Fiscal Policy as a Tool for Stabilization in Developing Countries

Aart Kraay and Luis Serven
The World Bank
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Background Note for 2014 World Development Report:
Managing Risk for Development

Aart Kraay and Luis Serven
February 2013

The financial crisis of 2007/2008, the subsequent great recession in rich countries, and its propagation to developing countries has sparked a renewed interest among policymakers and researchers in the role of fiscal policy as a potential countercyclical tool. This note first reviews the state of the empirical evidence on the effectiveness of discretionary countercyclical fiscal policy, with a particular emphasis on developing countries. On the whole, successful fiscal interventions of this type have been rare in the developing world. The note also reviews briefly a few contrasting experiences of success and failure in industrial and developing countries. It concludes with several recommendations motivated by past experience that policymakers should consider before adopting any fiscal responses to the current crisis.

Fiscal Policy Is Procyclical in Developing Countries

There is strong evidence that fiscal policy has been procyclical in developing countries. Fiscal expansions tend to take place in good times, and not during bad times when they might play some role in smoothing output declines. This applies to a variety of measures of fiscal policy – including total expenditure, the share of total expenditure in GDP, public consumption and public investment (with the latter being the most procyclical of all). 2

Fiscal procyclicality in developing countries arises from both the weakness of automatic stabilizers and the procyclical bias of discretionary policies. While in industrial countries countercyclical discretionary policy contributes to dampen aggregate fluctuations, in developing economies discretionary policy is usually procyclical. In addition, in most developing countries automatic fiscal stabilizers – such as income taxes and transfer programs built into the fiscal system – are too small to have a significant smoothing effect on aggregate fluctuations. 3 In contrast, these automatic stabilizers play an important role in generating increases in government spending and reductions in tax revenues during downturns in industrial countries.

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1 Development Research Group, the World Bank 1818 H Street NW Washington DC 20433, akraay@worldbank.org, lserven@worldbank.org. This note draws on, extends, and updates our earlier briefing note on this topic prepared for World Bank President Robert Zoellick in December 2008. The views expressed here are the author’s, and do not reflect those of the World Bank, its Executive Directors, or the countries they represent.


3 Suescún (2007) shows that automatic tax stabilizers are much weaker in Latin America than in industrial countries.
The procyclical bias in fiscal policy reflects underlying fundamental challenges facing developing countries. Research suggests that two main sets of factors account for this procyclicality of discretionary fiscal policy: (i) the inability of developing countries to access external finance to pay for fiscal expansions during downturns⁴, and (ii) political economy problems that contribute to an overspending of public revenues when they are abundant in good times.⁵ Such fundamental factors are difficult to overcome in the short run, suggesting deep underlying limits on the ability of most countries to generate successful fiscal responses to the current crisis.⁶

Fiscal expansions are difficult to reverse. If governments commit to unsustainably large spending programs during recessions as a countercyclical device, these may be very difficult to reverse when times improve, threatening fiscal sustainability in the long run.⁷ This is why automatic stabilizers in the form of lower tax takes and larger transfer payments during recessions are viewed as a more sustainable approach to countercyclical fiscal policy in industrial countries.⁸ But, as already noted, the difficulty for developing countries is that most have very weak tax and transfer schemes and so the effectiveness of automatic stabilizers is limited.

Emerging evidence suggests that in the recent crisis, developing country fiscal responses have departed from past patterns and been more countercyclical. Unlike before most past crises, many developing countries had reasonably sound macroeconomic fundamentals and fiscal "space" in the mid-2000s. Didier, Hevia, and Schmukler (2011) argue that, when the crisis struck, this provided them with greater flexibility to pursue countercyclical fiscal responses. This stands in contrast with forced fiscal contractions that have often accompanied past crises. However, it is too soon to say whether this recent experience means a permanent break from the past.

Fiscal Multipliers in Developing Countries are On Average Small, But Difficult to Predict

The evidence discussed above on the procyclicality of fiscal policy has primarily been based on documented positive correlations between fiscal variables and output over the business cycle. While these correlations are useful stylized facts, they do not isolate the causal effect of changes in fiscal variables such as government spending or tax revenues on economic activity, i.e. the question of fiscal multipliers. Understanding the size of

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⁴ Kaminsky, Reinhart and Végh (2004) refer to this phenomenon as "when it rains, it pours".
⁵ See for example Tornell and Lane (1999) for a tragedy-of-the-commons argument for overspending bias when many powerful interest groups compete over public spending. Fatas and Mihov (2002, 2007) find that the volatility of fiscal policy is substantially higher in countries with weak institutions.
⁶ Calderón and Schmidt-Hebbel (2008) find strong empirical support for both institutional failures and credit constraints as determinants of countercyclical fiscal policy in emerging economies.
⁷ In this light, IMF (2008) concludes that for emerging economies "discretionary fiscal policy does indeed appear to do more harm than good".
⁸ See for example Beetsma (2008).
such multipliers is crucially important for policymakers contemplating countercyclical changes in discretionary fiscal policy in response to economic downturns.

*Estimating fiscal multipliers is complicated by a standard identification problem.* To the extent that governments choose to increase spending or reduce taxes in response to adverse macroeconomic shocks, the simple correlation between fiscal variables and output will understate the causal effect of the former on the latter. A large empirical literature, primarily using data from the United States, has sought to address this statistical challenge through a variety of creative identification strategies. For example, many authors have followed Barro (1981) in relying on exogenous fluctuations in military spending in the United States during major wars to estimate domestic spending multipliers. Other papers have relied on specific political and/or institutional features of the determinants of government spending, typically at the subnational level, to isolate a credibly exogenous source of variation in spending that can be used to estimate fiscal multipliers. Yet other papers, following the lead of Blanchard and Perotti (2002), have estimated government spending multipliers using vector-autoregressions, and relying on the identifying assumption that, at quarterly frequencies, changes in government spending cannot respond to contemporaneous macroeconomic events. Two recent surveys

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9 Ramey and Shapiro (1998), Hall (2009), Fisher and Peters (2010), Ramey (2011b), and Barro and Redlick (2011) all follow variants on this basic approach. Nakamura and Steinsson (2011) also focus on military spending in the United States, but exploit cross-state variation in the intensity of defense spending. This permits a weaker identifying assumption that military spending buildups are unrelated to differences in macroeconomic conditions across US states. A common drawback of these military spending-based studies is that it is difficult to control for the macroeconomic effects of other key features of wartime economies, such as price controls or mandatory military service. In the same spirit, but on the tax side, Romer and Romer (2010) develop a narrative description of the rationale for individual tax policy changes in the United States, and use this to distinguish between those changes that were made for countercyclical purposes and those that were motivated by other considerations, such as claimed benefits for long-run growth, or for ideological reasons. They then argue that the latter subset of tax policy changes are unlikely to be correlated with contemporaneous macroeconomic events and thus can be used to estimate tax multipliers.

10 For example, Cohen, Covall and Malloy (2010) use changes in Congressional committee chairmanships to identify changes in federal spending at the state level in the United States that are driven by national-level electoral outcomes. They find evidence that these spending changes are negatively correlated with private investment and employment at the state level. On the other hand, Chodorow-Reich, Feiveson, Liscow, and Woolston (2011) study the effects of federal Medicaid transfers to US states during the 2009 fiscal stimulus in the United States and find significant positive effects on state-level employment. Fishback and Kachanovskaya (2010) also study the state-level effects of federal spending, but focus on the New Deal era. They use a measure of swing voting behaviour as an instrument for government spending and find output multipliers ranging from 0.9 to 1.7 depending on the type of spending, although no appreciable impact on employment. Clemens and Miran (2010) exploit variation across US states in the stringency of balanced-budget rules to isolate changes in state government spending that plausibly are unrelated to state-level economic conditions, and find a spending multiplier equal to 1.7. Shaog (2010) uses idiosyncratic variation in returns in US state government-run pension funds to isolate “windfalls” that strongly predict state government spending, and finds a spending multiplier of 2.1. Serrato and Wingender (2011) observe that significant portions of federal spending are allocated to localities based on population estimates, and then exploit sharp changes in population estimates due to methodological changes in census years to isolate exogenous variations in federal spending at local levels. They also find large estimated multipliers in the vicinity of 1.9. Accorcia, Corsetti, and Simonelli (2011) exploit interruptions in municipal public works projects on evidence of mafia involvements as a source of variation in government spending across Italian regions, and find estimated spending multipliers ranging from 1.4 to 2.
synthesize this large and rapidly-growing literature for the US, and suggest that one-year government spending multipliers are somewhere between 0.5 and 1.5.\(^{11}\) That is, an additional dollar of government spending in a given year can be expected to increase output by between $0.50 and $1.50. When such multipliers are less than one, this indicates that the increase in government spending comes at the expense of crowding out other expenditure components of GDP, such as private consumption or investment.

Empirical evidence on the size of government spending multipliers in developing countries is much more scarce, but suggests that the stimulative effect of government spending in these countries is likely to be quite small. Ilzetzki, Mendoza and Vegh (2012) painstakingly assemble quarterly fiscal and national accounts data for a sample of 27 emerging markets, and use VAR-based identification schemes to estimate a one-year government spending multiplier equal to about 0.3. Kraay (2012a, 2012b) develops an identification strategy based on the fact that there are substantial lags between the approval and implementation of aid-financed development projects. Using this observation, it is possible to isolate a component of fluctuations in government spending in a given year that is attributed to aid project approval decisions from previous years. These papers provide evidence suggesting that the government spending multiplier is somewhere between 0.4 and 0.5 on average, in a large sample of developing countries.

Both theory and empirical evidence suggest that fiscal multipliers are not constant, but vary with country characteristics, the stance of monetary policy, and the state of the business cycle. For example, the stimulative effects of government spending operating through the aggregate demand channel are likely to be stronger when an economy is in a recession rather than in a boom. Auerbach and Gorodnichenko (2011a,b) document that this is the case empirically in the United States and in a sample of OECD economies. Among developing countries, both Ilzezki, Mendoza and Vegh (2012) and Kraay (2012b) also provide evidence suggesting that multipliers are larger during recessions. These papers also provide evidence that, consistent with standard IS-LM analysis, the stimulative effects of government spending are larger in economies that are less exposed to international trade. Calibrations of theoretical models also indicate that government spending multipliers can be very high when the economy is in a "liquidity trap" with interest rates at the zero lower bound.\(^{12}\)

Short- and long-run spending multipliers vary also with the composition of the expenditure increase. In particular, both theoretical arguments and empirical evidence support the view that increases in public investment in high-return infrastructure projects can have lasting positive effects on GDP, especially when the economy’s stock of infrastructure capital is relatively low – because its marginal contribution to aggregate output can be expected to correspondingly larger (Calderón, Moral-Benito and Servén forthcoming). Further, to the extent that the rise in output results also in increased tax collection, the expansion in infrastructure investment should not put fiscal sustainability at risk. In reality, however, higher infrastructure spending does not automatically translate into commensurate increases in the supply of infrastructure services, owing to

\(^{11}\) Ramey (2011), Hall (2009).
\(^{12}\) Christiano, Eichenbaum and Rebelo (2011)
inefficiencies and waste in the selection and implementation of infrastructure projects (Pritchett 2000). The disconnect between spending and asset accumulation is particularly acute when governance and fiscal institutions are weak, as is the case in many developing countries (Keefer and Knack 2007).

Three caveats about even these modest estimates of spending multipliers are important. First, to the extent that fiscal expansions do boost output, the fact that fiscal expansions in developing countries also tend to occur in good times rather than bad means that discretionary fiscal interventions tend to increase output volatility rather than reduce it. This finding suggests that fiscal policy has been rather unsuccessful as a tool for stabilization in developing countries. In fact, the additional volatility induced by procyclical fiscal policy has been found to undermine growth in the long run as well.\(^\text{13}\) Second, a consistent finding from many calibrated theoretical models is that much of the long-term impact of increases in government spending occurs when the future taxes ultimately required to finance the spending are levied. These long-run effects are invariably negative, reflecting the distortionary effects of future taxation on future (and possibly current) economic activity.\(^\text{14}\) Third, even with all these theoretical insights and empirical results in hand, it is very difficult to \textit{ex ante} predict the effect of a given fiscal expansion on future output. For example, Blanchard and Leigh (2013) document that the growth forecasts of the IMF and several other agencies systematically underpredicted the decline in output following fiscal consolidations in European economies, suggesting that the models on which these forecasts were based in this case systematically understated fiscal multipliers.

Overall, empirical evidence from the past 30 years suggests that developing countries have not been overly successful in using discretionary fiscal policy to stabilize output fluctuations—although some successes do exist. Box 1 reviews a few contrasting experiences in industrial and developing countries.

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\textbf{Box 1 Examples of Fiscal Stimulus: The Good, the Bad, and the Ugly}
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The Great Depression in the U.S. has been cited by some observers as the only crisis in the last century of greater magnitude than the current one. To combat the Depression, in the early 1930s the U.S. government adopted a broad set of policies, including deposit insurance, abandoning the gold standard, monetary expansion, and a discretionary fiscal expansion. Prior to that time, there had been virtually no use of fiscal policy for macroeconomic stabilization: except in time of war, governments simply aimed to balance the federal budget. In cyclically-adjusted terms, the budget went from a surplus of 1 percent of GNP under the Hoover administration, to a deficit of around 2 percent under Roosevelt’s. (DeLong 1998). While the magnitude of the change may seem modest, it has to be compared with the very small size of the budget at the time (around 5% of GNP).

Under the New Deal policies, the expenditure increases consisted mainly in federal grants for work relief associated with public works, and transfers to farmers. Most observers agree that the fiscal expansion helped the recovery substantially, although the extent of its contribution – as opposed to that of other policy changes -- remains debated. Closer analysis reveals that the two major spending items had quite different effects: public works grants probably raised income almost one-for-one, while transfers to
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\(^{13}\) Fatás and Mihov (2003).

\(^{14}\) See for example Leeper et. al. (2010), Cogan et. al. (2010) and Drautsburg and Uhlig (2011).
farm owners – intended to compensate them for taking land out of production – had little or no effect on spending and income, owing partly to their regressive redistributive impact on rural incomes (Fishback et al 2005).

China's response to the East Asian financial crisis of 1997-1998 is viewed as an unusual example of a successful countercyclical intervention by a developing country in the face of an external shock. China's fiscal response was prompt, with the cyclically-adjusted budget deficit increasing quickly from 1% of GDP prior to the crisis to 1.9% in 1999 and 2.4% in 2000, and remaining in the vicinity of 2% through 2003 (Kuijs and Xu 2008). This period of expanded deficits coincided with a growth slowdown from 9.5% per year in the five years before the crisis to an average of 7.9% in the five years following the crisis. Unusually relative to the experience of most developing countries, the fiscal stimulus was reversed, with cyclically-adjusted budget deficits returning to 1% of GDP after 2003. Finally, the fiscal stimulus was achieved primarily through increases in infrastructure spending.

Several unique factors contributed to China's ability to carry out this policy response. First, China entered the East Asian crisis with very low public debt, and so there was considerable scope to engage in deficit spending. Second, China's prohibition on subnational government borrowing combined with many years of very rapid growth ensured that local governments had strong demand for infrastructure investment projects but were effectively credit-constrained from carrying them out, and so relaxing these constraints through a fiscal expansion generated a rapid response. Third, although the budgetary size of the fiscal stimulus was modest at around 1% of GDP, it was leveraged into significantly larger investment spending -- the central government typically provided only cofinancing for infrastructure projects, which together with an implicit loan guarantee, encouraged bank lending to finance the remainder of these projects. Finally, this fiscal expansion was implemented during a period of still-very-rapid growth -- even during growth slowdowns growth in China is faster than in virtually any other developing country!

In contrast to the case of China, the risks of a mistimed expansionary change in fiscal policy are illustrated by the experience of Argentina in the mid-1990s. After undergoing a recession in 1995, largely due to the propagation of Mexico’s Tequila crisis, a recovery took hold in 1996 and strengthened in 1997. In the midst of the post-Tequila boom, Argentina’s fiscal policy took an expansionary turn that fueled the boom further: cyclically-adjusted fiscal indicators (that is, after removing the endogenous response of fiscal variables to the cycle) reveal a major fiscal impulse from the second half of 1996 to late 1998 (Servén and Perry 2005). Much of the expansion was due to declining revenue collection, partly associated with a pension system reform whose adverse short-term consequences for public revenue were not offset by increases in other taxes or reductions in spending. As a result, public debt as a ratio to GDP kept a rising trend in spite of the economic bonanza. When the Russia crisis erupted in 1998, with the ensuing global financial turmoil, Argentina’s fiscal authorities had no room for maneuver left to mitigate the recession, and had to engage instead in a severe fiscal contraction that deepened the slump. This eventually became one of the leading factors behind the eventual collapse of the Convertibility regime.

Of course, attempts at fiscal stimulus can fail in industrial countries too. The often-cited case of France in the 1980s illustrates the dangers of a fiscal expansion in a context of weak investor confidence and conflicting monetary and fiscal policy objectives (Sachs and Wyplosz 1986). Over 1981-83, the authorities engaged in a major fiscal expansion to combat rising unemployment in the midst of a global recession. The expansion involved an expenditure increase, at first in the form of transfers and subsidies, accompanied later by a rise in public investment as well. The structural (i.e., cyclically-adjusted) fiscal deficit rose by 1.5 percent of GDP between 1980 and 1982. In spite of extensive capital controls, France’s currency peg, part of the EMS arrangement, came immediately under pressure as skeptical investors anticipated higher inflation and/or tax hikes, and the pressure (with the corresponding foreign reserve losses) redoubled as current account deficits mounted. Repeated interest rate hikes, which partly undid the expansionary aggregate demand effects of the fiscal stimulus, could not prevent two devaluations in 1981-82. The modest growth effects of the fiscal expansion quickly dissipated, and eventually the authorities were forced to abandon it and adopt a fiscal austerity package in 1983.
Policy Implications

Previous research and past experience suggests that the following issues should be considered carefully when designing potential fiscal responses by developing countries to the macroeconomic crises.

- **Consideration needs to be given to the scope for monetary as well as fiscal policy responses, as both entail risks.** Policymakers need to consider the scope for coordinated monetary and fiscal interventions, given the uncertain effects of the latter. In situations where central banks policy interest rates are high and inflation is modest, there may be scope for traditional monetary easing measures to complement the effects of fiscal policy. But of course a monetary response entails risks as well, including (i) downward pressures on exchange rates, and (ii) a loss of hard-won anti-inflationary credibility in countries with past histories of reckless monetary policy and accompanying high inflation.

- **Fiscal expansions need to be credibly and sustainably financed.** As noted above, lack of access to external finance has been an important impediment to expansionary fiscal policy during downturns in developing countries. This problem is likely to be particularly acute during crises, with its accompanying paralysis in international credit markets. Many developing countries have limited capacity for domestic borrowing to finance increased spending, and monetizing fiscal deficits is potentially very risky. The episode of France in Box 1 shows that a fiscal expansion with weak investor confidence in the sustainability of public finances can be self-defeating. All this suggests that only those developing countries with strong fiscal positions and large reserve stocks can afford to finance a fiscal expansion. This in turn points to the importance of building up fiscal buffers during good times so that they are available in bad times.

- **Fiscal expansions should be timely but not rushed.** There is consensus that fiscal interventions need to be timely in order to be effective, and that mistimed interventions can be counter-productive (as illustrated by the Argentina episode in Box 1). This has been a challenge in developed countries, and is even more so in developing countries, where data quality (to identify downturns and recoveries in real time) and fiscal institutions (to design and implement any proposed spending increases) are weak. There are serious risks to rushing ahead to expand public spending when adequate oversight institutions and capacity to appraise new projects are not in place – as is the case in many developing countries. In this context policymakers should first carefully consider the scope for expanding tested and well-functioning existing projects and financing pre-appraised and 'shovel-ready' new projects before embarking on completely new and untried public spending projects that risk breeding white elephants.

- **To prevent a weakening of public finances, spending increases should concentrate on areas where the expenditures are either reversible or likely to increase growth in the future.** This is crucial to ensure that long-run fiscal and debt sustainability is not jeopardized by the countercyclical spending increase. Concretely, this can
be done by focusing spending on projects that act as automatic stabilizers. For example, expansion of means-tested social benefit programs will naturally occur and should be financed during downturns as more and more people fall below the eligibility thresholds, and this will reverse as the economy recovers. Similarly, workfare programs with a clearly below-market wage offer will attract participants in downturns but will not be appealing once the economy recovers.

The risks of unsustainable public debt accumulation are also reduced to the extent that increases in spending fall in areas such as infrastructure (as in the China episode in Box 1) where there are reasonably expectations of longer-term growth benefits (and thereby expanding tax bases) as well as direct cost-recovery through future user fees. Moreover, aside from this long-run growth contribution, infrastructure projects – e.g., road construction and maintenance – can also provide the basis for employment programs that reach poor workers.

**Historical experience suggests that expansionary fiscal policy has not been an effective tool for most developing countries in responding to economic downturns.** But this does not mean that fiscal policy can play no role in mitigating the effects of crises; rather, it implies that recommendations for countercyclical fiscal measures should take into account the (sobering) lessons from past experience. Overall, developing countries should consider two priorities in the use of the limited scope they may have for expansionary fiscal policy:

- **First, strengthening social safety nets is key in order to help the most vulnerable and those most affected by the crisis to cope.**¹⁵ This is particularly important in areas where short-term coping mechanisms (such as selling assets or cutting back on caloric intake) can have severe long-term impacts (inability to produce, stunting and reduced cognitive abilities). A side benefit of strengthening such safety nets is that it also strengthens automatic stabilizers that are widely viewed as a more effective form of countercyclical fiscal policy.

- **Second, spending increases should concentrate in areas such as infrastructure that are likely to contribute to growth in the long term.** Even here however there are obvious risks to proceeding quickly with new infrastructure spending, and expansions in this area could best be used to finance "shovel-ready" projects that have already been appraised and found viable.

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¹⁵ For much more detailed recommendations in this area see Ravallion (2008).
References


Ilzetzki, Ethan and Carlos Végh (2008). "Procylical Fiscal Policy in Developing Countries: Truth or Fiction?". Manuscript, University of Maryland.


