 2017, while the structural balance was only found to deteriorate at the end of the period. The structural balance estimates created the illusion of fiscal discipline, when fiscal deterioration had in fact occurred. Accordingly, the structural balance does not reflect the trend in the actual balance. As a result, in the future, it is also important to monitor the actual balance closely, to avoid having to rely on a figure that is estimated and that is not directly measured.

Public debt also deteriorated significantly within a relatively short period of time. As shown in Figure 4, while gross debt was situated at 3.9 percent of GDP in 2007, it rose to 25.6 percent of GDP, its highest level in the past 25 years, in 2018. In comparison with the fiscal deficit accumulation, the increase in annual gross debt during the period 2010-2017 exceeded the average annual fiscal deficit by just under one percentage point, as opposed to the situation observed in the group of emerging countries, in which the average increase in the fiscal deficit exceeded growth in gross debt by almost two percentage points (Table 1). This point is significant as it shows that deterioration in public debt exceeds the levels potentially deriving from the accumulation of budget deficits. After all, a country's fiscal soundness is determined by its level of debt and future outlook. If there are any relevant statistical discrepancies between the data on debt and the cumulative deficit, in defining fiscal objectives, we should also consider debt levels as a separate variable, rather than simply taking into account the annual flow results.

The usefulness of the structural balance rule is undeniable, particularly as it has enabled substantial savings to be achieved during the copper price boom. However, there are difficulties involved in measuring the balance, and, although there is scope for fine-tuning, we must take other variables into account in defining the fiscal policy objectives, as we have discussed. For example, it might be useful to incorporate a public debt limit, with a fiscal commitment not to exceed a target of 25 percent of GDP, taking into account cyclical slippage. It is also an important matter to focus more on net debt, which provides a better overview of fiscal solvency, in light of all of the problems involved in measuring assets.

The role of the Autonomous Fiscal Council should be to make these measurements more precise, both for the structural balance and the stock of debt, and to provide an analysis of the implications of different fiscal objectives in light of the complexities involved in measuring this type of variable.

Jose De Gregorio is a professor and dean of the School of Economics and Administration of the Universidad de Chile. He is also nonresident senior fellow of the Peterson Institute for International Economics. He is also a director and financial advisor of several private sector firms as well as a consultant for international financial institutions. Mr. De Gregorio was Governor of the Central Bank of Chile between 2007-11, Deputy Governor between 2003-07, and board member between 2001-03. Between 2000 and 2001 Mr. De Gregorio was minister for three different Ministries at the same time: Economics, Mining, and Energy.

FISCAL RULES FOR LONG-TERM OBJECTIVES

PAOLO DUDINE
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After 2008 many countries started to revise their fiscal rules, mostly to address weaknesses that had emerged with the Global Financial Crisis. Experience so far with second-generation fiscal rules shows that the effectiveness of fiscal rules at promoting prudent fiscal policies and at supporting long-term fiscal objectives depends crucially on their design. Given its importance, what principles should guide the design of fiscal rules?

To begin with, fiscal rules should be designed with a holistic view of the fiscal framework. This is because fiscal rules are one component of such framework and the quality of their design cannot be improved in isolation from the quality of the overall framework. A well-designed fiscal framework should have three elements: a clear long-term objective, an explicit fiscal anchor that guides fiscal policy over the medium term, and a fiscal rule that guides fiscal policy over the short term.

The long-term objective should primarily include fiscal sustainability and should be determined considering the long-term challenges and opportunities that the economy faces. For all countries this means that the desirable amount of long-run savings (or debt) should be consistent with the implications that these challenges and opportunities have for the budget. For resource-rich countries this also implies determining how much of current resource income should be saved and transferred to future generations, including whether this inter-generational transfer should happen by building financial assets or through the economic dividends of investing in infrastructure and increasing the stock of physical capital.

The medium-term anchor should be set as limit on a stock variable (assets, debt, net debt, net worth) and it should help close the gap between the desired long-run fiscal position, and the one implied by current policies. The anchor should not determine fiscal policy in the short-run because the dynamics of stock variables depend on factors that are not fully under the control of the authorities, and because adopting counter-cyclical policies (a desirable feature of fiscal policy) implies a temporary increase in debt or a decline in assets.

The anchor should be set prudently, at a level that allows reaching the long-term objectives under most of the adverse scenarios that the economy might face. For resource-rich countries the volatility of resource prices amplifies the spectrum and unpredictability of adverse scenarios. For these countries, the best way to shield the budget (and, through the budget, the economy) from the volatility of resource prices is to build a buffer that allows financing a gradual adjustment to a permanent (or temporary, but large) loss in resource revenue. The buffer can be built either through assets or by keeping debt at a low level.

The size of the buffer depends on two factors. The first is the tolerance for the depth of the annual adjustment, which would have to be set based on economic considerations, including the effect of fiscal consolidation on economic activity. The other factor is risk aversion. To one extreme, with zero tolerance for risk, the buffer should be large enough to allow smoothing the adjustment to the most extreme event: a large permanent loss of resource revenues. In this case the buffer should be large enough to finance the part of spending that remains to be adjusted, for the time that it will take to absorb the entire loss of revenues. With some tolerance for risk, the government would like to cover the adjustment to all but the worst possible revenue losses. In this case, a risk-based approach that considers the entire risk profile of resource revenues can be adopted to estimate the buffer.

The fiscal rule should be set as a lasting numerical limit on a quantifiable fiscal aggregate or indicator of fiscal policy. The rule should be binding for the annual budget and be set on a flow variable that is under the direct control of policymakers. However, the rule should not be treated as a target for fiscal policy; rather, it should be thought of as the perimeter within which policy discretion can be exercised.

The limit(s) imposed by the rule should be set consistent with the medium-term anchor and the structural parameters of the economy. Also, in case more than one limit constrain different variables, these limits should be set coherently with one another, to avoid both contradictory overlaps (which leaves the choice to pick and choose the limit with which to comply), and overly-constraining fiscal policy (which could lead to sub-optimal policies). In any case, the system of fiscal rules (if more than one is present) should be parsimonious.

Correction mechanisms and transitional arrangement can reinforce the link between short-run policies and the medium term anchor, strengthening the credibility of the rule. Correction mechanisms are provisions that pre-determine how fiscal policy should respond in the short run to deviations of stock variables from the anchor. Correction mechanisms enforce credibility because they give further insurance that fiscal policy will remain anchored over the medium-term. Transitional arrangements determine instead a path that bridges the current fiscal position to the one established by the rule. These arrangements support the credibility of the rule when the immediate implementation of the rule implies unrealistic adjustments.

A well-designed fiscal rule should be flexible, but flexibility should not lead to complexity. Escape clauses strike this balance by pre-establishing the conditions, modality, and duration of deviations from the rule in case exceptional circumstances materialize.

Finally, rules should be complied with, which is more likely to happen if compliance mechanisms are based on incentives rather than enforcement, that is by raising the costs of noncompliance and by creating more tangible benefits for compliance. For example, raising the reputational costs of noncompliance (by subjecting compliance to the scrutiny of independent monitoring bodies such as fiscal councils, and by fostering debate in Congress) appears more promising than imposing sanctions for non-compliance.

Paolo Dudine is currently senior economist in the Fiscal Affairs Department of the International Monetary Fund. In his career at the IMF, Mr. Dudine has worked on the Fiscal Monitor (the IMF's flagship publication on fiscal issues), has provided policy advice on fiscal rules, and has worked as the fiscal economist on Argentina, as external sector economist on Bulgaria and Honduras, and as real sector economist on Guinea and Angola. He also spent five years in the Institute of Capacity Development of the IMF, training country officials and leading the creation of the IMF online course on financial programming. Mr. Dudine holds a PhD in economics from New York University.

FISCAL RULES AND MACROECONOMIC PERFORMANCE: WORLD EVIDENCE



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UNIVERSIDAD DEL DESARROLLO, CHILE

A developed fiscal framework is based on several fiscal institutions that contribute to fiscal and macroeconomic performance: a formal process of government budget planning, congressional discussion and approval, execution, and accountability; fiscal rules; sovereign wealth funds; and fiscal councils.

1. World Distribution of Fiscal Rules

Since the 1990s adoption of fiscal rules started is spreading around the world, as part of significant reforms of fiscal frameworks undertaken by many industrial and emerging/developing countries. As of 2015, 78 countries have at least one type of national fiscal rule in place. Fiscal rules are quantitative targets (often ceilings, sometimes floors) on levels, GDP-ratios or growth rates of government budget balance, debt, expenditure, and/or revenue.

2. Fiscal Rule Policy Objectives

Fiscal rules are adopted to strengthen one or several key policy objectives: macroeconomic stabilization, fiscal sustainability and solvency, and limiting the size of government. Macroeconomic stability is enhanced by counter-cyclical government expenditure, which could be achieved by a budget balance rule (BBR), a debt rule (DR) or an expenditure rule (ER). Fiscal sustainability and solvency are strengthened by limiting government deficit and debt levels, which could be achieved by any of the four rules. Limiting the size of government is reflected in putting ceilings on expenditure or revenue levels, which is pursued by an ER or a RR.

Whatever their particular form, fiscal rules are potentially efficient tools to contribute to fiscal sustainability and solvency. However, rules can be inefficient in attaining macroeconomic stabilization. For instance, specific forms of a BBR can be at odds with counter-cyclical stabilization. A BBR defined as a budget balance target ratio to current GDP (the Maastricht Treaty rule), which is invariant to cyclical conditions, induces pro-cyclicality of government expenditure. A BBR defined as a structural budget balance ratio to GDP induces a-cyclicality of government expenditure. However, a BBR defined as an average budget balance ratio to GDP over the cycle (allowing pro-cyclical budget balance deviations), induces counter-cyclicality of government expenditure.

3. Determinants of Adopting Fiscal Rules

While many countries have adopted fiscal rules, a majority still does not have rules in place. Under which conditions do countries adopt rules and maintain them over time? This question has been addressed empirically by the literature on fiscal rules. Institutional and political conditions (democracy, federalism, checks and balances, and government stability) contribute significantly to the likelihood of having a fiscal rule in place. Fixed exchange rate regimes do not contribute to explaining rules but an inflation targeting regime does. Capital account openness and financial development contribute to having a fiscal rule. Countries that are richer are more likely and those with an older population are less likely to have fiscal rules. Finally, fiscal performance also

¹Universidad del Desarrollo, Chile. I thank Martín Carrasco and Isaac Martínez for excellent research assistance.

co-determines adoption of fiscal rules: the level of the government budget balance raises and government expenditure pro-cyclicality lowers the likelihood of having a rule in place.

4. Effects of Fiscal Rules on Macroeconomic and Fiscal Performance

A review of the empirical literature on the effects of fiscal rules on macroeconomic and fiscal performance reveals significant positive effects of different measures of fiscal rules (aggregate or any rule, particular rules, Maastricht Treaty rules) on per capita GDP levels and growth rates. Fiscal rules raise the standard deviation of per capita GDP growth but reduce it when rules are interacted with a measure of discretionary fiscal policy. Several studies report positive and significant effects of different measures and types of fiscal rules on different measures of the budget balance. Government debt levels are not affected by fiscal rules.

Results on the effects of fiscal rules on fiscal policy cyclicality are mixed. In most cases, different fiscal rules do not affect the cyclical correlation between the government budget and GDP or between government expenditure and GDP. The exception is the expenditure rule, which reduces the cyclical correlation between government expenditure and GDP, hence turning fiscal policy more counter-cyclical. Rules reduce government bond spreads.

More recent empirical research tests for the contribution of fiscal rules to fiscal-policy performance in a large world sample. This study estimates the effects of three types of rules – ERs, BBRs, and DRs, using *de facto* and *de jure* measures – on four indicators of fiscal performance – cyclicality of government expenditure and fiscal balance, and levels of fiscal balance and government debt –, and controlling for 13 other determinants. While neither a BBR nor a DR have a statistically significant effect on the pro-cyclicality of government expenditure, the latter is significantly reduced by the presence of an ER. Regarding fiscal solvency, the level of the fiscal balance is significantly raised by the presence of any rule: a BBR, a DR or an ER.

5. Conclusions

Fiscal rules are increasingly adopted in both emerging/developing economies and industrial countries. Their growing popularity stems from their potential contribution to macroeconomic stability, fiscal sustainability and solvency, and the limits to government size. Rules come in all types and shapes: they target different fiscal aggregates, they are defined for different fiscal and output measures (current or structural, annual or multi-year), and they are not always enforced (e.g., the frequent violation of Maastricht Treaty limits on government debt and deficit ratios to GDP). Depending on their precise form, they could stabilize or de-stabilize an economy. However, in principle all types of fiscal rules potentially strengthen fiscal solvency and limit the size of government.

Empirical world evidence suggests that a wide set of political, structural, economic, and fiscal conditions explain why some countries adopt fiscal rules, while others do not (yet). On the reverse causality, which focuses on the contribution of fiscal rules to macroeconomic and fiscal performance, international evidence suggests that rules – controlling for other determinants – raise GDP levels and growth rates and improve several measures of fiscal performance. More recent and systematic world evidence shows that expenditure rules reduce pro-cyclicality of government expenditure. Regarding fiscal solvency, the level of the fiscal balance is significantly raised by the presence of any fiscal rule.

*For bio of the author see the bios at the end of the book.

NEW ZEALAND'S FISCAL FRAMEWORK

OSCAR PARKYN
NEW ZEALAND TREASURY



New Zealand's fiscal framework has endured over nearly three decades. The main features of the fiscal framework are its emphasis on principles of fiscal responsibility, transparency, and independence in reporting, standards and audit.

The Fiscal Responsibility Act (FRA) was introduced in 1994 in order to safeguard improvements in the public finances and increase policy credibility. The FRA required New Zealand governments to set their own long-term fiscal objectives to be consistent with principles of responsible fiscal management. The principles include maintaining debt at "prudent" levels and balancing revenue and expenses over time.

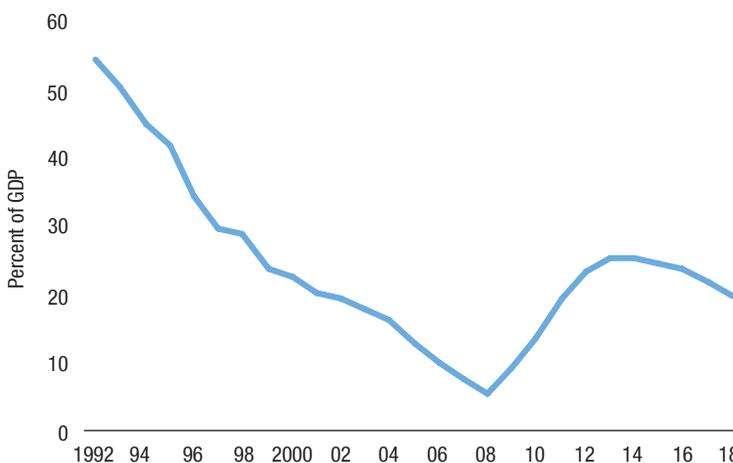
Since 1994, New Zealand governments have used a debt anchor to guide fiscal policy. The debt anchor is a numerical target for public debt, expressed as a percentage of GDP. The form of the debt anchor has changed over time, reflecting changes in policy and economic circumstances. This includes changes to the definition (net debt, gross debt), form (range, ceiling, point targets) and the level of the debt anchor.

Determining a prudent level of debt requires an on-balance judgement, taking into account the buffer needed to manage shocks, wider macroeconomic vulnerabilities, structural changes that will influence long-term fiscal sustainability, intergenerational equity, public investment and debt dynamics. New Zealand is a small, open, commodity-exporting economy that is vulnerable to external shocks and natural disasters. Reflecting these features, New Zealand has targeted a level of public debt that is low compared to major advanced economies.

While the debt anchor plays a key role in the framework, this is supplemented by other short-term targets that provide operational guidance. A wide range of indicators is used to develop the fiscal strategy, including a full balance sheet. Reporting in Budget documents is also broadening to include a wider range of wellbeing indicators.

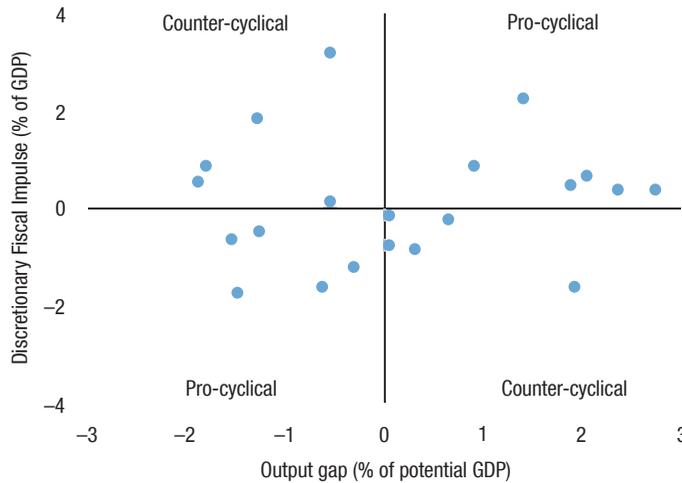
The debt anchor is closely aligned with the objective of fiscal sustainability. The framework has been successful in achieving considerable public debt reduction since the early 1990s (see Figure 1). Following recession in 2008-09, the debt anchor was adjusted to allow debt to increase in the short term while capping the rise in debt and setting a longer-term path to stabilise and then reduce public debt.

Figure 1. New Zealand's Net Public Debt, 1992–2018



Source: New Zealand Treasury

Note: Each dot represents a year from 1997 to 2017. A positive (negative) fiscal impulse represents a decrease (increase) in the structural primary balance.

Figure 2. Discretionary Fiscal Impulse and Output Gap, 1997–2017

Source: New Zealand Treasury

Macroeconomic stability is supported by having sufficient flexibility to accommodate shocks. A low level of public debt provides fiscal space to allow the automatic stabilizers to operate. However, a debt anchor is not sufficient to avoid pro-cyclical discretionary fiscal behaviour, particularly as the debt outlook is sensitive to short-term forecast revisions. New Zealand's discretionary fiscal stance has been broadly a-cyclical over the last twenty years (see Figure 2).

Compared with other potential fiscal rules, a debt anchor is relatively simple. This simplicity helps to build understanding by policymakers and the public. There is wide public and cross-party commitment to keeping public debt at prudent levels. Targeting medium-term outcomes also avoids the need for setting fiscal targets in cyclically-adjusted terms, as the output gap is expected to be closed in the medium term. Cyclically-adjusted targets are more complex, and subject to estimation uncertainty, making them harder to communicate. There is a parallel with monetary policy targets: an inflation target is typically communicated in terms of future actual inflation, although measures of core inflation are used for analytical purposes.

A medium-term budgeting framework is important for ensuring the fiscal anchor provides operational guidance to the annual budget process. There are regular updates of fiscal forecasts and projections with a ten-year horizon. New Zealand's fiscal management approach includes operating guidelines that ensure budget decisions are consistent with the fiscal strategy. These guidelines include fixed nominal baselines for most expenses and budget allowances for new measures. The budget allowances are adjusted, if necessary, to ensure levels of new spending align with the fiscal objectives.

The fiscal framework has been resilient to political and economic changes. Although there have been changes to the specification of the debt anchor over time, the changes have reflected successive governments setting their own fiscal strategy creating strong political commitment. Rather than relying on enforcement of legislated numerical fiscal rules, New Zealand's framework relies on creating effective incentives for governments to conduct responsible fiscal policy. As governments must determine and announce their own fiscal anchors, there is high reputational cost of not achieving them.

Overall, New Zealand's fiscal framework has been effective in supporting fiscal sustainability. The experience suggests that a debt anchor can be effective in supporting fiscal management and fiscal anchors that are determined by governments can create strong incentives for achievement. Nevertheless, outcomes also reflect New Zealand's particular history, institutions and political culture, so lessons may not easily transfer to other country contexts.

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FISCAL DISCIPLINE: FROM THEORY TO PRACTICE

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Constraining budgetary decisions is needed for two main reasons. First, governments are simultaneously subject to intense demands for more spending and to reluctance to increase taxes, which leads to a deficit bias. Second, financial markets can quickly switch from trust to mistrust and abruptly cut lending to governments, leading to highly disruptive crises. Preventing a debt buildup requires providing governments with counter-incentives to tame the deficit bias and reduce the odds of sovereign debt crises.

Many lessons have been drawn from the growing number of experiments that aim at establishing fiscal discipline. All sorts of arrangements have been conducted. They typically include the adoption of a rule, sometimes backed by an independent fiscal council. The results have been mixed. A key reason is that the rules often lack a solid foundation, which makes them difficult to uphold when political pressure becomes intense.

Fiscal discipline is needed because every government is subject to a budget constraint. This constraint is not about deficits over one year or two, it is about the longer-term public debt. It is not even about the size of the debt in a particular year, it is about its evolution. A large debt that is set to decline is compatible with discipline while a debt that grows continuously is not. This principle carries a number of implications.

It explains why a number of rules are improperly designed. The most popular rule, setting numerical targets for the annual budget balance, focuses on the short-run. Not only annual budget outcomes have a very limited impact on the long-term evolution of the debt, but they also ignore that a key function of fiscal policy is to counteract disturbances that lead to expansions and recessions. In addition, a numerical target pins the rule on a number that is arbitrary and therefore hard to justify when the rule binds.

This observation has led many countries to target instead the structural balance. A structural balance target allows for the automatic stabilizers to operate, a clear improvement in principle. In practice however, it suffers from serious defects. It is difficult to compute the structural balance with any degree of precision. This leads to try and improve the methodology used for that purpose, but then the results of computations change. This is what happened three times in Chile (in 2004, 2005 and 2009). In two cases the revisions entailed revisions of some 2% of GDP, a number that is very large relative to the target. Changing the guidepost along the way hardly inspires confidence in the rule. In addition, the concept is complicated to explain and therefore most unlikely not to be trusted by policymakers and the public at large, seriously undermining the rule. Furthermore, there are cases when the automatic stabilizers are too small to stabilize the level of activity. This is why the numerical target has been changed twice in Chile in the wake of the global financial crisis of 2008. Once the target has been changed, it loses some credibility.

Another popular target is expenditures, or their annual growth rate. The main advantage of this rule is that it is under relative precise control by the government. Its fatal disadvantage is that it is not directly related to fiscal discipline. The adequacy of an expenditures target rests on the evolution of government revenues. Controlling one blade of the scissors is simply not enough. In addition, the size of public spending is fundamentally a political choice. Constraining this choice lacks economic and political justification, which undermines the rule's legitimacy.

Faced with limits of numerical targets, the tendency has often been to add new targets to existing targets. A multi-target rule makes matters even worse. It does not improve the logic of each target. It is nearly impossible to bring coherence to the various targets, so that in any given year some may be satisfied

but not others. Governments then can pick the target that is most convenient one year, and another target another year, without ever achieving discipline. Much the same can be said about escape clauses that list situations when the rule can be suspended. Even with the greatest imagination, it is impossible to anticipate all the situations that may arise, so escape clauses stand to be invoked for other reasons than intended, for good or bad reasons alike.

A good fiscal rule rests on a single target, not numerical. Theory says that the proper target is the evolution of the debt to GDP ratio in the long term. It might seem that this is unrealistic, because long-term targets are impossible to assess and are too weak to act as a restraint over the short term, the policy horizon. This is not the case. The long-term debt depends on the whole path of budget balances and on assumptions about the interest and growth rates. Of course, no one can know what the interest and growth rates will be over decades. But we can make assumptions and even assess the likelihood of these assumptions. This is done by the IMF in its Debt Sustainability Analysis, by the US Congressional Budget Office and by various other agencies. The result can be shown as a fan chart that gives a good sense of where the debt is likely to be heading given the path of budget balances. Reverse-engineering this calculation, we can assess which paths of budget balances are compatible with a stable – or declining where it is too large to start with – debt to GDP ratio. This approach has a number of important advantages.

First, the stability of the long-term debt path is consistent with the concept of fiscal discipline (or solvency, or sustainability, or prudence). Second, it correctly inscribes forthcoming budget balances within a long-term commitment to discipline. Third, it makes it clear that the fiscal instrument can be used to stabilize incomes in the face of shocks, provided that deviations from the stable path are eventually corrected. Fourth, it is intuitive and therefore understandable outside narrow technical circles. Fifth, many budget balance paths are compatible with a long-term debt stability. Thus, the approach does not tie down a government to an arbitrary predetermined numerical target while requiring the government to make the case that its budgetary decisions are disciplined. Finally, it indicates what successive governments need to do, without unrealistically tying them down, thus allowing the public to detect unreasonable behavior.

The downside of this approach is that it rests on highly technical work, which involves making difficult assumptions and judgment calls. Complexity and technicality result in opacity, and opacity opens the door to manipulation. For this reason, the task cannot be entrusted to the government since the purpose of a fiscal rule is to provide the government with incentives to act in a way that may not always be politically appealing. The solution is to delegate the task to an independent and highly-skilled fiscal institution, which is required to be fully transparent about its work. This is done in the New Zealand and the Netherlands, for example. This is also what the US Congressional Budget Office does, but without a fiscal rule.

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FISCAL RULES: WHAT DO WE REALLY WANT FROM THEM?



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Economics is full of fads, and fiscal rules and fiscal councils already fit the profile. Notwithstanding, from a policy perspective we should try to be sure that the recipe will be the right prescription for our idiosyncratic ailments. In the case of Peru, the fundamental problem from a macrofiscal standpoint is the fact that the business cycle and the fiscal revenues are completely dominated by the behavior of export prices (basically, copper and gold prices, see Figure 1). This creates a problem for the fiscal authorities giving that those prices are highly volatile and not easy to predict. If Peru wants to keep a prudent fiscal stance will require to offset this volatility. Indeed, the use of fiscal rules and fiscal councils might be a good recipe.

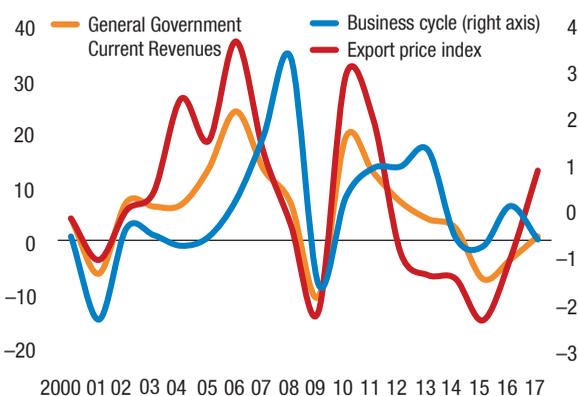
However, another obstacle for a smoother economic performance in the case of the Peruvian economy is the fact that it has a decentralized government in which only 60% of overall fiscal expenses and one third of the public investment are in the arm length of the central government. This trait renders a less effective fiscal policy if is not fully synchronized within the three government levels (national, regional and municipal), as it happens in the data.

In the last three decades, Peru could be counted as one of the best students in fiscally prudent behavior. However, as it happens in school not every course has the same value. There are many ways to be prudent and what we suggest in this note is that countries should adapt a Maslow-type of approach regarding fiscal prudence needs (see Figure 2).

We identify four levels of fiscal prudence needs: (1) Achieve fiscal stability, (2) Impose prudent behavior, (3) reduce business cycle volatility, and (4) mitigate major fiscal risks.

The most pressing objective of a fiscal framework is achieving fiscal stability. Three main indicators should suffice for this: a low debt-to-GDP ratio, reasonable low fiscal deficits, and an investment grade sovereign rating. Fiscal rules should focus on these indicators. In the case of Peru, the current set of fiscal rules establishes that debt-to-GDP should be lower than 30% unless there is

Figure 1. Fiscal revenues cycles and business cycles depend on mining prices
(annual percentage change in real terms)



Source: Ministry of Economy and Finance.

Figure 2. A Maslow approach of fiscal needs

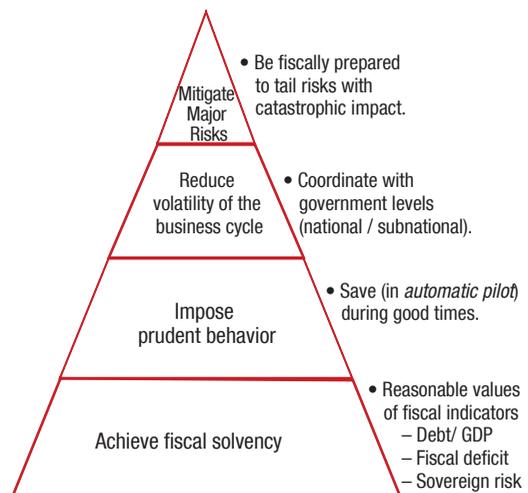
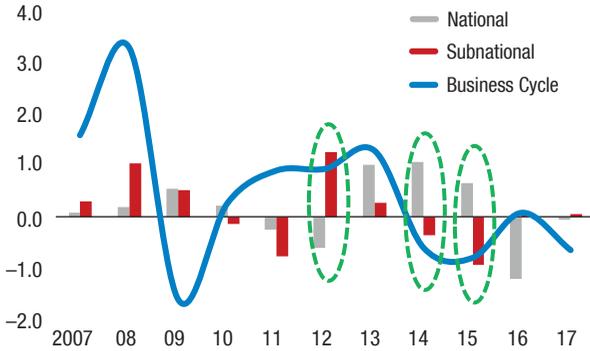
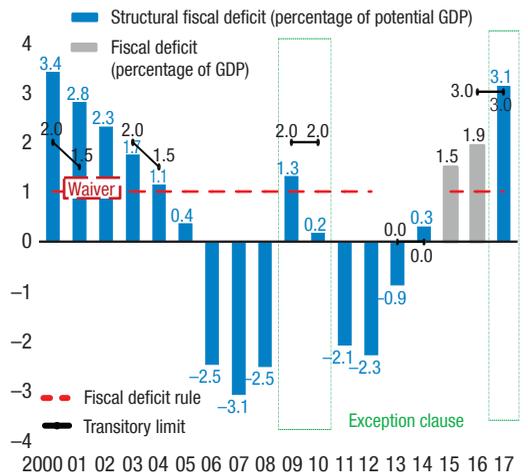


Figure 3. Low coordination within government levels¹

Source: Ministry of Economy and Finance.

Note: Fiscal impulse by nonfinancial expenditures (percentage of potential GDP)

Figure 4. The fiscal deficit rule changes (percentage of GDP and potential GDP)

significant external turmoil in which case could go up to 34%. The fiscal performance of Peru in this matter has been outstanding.

The second most pressing objective is to impose—in an automatic way—a fiscal prudent behavior to governments. Giving the fact that fiscal revenues are determined by the behavior of mining prices should be key to have a way to save in a non-discretionary fashion during boom times. A fiscal rule with a focus on structural balance would do this. The first set of fiscal rules did not include such a rule. However, in the 2013 revision it was included, but it was eliminated in the 2016 reform.

The third most pressing target is to reduce business cycle volatility. For that to happen, a decentralized economy will require automatic stabilizing mechanisms and a synchronized response to shocks. In the case of Peru, there are no automatic stabilizers and the decentralization process only worsened the situation as there is not a synchronized fiscal response within the three levels of government (see Figure 3).

Finally, the fiscal framework will be complete if it takes care of the potential fiscal impact of tail risks such as natural disasters. This will enhance sovereign rating and avoid growth interruptions. In the case of Peru, we had managed to increase the toolbox of financial instruments to cover these risks (fiscal stabilization fund, contingent credit lines, and others) but still we are missing an instrument to deal with severe shocks.

The Peruvian fiscal framework is composed by five elements that are built to satisfy these prudence needs. The elements are: (i) a medium-term fiscal framework, (ii) a set of transparency reports, (iii) a set of fiscal rules, (iv) a fiscal stabilization fund, and (v) a fiscal council. All these elements are key ingredients in this fiscal prudence recipe. A quick evaluation suggests that fiscal rules frameworks have been changed too often (three times in 15 years). Fiscal rules should be designed in a way that is preferable to be always observed. In the case of Peru, the recent performance shows that we had strict fiscal rules that had required many transitory limits, waivers and the use of escape clauses (see Figure 4).

We strongly believe that Peru has a strong fiscal prudent stance, and the fiscal council which is the new element added to the fiscal framework could help to maintain this stance. It has an independent voice based on solid data driven research that could help future administrations to navigate turbulent waters satisfying those most pressing fiscal prudence needs.

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FISCAL RULES IN LATIN AMERICA AND THE CARIBBEAN

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The countries of Latin America and the Caribbean (LAC) have joined the global trend of adopting rules-based macrofiscal frameworks. The adoption of fiscal rules began with Brazil and Argentina in 2000, and most of the countries in the region have followed suit. To date, 14 countries in the region have adopted fiscal rules.

However, the presence of fiscal rules is not sufficient, in and of itself, to achieve fiscal sustainability. Experience, within and outside of the region, shows that the design of fiscal rules is a key factor in their effectiveness. More specifically, fiscal rules must have the following features in order to be effective: (i) broad institutional coverage; (ii) a sound legal base; (iii) compliance mechanisms; and (iv) flexibility in addressing shocks. The presence of these factors is essential in explaining the contribution of the rules to fiscal consolidation and in accounting for their uneven levels of performance in the region (Ardanaz *et al.*, forthcoming).

Recent experiences in Mexico and Colombia illustrate the challenges of having adequately and effectively designed fiscal rules. From 2006 until 2014, Mexico had a balanced budget rule, which proved to be ineffective as a result of the following factors (Barreix and Corrales, forthcoming): (i) increasing exceptions to the definitions of balance; (ii) excessive use of escape clauses; and (iii) weaknesses in fiscal management leading to an ongoing practice of underbudgeting. As a result, debt between 2006 and 2014 increased from less than 30 percent of GDP to approximately 45 percent of GDP. Against this backdrop, the Mexican government amended its fiscal rule to address some of these weaknesses (i) through the use of the broadest measurement of the balance as a fiscal target; and (ii) by moving towards a balanced budget rule through the use of a structural expenditure rule. Although the amendment represented significant progress, a number of challenges have yet to be addressed before the escape clause can be more precisely defined.

Colombia introduced a structural balance rule in 2014 with support from an Independent Fiscal Council. While it would seem that Colombia is using a sound design for the rule, problems in estimating structural revenue deriving from oil have led to constant revisions of the balance targets that have undermined the credibility of the rule (Barreix and Corrales, forthcoming). Along with the open-ended escape clauses, this factor has led to increases in debt from 36 percent to 46 percent of GDP since the rule was introduced. This rise in debt is associated with the downgrading of Colombia's credit rating in 2017.

An additional topic of particular importance in the current context of fiscal adjustment in the region is the importance of flexibility in the fiscal rules. While LAC countries have undertaken a fiscal consolidation process, most of this adjustment applies to capital expenditure. The question is therefore whether fiscal rules can protect investment expenditure in times of fiscal adjustment. Ardanaz *et al.* demonstrate that more flexible rules that include clearly-defined escape clauses, cyclically-adjusted balances, or investment-friendly rules are capable of protecting capital expenditure during periods of fiscal adjustment.

In summary, fiscal rules have the potential to be a valuable instrument in achieving sustainable fiscal policy. However, design and compliance mechanisms are more important than the fiscal rule itself. Rules having broad coverage, sound compliance institutions and mechanisms, and a flexible approach in addressing shocks are more likely to be effective.

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This booklet summarizes the presentations in the conference titled “Enhancing Chile’s Fiscal Framework: Lessons from Domestic and International Experience,” organized by Chile’s Ministry of Finance and the International Monetary Fund in January of 2019.

The conference’s objective was to explore challenges and possible opportunities to improve Chile’s fiscal framework, including the fiscal rule, by looking at the Chilean and international experience. The conference had the valuable participation of current and former senior policymakers from Chile, including former Ministers of Finance ranging across the political spectrum and central bank presidents, which provided an insightful perspective in areas for improvement in the realm of fiscal policy. These views were complemented by representatives from the IMF and the Inter-American Development Bank, academics, and country officials from New Zealand and Peru, which provided lessons from the international experience.