Grading Fiscal Policy in Latin America in the Last Decade

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Abstract

Fiscal policy in Latin America has been historically imprudent and continues to be viewed with skepticism. At the same time, most countries have remained out of trouble for several years and were able to successfully conduct proactive countercyclical fiscal policy to fight the Great Recession, a historical first. This paper examines the last decade to assess progress, highlight weaknesses, and chart the way forward. The paper looks at structural fiscal balances, filtering out the business cycle and commodity price fluctuations to assess prudent fiscal policy concerning cyclical management and long-run sustainability. Up to the Great Recession countries deserved good grades, in the B range, on both counts. Afterwards, satisfactory cyclical management continued but, critically, extraordinary circumstances led to a regime change in the level of the underlying structural balance. Successful countercyclical fiscal policy was prudently undertaken in the crisis but not decisively unwound in its aftermath, leaving behind an unsatisfactory fiscal stance. With this "Incomplete," grades slipped to the C range and may end up as an F unless there is normalization to pre-crisis levels to regain sustainability. On a constructive note, the paper distills lessons from experience and charts the path of fiscal reform to reach an A grade.

1. Introduction

Fiscal policy in Latin America[1] has been systematically criticized for an endemic lack of discipline. The last decade, however, tells a different story. In parallel to monetary policy, fiscal policy is an area of macroeconomic policy with passing grades in the last decade, albeit with a worrisome "Incomplete" concerning the unwinding of recent stimulus packages. Nevertheless, to earn an A, Latin American countries will need not only to normalize their fiscal stance to pre-crisis conditions but also successfully complete difficult fiscal reform homework.[2]

The region's fiscal history in recent decades has provided ample cause for concern. The debt crisis of the 1980s, the so-called lost decade, was in most cases the direct result of exploding public spending and unsustainable mounting debt coming to a halt when enabling international financial conditions changed (World Bank, 1993). Likewise, booming fiscal spending based on overborrowing and forced fiscal adjustment due to lack of access to financing as a result of over-indebtedness have been behind the traditionally procyclical pattern of fiscal spending up to 1994 (Talvi and Végh 2000). More recently, in the last decade, there have been varying degrees of skepticism about fiscal discipline during times of plenty up to 2007 (IDB, 2008; Vladkova-Hollar and Zettelmeyer, 2008) and about fiscal capacity to conduct countercyclical fiscal policy to react to the Great Recession of 2008/09 (IDB, 2009; Daude, Melguizo and Neut, 2010; Fernández-Arias and Montiel, 2011).

The hard fact is that, by and large, countries in Latin America were able to display a countercyclical fiscal response to the Great Recession that changed the terms of the conversation. For the first time in a widespread fashion, they exhibited a proactive fiscal policy rather than being at the mercy of shock waves battering their shores. Have they developed, however, a long-term ability to conduct countercyclical fiscal policy through improved fiscal policy? Has there been an irreversible break with the past of lack of fiscal discipline and prudence? Or has traditional imprudence continued throughout? In other words, were countries just blessed by fortuitous circumstances and will fiscal crises catch up with them? This paper addresses these questions analyzing fiscal behavior prior to the global crisis (2002-2007), during the Great Recession (2008-2009), and in the recovery phase starting in 2010. Each period offers important

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[1] By Latin America we mean the whole Latin America and Caribbean region.
[2] The decade reviewed in this paper ends in 2012. Subsequent fiscal developments have made the need for reform even more pressing.

clues to the answer. We collect these clues as we go along, assess performance, and conclude with some of the resulting policy implications that might enable countries to earn an A in the next decade.

2. Measuring Fiscal Performance in Structural Terms

The observed primary balance is affected by temporary revenues, which tend to even out over time and for that reason are not informative about the underlying policy stance, the effective fiscal position or its outlook. An increasing fiscal balance due to high temporary revenues should not be a reason to celebrate and may in fact lead to ruinous overconfidence;[3] an increasing fiscal deficit due to low temporary revenues should not be a cause for concern if they are appropriately managed. The underlying fiscal policy is best gauged by structural measures, leaving out temporary fluctuations.

In order to assess fiscal policy we utilize structural fiscal statistics, measured as fractions of structural GDP so that they are not contaminated by cyclical fluctuations of GDP.[4] The structural primary balance so measured results from factors that are permanent unless altered by policy (or by an exogenous shock), and therefore has long-run implications for fiscal health and fiscal policy.

In order to filter out temporary fluctuations, it is necessary to consider trend or structural GDP, leaving out cyclical deviations in output (the so-called output gap) and, in the case of countries whose fiscal revenues are directly linked to commodity exports, utilize permanent or structural prices rather than spot prices, from which they may differ considerably. Structural revenues are those that would be obtained at structural GDP and commodity prices. While this framework could be enriched with other sources of temporary shocks to fiscal accounts, these are the two main sources of fluctuations in Latin America and we therefore focus on them.[5]

Consequently, we decompose total revenues (R), distinguishing between structural revenues (SR) and temporary revenues (TR). In turn, instead of the primary balance (B), we consider the structural primary balance (SB), which disregards temporary revenues and only considers structural revenues and primary spending (G):

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[3] To paraphrase IDB (2008), "not all that glitters is gold."

[4] We also filter quarterly fiscal data for seasonal effects by aggregating the last four quarters on a rolling basis. Therefore information dated at a certain quarter corresponds to the 12-month period ending in that quarter.

[5] Furthermore, there are also temporary shocks to fiscal spending. For a more complete menu of factors that a comprehensive framework may accommodate; see Bornhorst et al. (2011).

$$B_t = R_t - G_t \tag{1}$$

$$R_t = SR_t + TR_t \tag{2}$$

$$SB_t = SR_t - G_t$$
$$= B_t - TR_t \tag{3}$$

In our baseline methodology, GDP-linked revenues and commodity-linked revenues are decomposed between structural and temporary as follows:

A) **GDP-linked revenues**. Structural GDP is estimated for each country in the sample with an HP filter with lambda=1,600 (quarterly data) to filter observed real GDP series. In order to assess policy constrained by the same information set policymakers have available to make decisions, filtering is done in "real time," i.e., based on information available at the time (considering forecasting information only six quarters ahead at each point in time).[6] The output gap is the difference between observed and structural GDP so estimated. GDP-linked temporary revenues are then estimated as tax collection on the output gap assuming a unitary elasticity.

B) **Commodity-linked revenues**. A number of countries in the sample collect a substantial fraction of total revenues from sales or specific taxation of certain commodity exports. Structural commodity-linked revenue is estimated by detrending the commodity revenue series in each of these commodity-exporting countries in a way that mimics the method utilized by Chile, which has a formal procedure for producing these forward-looking estimations in reference to its exports of copper and molybdenum. We apply an HP filter to Chilean commodity-linked revenues at each point in time (also in real time) and choose the parameter lambda that best approximates the actual Chilean

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[6] Specifically, we recast the Hodrick-Prescott filter as an unobserved components model (Harvey and Trimbur, 2008) and obtained a filtered estimate instead of the usual smoothed estimate. We consider information six quarters ahead in the filtered estimate to attenuate the end-point problem.

estimations. Then we apply that same filtering method to commodity-linked revenues in each country, in all cases allowing for structural breaks.[7]

We also consider as an alternative the estimation of structural commodity prices for each country's export basket as the market price forecast of the relevant commodities at a five-year horizon, appropriately deflated.[8] The structural price so estimated is then adjusted by the spot real exchange rate misalignment with respect to its historical average level over the last 20 years. Commodity-linked temporary revenues are estimated as the revenue associated with the price gap between the spot price and the adjusted structural price assuming a unitary elasticity.

Structural debt is obtained by adjusting the portion of debt denominated in foreign currency by real exchange rate misalignment with respect to its historical average level over the last 20 years, removing this valuation change (a temporary effect). All fiscal statistics are expressed as a percentage of structural GDP.

The following figures plot, for each country grouping (typical LAC country, typical commodity-exporting country, typical non-commodity exporter, typical LAC-7 country, typical non-LAC-7 country and aggregate LAC), structural revenue and temporary revenue along with primary spending (Figure 1) as well as the associated observed and structural primary balance (Figure 2) using the baseline methodology.[9] The decade saw substantial variation in temporary revenues, and therefore important gaps between structural and observed balances, but also substantial changes in structural revenues.
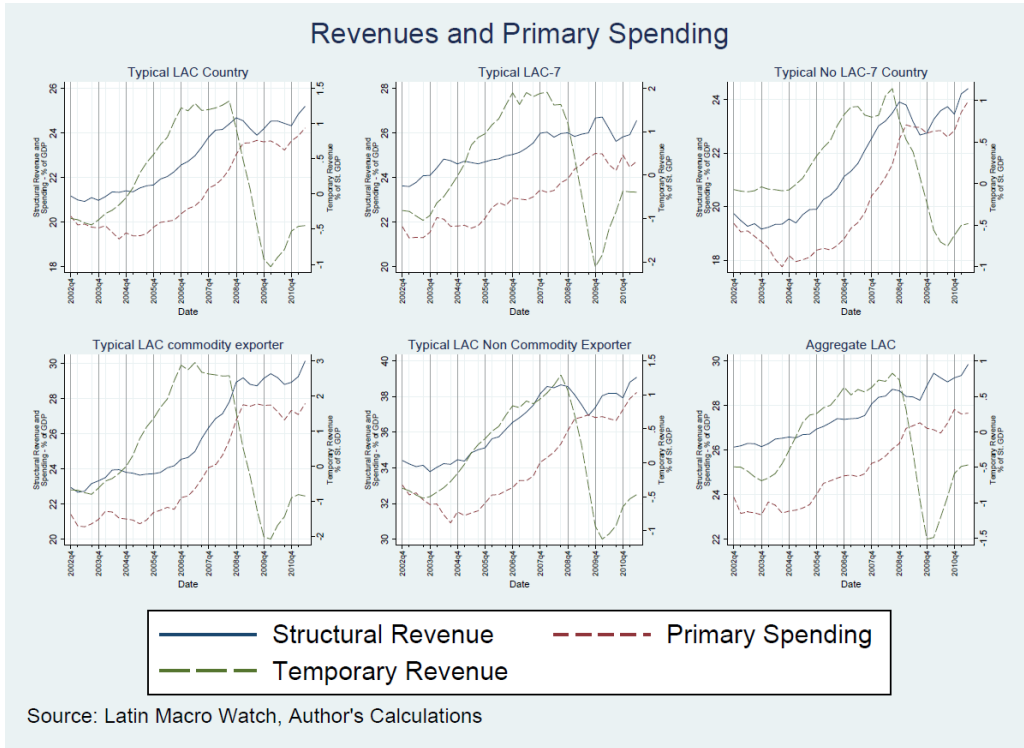
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[7] This builds upon the method used in IDB (2008). However, here we mimic the Chilean method in real time and, crucially, on commodity revenues rather total revenues. Hence, this method is relevant only for commodity-exporting countries.

[8] Consensus forecasts in real time are obtained from Bloomberg and supplemented by additional market forecast information when incomplete. This method is similar to the method used by Vladkova-Hollar and Zettelmeyer (2008)

[9] The typical country is the average of 19 countries of Latin America and the Caribbean with available information suitable for this analysis; see Table 1 for a list of countries. The typical LAC-7 country is the average of Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela. The typical LAC commodity-exporter country is the average of countries with substantial fiscal revenue directly associated with commodity exports in the sample (Argentina, Bolivia, Chile, Colombia, Ecuador, Mexico, Peru and Venezuela). The aggregate corresponds to a GDP-weighted average of the countries in the sample. We focus on the typical country and comment on selected issues specifically relevant for other aggregation schemes, especially when they deviate from typical country findings.

Figure 1.

Revenues and Primary Spending

Source: Latin Macro Watch, Author's Calculations

Figure 2.

Observed and Structural Primary Balance

Source: Latin Macro Watch, Author's Calculations
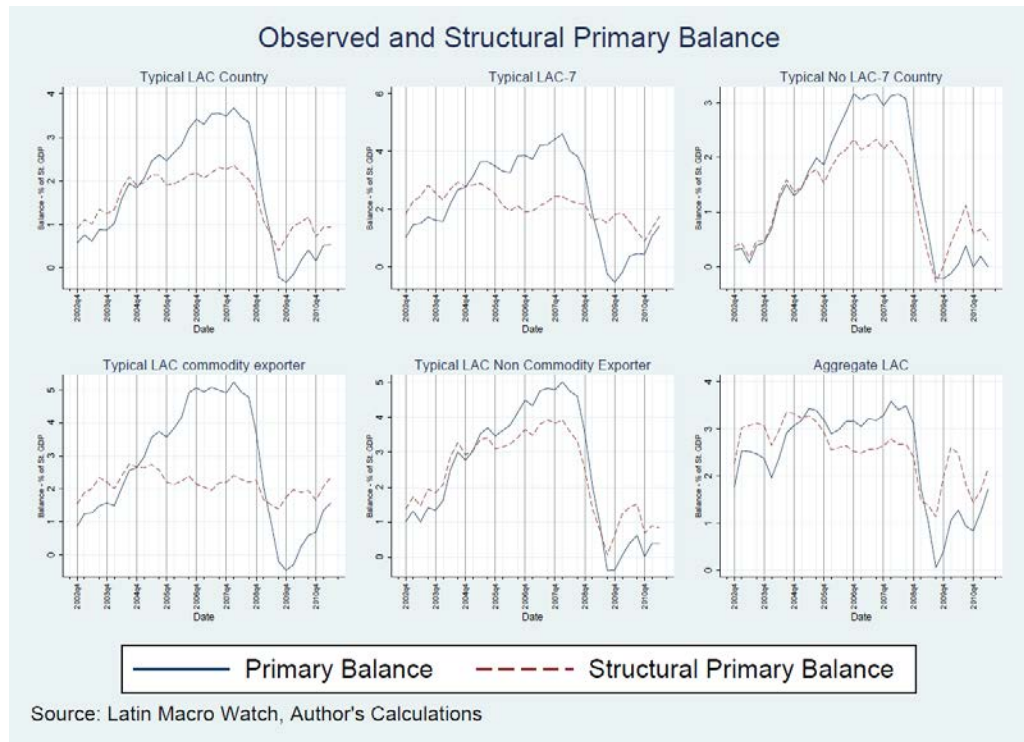
The following summary table shows, for each country in the sample, the period average of structural fiscal accounts as estimated in real time under the baseline methodology: structural revenue (GDP and commodity linked), temporary revenue (GDP and commodity linked), primary spending, structural primary balance, and the annual increase of structural debt in percentage points.

Table 1. Structural Fiscal Accounts, Averages from 2002q4 to 2011q2

Country	Primary Balance % St. GDP	Total % St. GDP	Structural Revenue Non-Commodity % St. GDP	Commodity % St. GDP	Total % St. GDP	Temporary Revenue Non-Commodity % St. GDP	Commodity % St. GDP	Primary Spending % St. GDP	Structural Primary Balance % St. GDP	Annual Change In Debt % St. GDP
Argentina	2.8	0.3	22.6	2.8	-0.1	-0.0	-0.0	22.5	2.8	-6.4
Bahamas	-0.4	0.2	15.3	0.0	-0.0	-0.0	0.0	15.7	-0.4	2.5
Belize	1.0	0.3	26.5	0.0	-0.0	-0.0	0.0	25.4	1.1	1.8
Bolivia	5.4	0.4	22.1	13.1	2.6	-0.0	2.6	32.4	2.8	-1.5
Brazil	3.3	0.4	35.6	0.0	-0.0	0.0	0.0	32.3	3.3	-0.4
Chile	3.5	0.2	19.5	1.4	2.6	-0.6	3.2	19.6	0.9	-0.5
Colombia	2.5	0.3	26.1	3.6	-0.2	-0.0	-0.2	27.0	2.7	-0.1
Costa Rica	1.1	0.1	14.1	0.0	0.0	0.0	0.0	13.0	1.1	-0.8
Dom. Rep	0.5	0.1	15.0	0.0	-0.0	-0.0	0.0	14.5	0.5	1.6
Ecuador	2.4	0.3	21.4	9.3	-0.2	-0.0	-0.1	28.1	2.5	-4.0
El Salvador	0.6	0.2	17.3	0.0	0.0	0.0	0.0	16.7	0.5	1.1
Guatemala	-0.6	0.1	12.2	0.0	-0.0	-0.0	0.0	12.7	-0.6	1.2
Mexico	1.5	0.2	14.5	8.4	-0.8	-0.1	-0.7	20.4	2.3	0.9
Nicaragua	0.6	0.2	21.6	0.0	-0.1	-0.1	0.0	20.8	0.7	-12.7
Panama	-0.4	0.2	24.4	0.0	0.0	0.0	0.0	24.9	-0.5	-2.6
Paraguay	4.1	0.2	18.0	0.0	-0.0	-0.0	0.0	13.8	4.2	-4.0
Peru	2.0	0.2	12.2	3.7	2.3	0.0	2.3	16.3	-0.3	-2.0
Uruguay	2.7	0.3	27.9	0.0	-0.0	-0.0	0.0	25.1	2.7	0.8
Venezuela	1.0	0.3	13.1	13.9	-2.4	0.0	-2.4	23.6	3.3	-1.5

3. Fiscal Policy Over a Decade: Cyclical Discipline and Fiscal Prudency

Issues of fiscal discipline and prudency are many times wrongly reduced to examining the evolution of primary spending (whether it trends up or down) or, in more sophisticated analyses, whether and how it correlates with cyclical variables. These analyses miss the key point that variations in spending matching variations in structural revenues are perfectly prudent, and therefore the evolution of structural revenues needs to be accounted for in the analysis. A country panel regression to explain spending in terms of structural revenues reveals that, if we look at within-country variation, leaving aside country differences controlled by country-specific intercepts, the variation in structural revenue can explain two-thirds of the (time) variation of primary spending. This confirms that variations in structural revenue are closely mirrored by variations in spending, and it implies that an assessment of fiscal policy needs to take into account variations in structural revenues (in our framework, changes to the tax code and, in the case of commodity exporters, changes to the sustainable commodity export quantum or its structural reference price). For this reason, the cyclical analysis below controls for structural revenues.

The key question of fiscal discipline over the cycle is whether temporary revenues are saved or spent. Fiscal discipline dictates that positive temporary revenues be saved, rather than used to finance additional spending. Since temporary revenues are the difference between the observed and the structural primary balance, such a rule would entail that the structural primary balance remains constant (equation 3), while the observed balance increases, moving with temporary revenues. In other words, the structural balance would be acyclical. All this is, of course, on top of variations due to changes in structural revenues as discussed above.[10]

On the other hand, cyclical indiscipline would mean that 100 percent of positive temporary revenues are spent. That case would correspond to a declining structural balance (while the observed balance remains constant). In this case spending (and the structural deficit) would be procyclical.

Of course, there could be even larger savings or "superdiscipline" (a countercyclical fiscal policy in which the structural balance increases by more than temporary revenues) and even larger spending or "superindiscipline" (the observed balance would actually decline), but by and large it is to be expected that actual performance would fall somewhere in the middle, meaning no spending and no savings. The question then is: what fraction of positive temporary revenues is saved? The higher the fraction, the more cyclically disciplined fiscal policy is.

The case in which temporary revenues are negative can be analyzed in a similar fashion. If the shortfall of temporary revenues is fully offset through dissaving, spending will be sustained and so will be the structural balance (while the observed balance will decline). If it is not fully offset, there will be spending adjustment and the structural balance will increase; with no savings offset, spending contraction will absorb the entire revenue shock and the observed balance will be sustained. Even larger spending adjustments would lead to increasing observed balances. These cases of spending adjustment correspond to procyclical fiscal policy. Of course spending could expand (negative spending adjustment), leading to decreasing structural balance, a case of countercyclical fiscal policy.

If countries follow the same behavior for dividing temporary revenues between spending and saving when they are positive and negative, then what was saved out of positive temporary revenues would be spent, or dissaved, to offset negative ones, and economic fluctuations would

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[10] We assume that structural revenues are not altered by temporary revenues. In particular, we assume that they do not trigger tax reform in the short term.

not impact debt on a permanent basis.[11] Such symmetric behavior would be neutral on prudential grounds. Of course, behavior need not be symmetric. If adjustment under negative temporary revenues is higher than expansion under positive ones, debt will tend to decline with each cycle and fiscal policy is cyclically prudent. This procyclical behavior of spending may of course be the result of constrained behavior rather than prudential policy, namely lack of access to financing in downturns, but would nonetheless contribute to debt reduction. On the contrary, failure to save enough to supplement temporarily low revenues would be imprudent: debt will accumulate and in fact ratchet up with each cycle.

For analytical purposes, we therefore distinguish between cyclical fiscal discipline (positive temporary revenues are saved) and cyclical fiscal prudency (temporary savings and dissavings are balanced). A fiscal policy that is both cyclically disciplined and prudent would exhibit a constant structural balance, or more precisely, a structural balance delinked from temporary revenues. Cyclically prudent but undisciplined fiscal policy would exhibit procyclical spending and exhibit a structural balance fluctuating with temporary revenues. In this case, fiscal policy would be inefficient because it induces spending instability, but would still be prudent.

These issues of management of temporary revenues are only one factor of prudent fiscal policy. There is also the issue of how to prudently manage structural revenues. Spending increases are perfectly consistent with prudency to the extent that they are supported by increases in structural revenues, such as tax reform or higher structural commodity prices, in which case the structural balance does not deteriorate. However, the estimation of structural revenues is subject to uncertainty, and it may be good practice to tentatively treat them as temporary to some extent, especially in the case of commodity-linked revenues, and smooth spending reactions to estimated structural revenue, allowing some fluctuation in the estimated structural balance.

As mentioned in the introduction, there was widespread concern that large temporary revenues around the three-year period 2005-2007 (Figure 1) may have been squandered, largely spent in a spending boom rather than saved. While spending grew in that period (Figure 1), the fact that, by and large, structural balances did not worsen (Figure 2) suggests that other factors may have been at work. In order to properly assess discipline and prudency over the cycle, we consider a panel regression looking at how temporary revenues affected the structural primary

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[11] This assumes that the method for estimating structural revenues is such that accumulated temporary revenues are expected to be negligible in the long run.

balance of Latin American countries over the decade, separating the effect of positive and negative temporary revenues (Table 2). It is worth noting that spending is allowed to vary with structural revenues (and other country factors subsumed in country-specific intercepts).

Table 2.
Dependent variable: Structural Balance

	FE	RE	PA	DK
Structural	0.090	0.097	0.258***	0.121***
Revenues	(0.145)	(0.108)	(0.050)	(0.009)
Temporary	-0.473***	-0.468***	-0.435***	-0.492***
Revenues$<$0	(0.093	(0.097	(0.089	(0.124
Temporary	-0.175*	-0.190**	-0.193*	-0.188***
Revenues$>$0	(0.090)	(0.093	(0.104)	(0.045
Constant	-0.570	-0.695	-	-1.266**
	(3.318)	(2.526)	(1.207)	(0.454)
Overall R2	0.27	0.27	.	.
Within R2	0.13	0.13	.	.
Between R2	0.50	0.49	.	.
N	665	646	646	646

Panel Regressions. FE: Fixed-Effects Regression with cluster robust standard errors. RE: Random Effects Regression with cluster robust standard errors. PA: Pooled estimation with AR(4) correlation structure. DK: Pooled estimation with Driscoll-Kraay standard errors and 4 lags in autocorrelation structure. A Hausman test does not reject random effects. *p$<$0.1 **p$<$0.05 ***p$<$0.01

According to the above results, the typical country has been reasonably disciplined, spending about 20 percent of temporary revenues and saving the rest, about 80 percent.[12] The typical country has been also prudent over the cycle: when temporary revenues are negative, it adjusts spending by some 50 percent, a substantially higher fraction than the spending increase of 20 percent. Interestingly, increased structural revenues had a small (but statistically significant) effect on the structural balance: about 10 percent of the changes in structural revenues are absorbed by the structural balance rather than being translated into spending. Given the concern with sudden but unreliable increases to structural revenues due to higher commodity prices, this is a feature that further contributes to a prudent framework.[13]

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[12] This conclusion stands whether or not we control for structural revenues.
[13] These findings are maintained or strengthened if structural revenues are not controlled for. Specifications with fixed or random effects confirm findings.

To what extent are the above results representative of individual countries? We re-estimate the above regression for the rest of the country groupings (Table 3). While some of the parameter estimates are not sufficiently accurate to yield clear-cut conclusions, by and large they tell the same story (and in no case reject the hypothesis of fiscal prudency over the cycle). The most striking finding is the remarkable similarity across typical countries of all groupings and the region as a whole.

Table 3.
Dependent variable: Structural Balance

	LAC	LAC-7	No LAC-7	LAC-CM	No LAC-CM	LAC-W
Structural	0.121***	0.140***	0.094***	0.102***	0.128***	0.105***
Revenues	(0.009)	(0.020)	(0.026)	(0.016)	(0.010)	(0.015)
Temporary	-0.492***	-0.430***	-0.784	-0.466***	-0.269	-0.364***
Revenues$<$0	(0.124)	(0.054)	(0.707)	(0.132)	(0.656)	(0.052)
Temporary	-0.188***	-0.203**	-0.121	-0.231***	-0.673	-0.296***
Revenues$>$0	(0.045)	(0.061)	(0.144)	(0.053)	(0.802)	(0.049)
Constant	-1.266**	-1.489	-0.868*	-0.544	-1.422**	-0.423
	(0.454)	(0.799)	(0.400)	(0.659)	(0.504)	(0.609)
R^2	0.27	0.55	0.16	0.36	0.15	0.76
N	646	238	408	272	374	646

Pooled regressions with Driscoll-Kraay standard errors and 4 lags in autocorrelation structure. LAC: Latin American and the Caribbean. LAC-7: Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela. LAC-CM: Argentina, Bolivia, Chile, Colombia, Ecuador, Mexico, Peru and Venezuela. LAC-W: LAC weighted by PPP GDP. *p$<$0.1 **p$<$0.05 ***p$<$0.01

It would be premature to conclude that fiscal policy is prudent only on this basis, however. No matter how prudent revenue management is, either temporary or structural, the underlying structural balance may be set at levels incompatible with debt sustainability; in other words, it may be too low. Prudent fiscal policy ought to set the structural balance at comfortable levels to keep debt under control. If debt is on an unsustainable path, prudent revenue management may be insufficient to rectify that trajectory. To address this question we looked at the evolution of structural debt (Figure 3). Debt has declined throughout the decade in all country groupings, which suggests that the fiscal policy of most countries has been compatible with a sustainable debt path over the decade.

Figure 3.
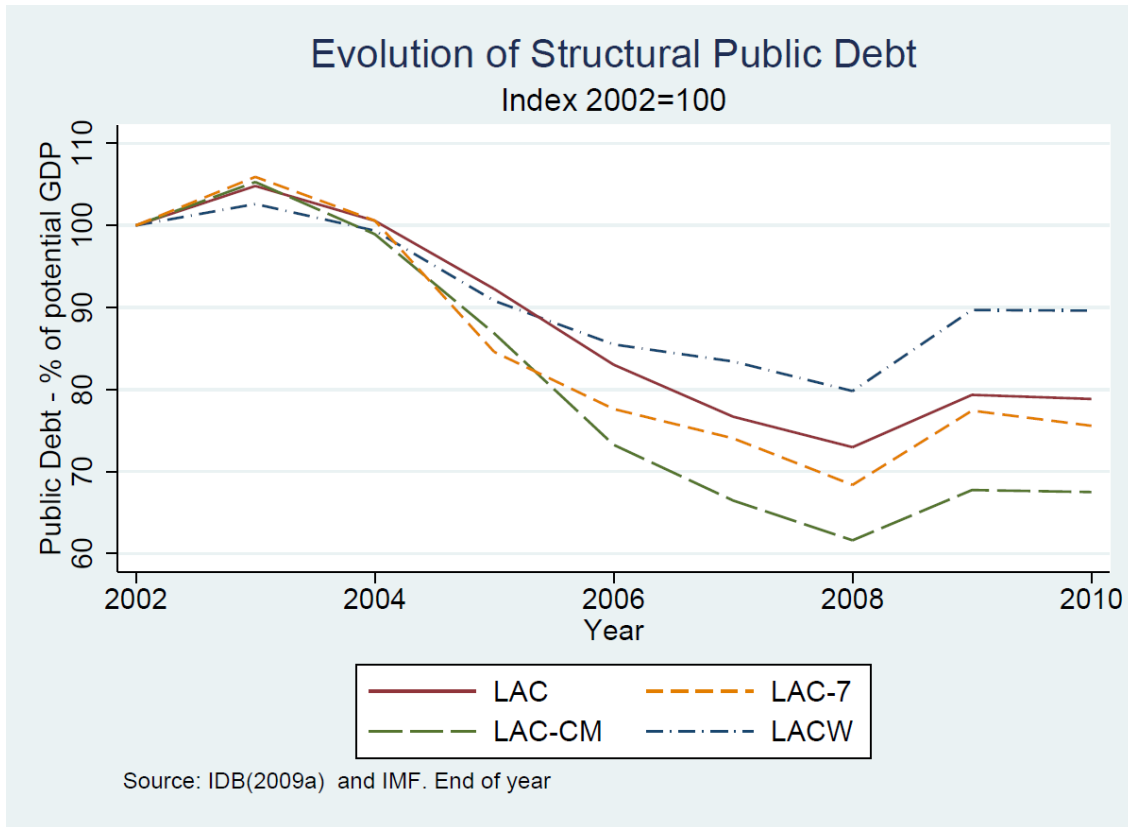
How sensitive are these findings to the methodology utilized for estimating temporary revenues? This question is especially important for commodity-linked revenues, whose structural component is subject to substantial imprecision. If market price forecasts are used instead of the baseline method for classifying these revenues (alternative B1), estimated structural revenues would differ (see Figure 4 for a comparison for the after-2007 period). While the two estimations are largely coincident and their difference is relatively small, it may make sense to use the average of both (which we do in the final sections of the paper).

Figure 4.

Structural Commodity Revenues
Typical LAC Commodity Exporter
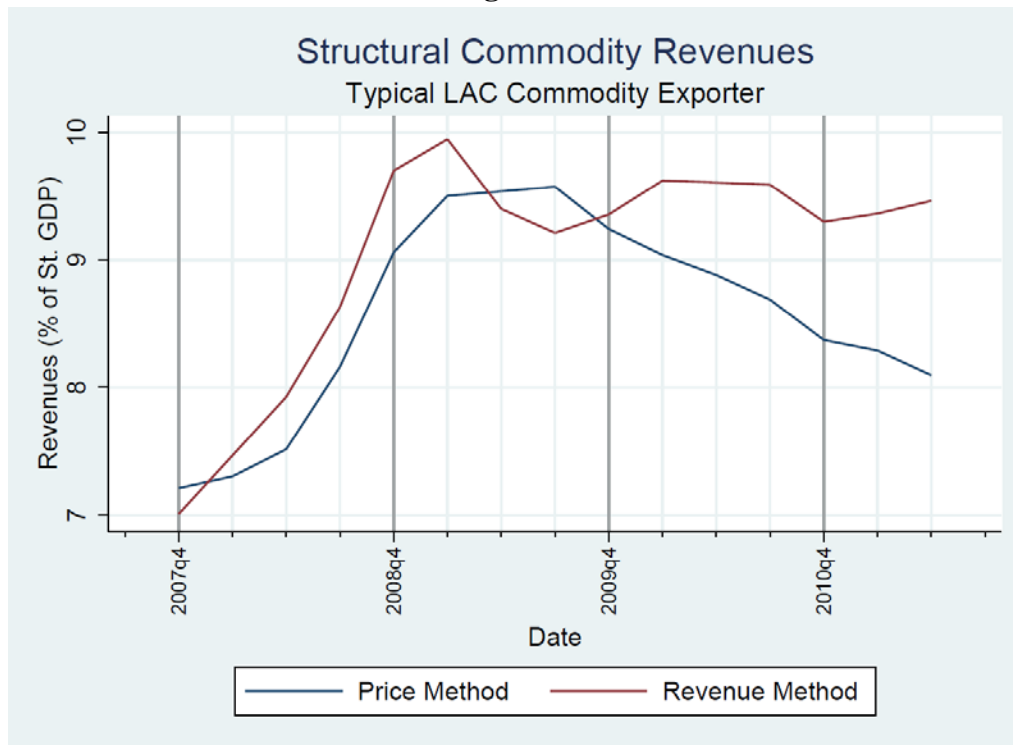
4. Is Fiscal Performance Coming Apart?

Despite good grades on average over the decade, there may be concern that fiscal discipline and prudency may be declining over time and that Table 2 may fail to be representative of the current state of affairs. To address this concern, we split the sample used in Table 2 to separately cover the period of 2002-2007 (normal times) from the later period in which countries dealt with the Great Recession and its aftermath (Table 4).

Table 4.
Dependent variable: Structural Balance

	All	Pre	Post
Structural Revenues	0.121***	0.113***	0.144***
	(0.009	(0.007	(0.015
Temporary Revenues	-0.492***	-0.626**	-0.571***
	(0.124	(0.220	(0.137
Temporary Revenues>0	-0.188***	-0.192**	-0.119***
	(0.045	(0.069	(0.040
Constant	-1.266**	-	-
	(0.454)	(0.205)	(0.692)
R^2	0.27	0.16	0.45
N	646	399	266

Pooled regressions with Driscoll-Kraay standard errors and 4 lags in autocorrelation structure. All: 2002q4-2011q2. Pre: 2002q4-2007q4. Post: 2008q1-2011q2. *$p<0.1$ **$p<0.05$ ***$p<0.01$

The estimations across sub-periods confirm the conclusions. First, the conclusion of cyclical fiscal discipline is strengthened: in each sub-period, the spending leakage of temporary revenues is even smaller, closer to 10 percent. Importantly, there is no indication of discipline diminishing over time; if anything, the opposite. Second, the conclusion of cyclical fiscal prudence is strengthened and maintained over time (although statistical imprecision does not allow to us assert it without qualification). Discipline and prudency over the cycle, as well as the prudent management of volatile structural revenues, has been maintained or strengthened.

Nevertheless, the interruption of the process of debt reduction over the past few years (Figure 3) suggests that the process may be turning around, an issue to which we return in a later section. At this point we address this concern estimating the evolution of neutral structural balance using the estimates in Table 2 (Figure 5). This estimation displays the structural balance that would have prevailed over time in the absence of temporary revenues (either positive or negative), and is therefore a good benchmark for the structural fiscal policy stance, arguably better than the raw structural balance.[14] For comparison, we also include the debt index that is used in Figure 3, which under the assumption of constant prospective real interest and growth

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[14] This calculation conservatively disregards the estimated degree of cyclical prudence, which would be expected to improve the structural balance over time, and concentrates on structural and autonomous drivers.

rates is an index of the neutral or average structural balance required for sustainability (more on this later).

Figure 5.

Neutral Structural Balance and Structural Debt Index

Source: IDB(2009a) , Author's Calculations.
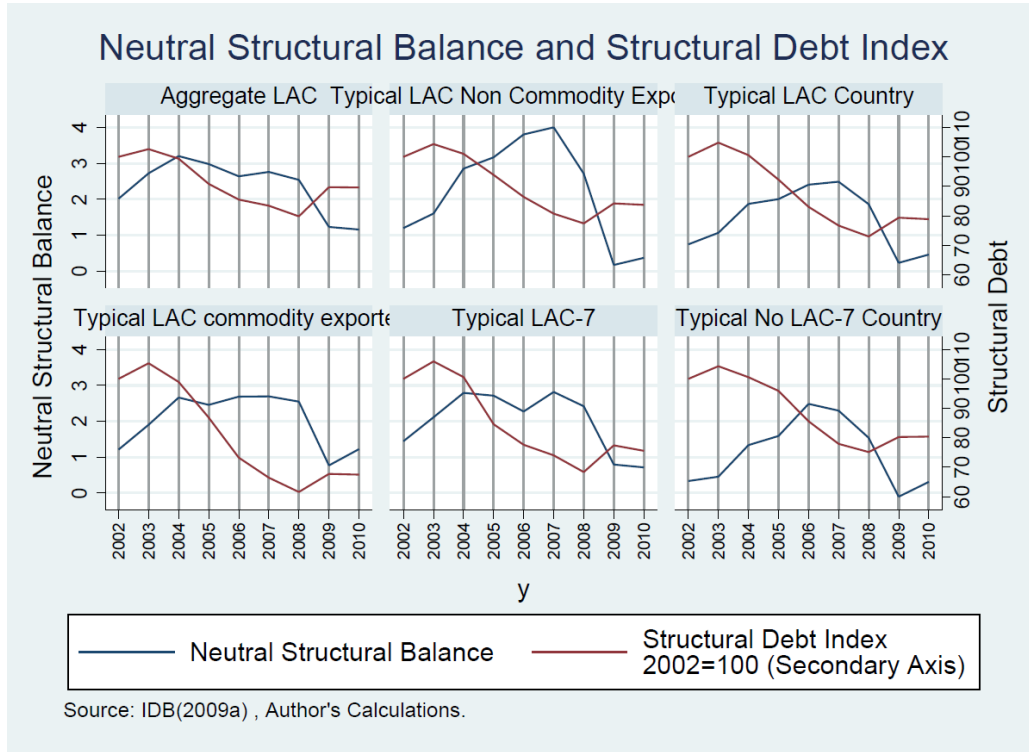
The neutral structural indicator of the fiscal stance does reveal measurable worsening over time (coupled with the fact that required structural balances are not becoming less stringent in recent years). To explore it further at the country level to supplement Table 1 with a time perspective, we consider the series of neutral structural balances (using the adjustment for temporary revenues suggested by Table 2) and in each case compute the gap between its current level (as of 2011) and its maximum value since end-2007 as well as the annual increase in structural debt in that same period (Table 5). We also compute the maximum change in the structural balance in the same period for comparison.

Table 5.

Country	Decrease in Structural Balance	Decrease in Neutral Structural Balance	Annual GDP p.p Change in Debt
Argentina	0.6	0.5	-4.0
Bahamas	1.8	3.2	5.6
Belize	3.0	2.8	-1.2
Bolivia	3.8	0.3	0.0
Brazil	1.6	0.8	-1.8
Chile	2.2	3.1	1.6
Colombia	5.6	1.8	1.6
Costa Rica	6.6	6.8	2.1
Dom. Rep	2.6	1.6	3.5
Ecuador	4.8	8.4	-1.2
El Salvador	2.0	2.0	2.7
Guatemala	2.4	2.2	1.7
Mexico	1.8	1.0	3.6
Nicaragua	1.2	1.7	-0.4
Panama	7.7	8.8	-2.0
Paraguay	3.1	4.4	-1.7
Peru	3.2	3.8	-0.1
Uruguay	1.4	1.5	-1.8
Venezuela	1.3	1.9	2.1

How much to infer from this structural deterioration is difficult to say because the Great Recession imposed extraordinary circumstances on countries and called for countercyclical fiscal policy to stimulate the economy, meaning extraordinary dissavings translating into sharply deteriorating structural balances. This deterioration was presumably justified by macroeconomic reasons beyond the traditional objectives of public spending implicitly assumed so far. At the same time, the recovery in the aftermath of the recession should entail extraordinary savings to offset the previous expansion and return to a normal regime. Persisting deterioration as of 2011 may be unjustified. In the following sections we analyze this complex sub-period in detail in order to evaluate the concern that fiscal policy is becoming less prudent.

5. Countercyclical Fiscal Response to the Great Recession and Its Aftermath

What is the appropriate role for fiscal policy in response to downturns in Latin America and the Caribbean? This issue was hotly debated within the region in the early stages of the recent global crisis, and words of caution were sounded for fiscal restraint in order to save liquidity and preserve market confidence (IDB, 2009). In the event, breaking with the past, countries in Latin

America and the Caribbean indeed undertook moderate fiscal stimulus. Fiscal balances were allowed to expand in almost every country in the region in what is widely regarded as a successful expansive fiscal response to the Great Recession.[15]

GDP growth sharply slowed from 2008 and turned to recession in 2009 as a result of the global crisis, with the recovery commencing in 2010. Not surprisingly, the downturn in GDP depressed tax collections and the fall in commodity prices at the onset of the global crisis reduced commodity-linked fiscal revenues in the case of commodity-exporting countries; overall fiscal revenues as a percentage of GDP declined in 2008/2009, to recover thereafter as the domestic and global economy regained momentum. At the same time, primary fiscal balances plummeted (the primary balance fell on the order of 4 percentage points of GDP in the typical country in the region).

In the typical country, the primary structural balance declined by about 1.6 percentage points of structural GDP in the period 2008/09.[16] This decline of the structural balance is fully explained by the expansion in primary fiscal expenditures, to the tune of 2.2 percentage points of GDP (while there is variation across countries, essentially all countries were in positive territory). On top of expenditure expansion, the rest of the countercyclical response is accounted for by the evolution of structural revenue, which actually increased by 0.6 percentage points in net terms. There are a number of factors underlying this net increase in structural revenue. On the one hand, there was tax reduction of about 0.4 percentage points, also part of fiscal countercyclical policy, which added to expenditure expansion would amount to a 2.6 percentage point stimulus package. On the other hand, however, commodity-exporting countries experienced a substantial increase in structural commodity-linked revenues, more than offsetting the structural balance reduction of the typical country.

This last observation underlies the fact that commodity-linked revenues are very important in Latin America, and this dependency leads to substantial volatility and vulnerability to fiscal accounts as well as difficulties in estimating structural variables. As noted, despite the crisis, in commodity-exporting countries structural revenues from this source actually *increased* in the period (by as much as 2.2 percentage points on average) because the structural prices of

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[15] This measure underestimates the power of countercyclical fiscal policy in countries with active credit policies through public banks. For example, in Brazil public banks were capitalized by some 3 percent of annual GDP and their credit grew by half in 2009 to become the main source of bank credit.

[16] In the rest of the paper, we estimate structural and temporary commodity-linked revenues using the average of the baseline method and the price forecast method (B1).

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the relevant commodities increased.[17] For them, policies on tax and spending adapt to exogenous changes in structural, long-term prices of commodities in order to achieve fiscal objectives. For the typical commodity-exporting country faced with this positive shock to structural revenues, spending increased by 3.5 percentage points and yet the structural balance declined by only 0.5 percentage points. Highly uncertain price forecasts call for caution and a prudent increase in the estimated structural balance until high forecasts become more certain; even a marginal decline is of concern. Had estimated structural commodity prices remained at the pre-crisis level, everything else constant, their structural balances would have declined by as much as 3.2 percentage points.[18]

The switch in the fiscal stance as measured by the structural balance and spending expansion was swift and widespread. Table 6 shows the fall in the structural balance in each country in 2008/09 under three metrics: i) between end-2007 and end-2009 as estimated above, ii) augmented by the increase in structural commodity-linked revenue due to higher price forecasts as discussed, and iii) the maximum (combined) fall within that period, not necessarily between the two end points. It correspondingly shows the increase in spending, both point to point and maximum increase within the period.

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[17] As an indication, the average five-year forecast price increased by 38 percent between end-2007 and end-2009.
[18] Assuming that the Chilean method and price methods are equally sensitive to price forecasts.

Table 6.

Country	Change in Structural Balance	Change in Structural Balance Constant Prices	Maximum change in Structural Balance Constant Prices	Change in Spending	Maximum change in Spending
Argentina	-0.3	-1.1	-2.0	2.7	2.7
Bahamas	-0.3	-0.3	-0.9	1.2	1.2
Belize	-1.5	-1.5	-1.5	-0.3	0.6
Bolivia	4.8	-4.4	-6.0	3.5	5.2
Brazil	-0.5	-0.5	-2.2	-0.1	0.7
Chile	-4.1	-6.5	-7.7	4.9	4.9
Colombia	-0.8	-1.2	-1.2	-1.0	0.0
Costa Rica	-4.5	-4.5	-4.5	2.9	2.9
Dom. Rep	-3.2	-3.2	-4.5	-1.1	2.4
Ecuador	-4.3	-6.2	-6.3	13.2	18.2
El Salvador	-4.2	-4.2	-4.2	2.7	3.5
Guatemala	-1.6	-1.6	-1.8	-0.3	0.0
Mexico	1.4	-0.0	-2.2	2.5	2.8
Nicaragua	-2.3	-2.3	-2.9	0.0	1.6
Panama	-5.3	-5.3	-5.6	2.3	2.6
Paraguay	-1.0	-1.0	-1.0	2.2	2.2
Peru	-2.1	-3.3	-3.3	2.6	2.6
Uruguay	-2.2	-2.2	-2.9	1.6	1.7
Venezuela	0.2	-5.6	-5.6	-0.0	0.7

Was a robust countercyclical fiscal policy the right macroeconomic policy as a crisis response in the region to stimulate demand (i.e., was there "macroeconomic space" for it)? Was it worth the financial cost and risk to fund it, either through borrowing or out of reserves, at times of illiquidity (i.e., was there "financing space" for it)? It is tempting to answer "yes" because performance in the region facing the Great Recession was generally strong, but since there were other forces driving the recovery (such as fast-growing demand for the region's primary products from booming economies in Asia), the contribution of fiscal stimulus to the region's recovery remains to be fully established. Similarly, financing turned out not to be a problem, but it might have been if a more persistent credit crunch had drained international reserves and official support.[19] Nevertheless, there is broad satisfaction about the success of these policies; if anything, the experience illustrated that lack of macroeconomic or financing space is unlikely to be a major argument against countercyclical fiscal policy, if called for again in similar circumstances.[20]

However, while there was macroeconomic and financing space, was there also "fiscal space" (i.e., might the fiscal burden become too costly)? While a well-designed and prudently financed financial temporary macroeconomic stimulus package may have been just what was required, there is the risk that increased expenditures become permanent, simply adding to the fiscal burden in each downturn, eventually leading to costly fiscal adjustment or debt restructuring.

The exercise of countercyclical fiscal policy entails not only a fiscal expansion in downturns, but, critically, its removal afterwards and eventually a fiscal contraction in the boom to return to a normal regime. Expansionary fiscal policy not unwound is imprudent fiscal policy. It is therefore key to examine fiscal performance after 2009, when macroeconomic recovery started. By 2011, despite some global uncertainties, recovery from recession had been completed and called for a normal fiscal stance. In this regard, it causes concern that spending does not show any sign of retrenchment as recovery started to take hold (Figure 1). Moreover, considering more detailed information it appears that the expansions in social programs have been quite inflexible (IDB, 2012).

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[19] There was official support, and the credit crunch was resolved quickly after the G20 London Summit in March 2009 (Fernández-Arias 2011).

[20] In this regard, the experience validated the ex ante analysis in Fernández-Arias and Montiel (2011) concerning macroeconomic and financial space.

It is true that, as discussed in previous sections, the persistence of increased spending would still be consistent with a healthy fiscal position if there were structural fiscal features that supported increased spending on a permanent basis. One such structural feature could be a tax increase more than offsetting the countercyclical tax reduction in fiscal stimulus packages. In fact, in the typical country, there was a tax increase of about 1 percentage point starting in 2010. This is somewhat larger than the previously estimated tax reduction but insufficient to sustain the new pattern of spending. Likewise, structural commodity-linked revenues remained flat or slightly decreased.

In summary, the structural balance stagnated at crisis levels during the recovery phase rather than being normalized once the macroeconomic emergency subsided (Figure 2). The stagnation of the structural balance after the crisis holds not only for the typical LAC country but for all country groupings, including the typical LAC-7 country and the region as a whole. Since temporary revenues are currently about zero, the structural balance is essentially the neutral structural balance and therefore a good measure of fiscal stance. Worrisome indications of fiscal imprudence in Table 5 are for real.

6. Lost Ground and the Way Forward

How damaging or risky is the lost ground shown in Table 5, a deterioration of about 2.8 percentage points in the fiscal stance for the typical country since the pre-crisis period? And what are the policy lessons to reverse this deterioration and prevent it from recurring in the future?

One way to gauge the damage is to assess the extent to which countries in the region would now have room to execute a similar countercyclical response if required. Relative to the pre-crisis situation, the financing space appears to be less of a concern: despite some use of reserves during the previous crisis, countries subsequently accumulated substantial international reserves.[21] Therefore the question on the advisability of countercyclical fiscal policy is less about "financing space" and more about "fiscal space."

Higher prospective borrowing costs may be a concern in some countries. An expansionary fiscal package that does not square with a credible deleveraging rule going forward

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[21] In the aggregate, after declining by about 10 percent, the stock of reserves is now 60 percent above pre-crisis levels. Furthermore, the mechanisms of the international financial safety net recently used are now better oiled, although the muscle and disposition of advanced countries to provide liquidity may not be the same.

may compound market doubts on repayment and trigger a costly increase in default risk spreads. Debt burdens are key determinants of market perceptions. Unfortunately, as a result of accumulated sizable fiscal deficits in the period, in several countries debt has been accumulated faster than GDP has grown, worsening debt ratios. The evolution of raw statistics may fail to reveal the underlying trends in some countries because of the appreciation of the real exchange rate reducing the value of foreign-currency debt in terms of GDP, but it becomes clear with structural debt (Figure 3).

More generally, apart from higher borrowing costs, countries may find it costly to undertake expansionary fiscal policies because they amount to fiscal burdens going forward weighing down on fiscal sustainability, especially if the downturn is protracted or the expansion is not retired right after the downturn. An unsustainable fiscal path eventually entails either fiscal adjustment to retain solvency or debt restructuring, both of which may be costly processes. For this reason, countries that find themselves in precarious or outright unsustainable fiscal paths may lack the "fiscal space" needed to justify the risk of a countercyclical fiscal expansion.[22]

A structural fiscal sustainability analysis provides a way to summarize considerations concerning fiscal space and compare the current and pre-crisis situations. Given a forecast of structural or trend GDP growth (g), this framework determines the level of the structural primary balance (b) that is required to sustain an initial level of structural debt (d) rolled over at a certain prospective real interest rate (r). This framework puts together growth prospects, the initial debt burden and the corresponding financing conditions the country is expected to face to determine the kind of (neutral) structural primary balance it should aim at to make its fiscal stance sustainable. The gap between this required structural balance and the actual one, taken as a measure of the fiscal stance in normal times, is an indicator of fiscal space, and therefore of the risk of conducting countercyclical fiscal policy. The required structural primary balance is:

$$b^* = \frac{r - g}{1 + g} d \qquad (4)$$

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[22] This "fiscal space" constraint also applies to quasi-fiscal policies such as countercyclical credit policies to provide financial intermediation to segments of the private sector cut off from the normal flow of credit, such as exporters left without trade credit by international banks or small enterprises crowded out by large corporations turning to local bank financing after finding it difficult to secure external financing. To the extent that these policies only involve intermediation, there is no fiscal deficit. However, any recovery risk would amount to a contingent debt that would encumber fiscal solvency.

where r is the real interest rate and g is the GDP growth rate. We consider debt as gross debt of the public sector aggregate whose structural balance is being considered (as described in Latin Macro Watch). We note that a higher level of debt has a direct (proportional) effect on the required balance and, presumably, a further indirect effect through higher interest rates and lower growth. It can be argued that high debt should be further penalized for the purpose of indicating fiscal space because high debt means more fragility to adverse events, and therefore more urgency to address unsustainability. We also note that the above indicator disregards financial assets in the form of stabilization funds, accumulated to offset low commodity prices. This conservative assumption implies that initial stabilization funds are maintained over time in level terms (that future expected flows from price fluctuations offset each other) and dilutes over time as a fraction of GDP.[23]

For the estimation of the required structural primary balance we assume a growth forecast equal to average growth over the previous two decades and prospective real interest rates equal to the average real interest rate paid on public debt over the previous six years.[24] (No doubt these assumptions may be inadequate for specific countries; this exercise is intended as an illustration of the test that countries could run with their own information, assumptions and circumstances.) We conduct the exercise for LAC-7 countries and find that there is deterioration in fiscal space in all countries except Brazil as measured by the required structural balance adjustment between end-2007 and currently (Table 7).[25]

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[23] This analysis builds on the one conducted by Fernández-Arias and Montiel (2011), who argued that there was "fiscal space" for countercyclical fiscal policy in the recent crisis for many countries.

[24] We also considered a second method in which the real interest rate was obtained from an empirical model that predicts the interest rate on the basis of the level of debt and GDP growth (as well as country-specific characteristics) on the basis of the experience over the same period obtaining similar results.

[25] We are using unadjusted structural balances instead of neutral ones to make results more robust. This is a conservative assumption because temporary revenues were higher in 2007 than currently.

Table 7.

Country	2007 Required Adjustment	Structural Debt	2010 Required Adjustment			Structural Debt
			Optimistic	Current	Pessimistic	
Argentina	-2.7	50.6	-2.7	-2.5	-2.2	38.5
Brazil	1.9	65.1	1.3	1.5	1.6	66.4
Chile	-3.6	4.0	-3.3	0.9	5.2	8.8
Colombia	-1.3	42.8	-1.0	2.8	6.6	47.6
Mexico	0.5	23.7	1.1	2.0	2.8	34.4
Peru	-0.0	30.1	-0.5	1.3	3.0	25.3
Venezuela	-1.0	24.4	-1.2	-0.8	-0.5	24.5

However, is the current structural balance a fair indicator of countries' fiscal stance going forward? How is the lost ground in fiscal position going to impact the credibility of countercyclical fiscal policy? On the one hand, assuming that the current lower balance will remain over time may be too harsh a standard if the failure to retire the fiscal stimulus was justified due to lagging recovery in some areas or simply slowness to act in a brief window of opportunity, rather than imprudence. In the extreme, there could be an optimistic scenario in which, given a little more time, countries would have returned to their pre-crisis, 2007 structural balance with little harm done. On the other hand, this standard may be too lenient if there was in fact imprudent behavior. To the extent that the stimulus would not be totally retired under current polices, it stands to reason to assume that the same degree of imprudence would also be observed after a new fiscal stimulus. In the extreme, if nothing more would be retired, a similar stimulus would lead to a similar additional deterioration of the structural balance down the road and the relevant fiscal stance to assess fiscal space for that stimulus going forward would be an even lower balance.[26] These two extreme scenarios clearly show that the impact of past policies on credibility is of first-order importance for the effectiveness of current policies: under the latter, pessimistic scenario, most countries would be in a risky situation. The true scenario is somewhere in the middle, perhaps close to the current situation, depending on the extent to which the fiscal stance could be expected to normalize to its pre-crisis state without much undue delay.

Have the economies in the region evolved to the point where a countercyclical fiscal stance—which indeed represents a significant break from the region's past—is appropriate ex

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[26] This notional balance would be the current one minus the deterioration observed in the recent period.

ante in the face of a severe crisis? After two decades of reform, have the region's macroeconomic institutions and circumstances placed it in a position to be able to actively pursue macroeconomic stability in response to shocks, rather than be constrained by lack of financing or exercise restraint for the sake of preserving market confidence? Fiscal performance in the aftermath of the crisis is a reason for concern and puts at risk an otherwise satisfactory performance in prior years. Until and unless there is a serious threat of a repeat of a global recession, countries ought to unwind the stimulus packages in an orderly but decisive fashion. The credibility of countercyclical fiscal policy has to some extent been damaged by not dismantling the stimulus in short order after the recent crisis and, as a consequence, the fiscal space for such policy has shrunk. Since history cannot be rewritten, it is only fitting to repair credibility by being strict in retiring the stimulus.

Further, to maintain or improve the grades earned earlier in the decade, the region ought to concentrate on fiscal reform homework in the weaker subjects, starting with how to implement countercyclical expansionary policy and how to unwind it. The following are some suggestions in this regard:

1. Based on the recent successful experience confronting the economic slump, those countries with fiscal space would be well-advised to consider fiscal stimulus packages, taking advantage of the macroeconomic and financing space as available. However, effective packages are designed to take advantage of the macroeconomic space and maximize their multiplier effects on economic activity; only highly effective packages are worth the use of fiscal space.

2. Importantly, stimulus packages should be designed ex ante to be easily reversible and should be retired in due course. Unemployment benefits, social spending with sunset clauses, and front-ending infrastructure maintenance are more easily reversed than an increase in baseline transfers or starting large infrastructure projects not in the pipeline. Automatic stabilizers, both on spending and revenues, are a preferred instrument.

3. A framework of structural fiscal accounting and budgeting is important for improving cyclical management concerning fiscal discipline (saving in boom times), monitoring fiscal risks (measuring fiscal space), and setting objectives

for efficient and sustainable fiscal policy. Fiscal institutional reform to improve the credibility of the framework, such as the introduction of fiscal councils, is a useful complementary policy to ensure fiscal outcomes and maximize the fiscal space afforded by a given fiscal stance.

7. Concluding Remarks

We conclude that, by and large, in the first part of the decade until the Great Recession in 2008 countries in the region deserved good grades, in the B range, in relation to fiscal discipline over the cycle and long-term prudency. In our estimation, the bulk of temporary revenues were saved (and in down times, a shortfall of temporary revenues prompted its fair share of adjustment). Structurally, countries improved and then maintained their fiscal stance (as measured by structural balances) to the point that structural debt declined sharply.

In the second part, during the crisis and its aftermath until currently, performance was more mixed. While, in our estimation, satisfactory cyclical management of revenues continued, there was a structural break associated with the onset of the Great Recession. On the one hand, for the first time countries successfully exercised expansionary countercyclical fiscal policy for macroeconomic reasons, which implied a substantial fall in structural balances. On the other hand, however, that fiscal impulse was allowed to remain in place once recovery started, beyond its macroeconomic need, and for the most part has not been unwound. As it stands, on this account countries deserve an "Incomplete." If the current fiscal stance is not rolled back to normal, some hard-won gains will be lost. In fact, grades are already slipping into the C range; failure to unwind the stimulus may damage credibility going forward and ultimately lead to failing grades.

Looking to the future, recent trouble offers valuable lessons. The region has learned that it can conduct countercyclical fiscal policy to support the macroeconomy if it has fiscal space, but that its design needs to ensure its retirement in due course. More generally, the region would benefit from adopting structural fiscal accounting in order to monitor its effective fiscal position, monitor fiscal risk, and set fiscal objectives to gain in efficiency and consistency.

Completing the task of normalizing the fiscal stance to pre-crisis levels and working on its fiscal reform homework on these advanced subjects may earn it an A in the following decade.

References

Bonhorst, F. et al. 2011. "When and How to Adjust Beyond the Business Cycle? A Guide to Structural Fiscal Balances." IMF Technical Notes and Manuals 11/02. Washington, DC, United States: International Monetary Fund.

Daude, C., A. Melguizo and A. Neut. 2010. "Fiscal Policy in Latin America: Countercyclical and Sustainable at Last?" OECD Development Centre Working Paper 291. Paris, France: OECD Publishing.

Fernández-Arias, E., and P. Montiel. 2011. "The Great Recession, 'Rainy Day' Funds, and Countercylical Fiscal Policy in Latin America." *Contemporary Economic Policy* 29(3): 304-22.

Harvey, A., and Thomas Trimbur. 2008. "Trend Estimation and the Hodrick-Prescott Filter." *Journal of the Japanese Statistical Society* 38(1): 41–49.

Inter-American Development Bank (IDB). 2008. "All that Glitters May Not Be Gold: Assessing Latin America's Recent Macroeconomic Performance." Report presented at the Inter-American Development Bank Annual Meeting Seminar of the same name, April 4, Miami, United States. Available at:

http://www.iadb.org/en/research-and-data/publication-details,3169.html?pub_id=b-628

Inter-American Development Bank (IDB). 2009a. "Policy Trade-offs for Unprecedented Times: Confronting the Global Crisis in Latin America and the Caribbean." Paper prepared for the Annual Meeting Seminar "Facing the Crisis: Economic and Social Policies for Turbulent Times," March 28, Medellin, Colombia. Available at:

http://www.iadb.org/en/research-and-data/publication-details,3169.html?pub_id=b-635

Inter-American Development Bank (IDB). 2009b. Latin American and Caribbean Macro Watch. LMW, IDB Data Tool. April. Online database. Available at:

http://www.iadb.org/Research/LatinMacroWatch/LMW.cfm?lang=en

Inter-American Development Bank (IDB). 2012. "The World of Forking Paths: Latin America and the Caribbean Facing Global Economic Risks." Washington, DC, United States: Inter-American Development Bank. Available at:

http://www.iadb.org/en/research-and-data/publication-details,3169.html?pub_id=IDB-MG-126

Machado, R., and J. Zuloeta. 2011. "The Impact of the Business Cycle on Elasticities of Tax Revenue in Latin America." Paper presented at the workshop "Understanding the Cyclical Behavior of Fiscal Revenue in Latin America and the Caribbean." August 1, Washington, DC, United States.

Talvi, E., and C.A. Végh. 2000. "Tax Base Variability and Procyclical Fiscal Policy." NBER Working Paper 7499. Cambridge, United States: National Bureau of Economic Research.

Vladkova-Hollar, I., and Jeromin Zettelmeyer. 2008. "Fiscal Positions in Latin America: Have They Really Improved?" IMF Working Paper 08/137. Washington, DC, United States: International Monetary Fund.

World Bank. 1993. "World Debt Tables: Excerpts in English 1985-86." Washington, DC, United States: World Bank.