Inter-American Development Bank
Banco Interamericano de Desarrollo (BID)
Research Department
Departamento de Investigación
Working Paper #563

Public Debt and Social Expenditure: Friends or Foes?

BY

Eduardo Lora*
Mauricio Olivera**

*Inter-American Development Bank
**George Washington University

May 2006

Cataloging-in-Publication data provided by the
Inter-American Development Bank
Felipe Herrera Library

Lora, Eduardo.

Public debt and social expenditure : friends or foes? / by Eduardo Lora, Mauricio Olivera.

p. cm.
(Research Department working paper series ; 563)
Includes bibliographical references.

1. Debts, External. 2. Debts, Public. 3. Expenditures, Public. I. Olivera, Mauricio. II. Inter-American Development Bank. Research Dept. III. Title. IV. Series.

336.34 L525--------dc22

Inter-American Development Bank
1300 New York Avenue, N.W.
Washington, DC 20577

The Research Department (RES) produces a quarterly newsletter, *IDEA (Ideas for Development in the Americas)*, as well as working papers and books on diverse economic issues. To obtain a complete list of RES publications, and read or download them please visit our web site at: http://www.iadb.org/res.

Abstract[1]

This paper assesses the effects of total public debt (external and domestic) on social expenditure worldwide and in Latin America using an unbalanced panel of around 50 countries for the period 1985-2003. The most robust and important finding is that higher debt ratios do reduce social expenditures, as popular opinion holds. This effect comes mostly from the stock of debt and not from debt service payments, indicating that debt displaces social expenditures not so much because it raises the debt burden, but because it reduces the room (or the appetite) for further indebtedness. Loans from multilateral organizations like the World Bank or the Inter-American Development Bank do not seem to ameliorate the adverse consequences of debt on social expenditures. In accordance with popular wisdom, our results indicate that defaulting on debt obligations does help to increase social expenditures. Nonetheless, Latin America is different in some respects. The adverse effects of debt and debt-interest payments are significantly stronger in the region, which makes defaults more beneficial to social expenditures. While many of these conclusions are very heterodox, their main policy implication is not; there is no better way to protect social expenditures than to avoid overindebtedness, especially in Latin America.

Keywords: public debt, social expenditure, Latin America, debt burden, interest payments, international financial institutions, external debt, default.

[1] The authors acknowledge useful comments and suggestions by Eduardo Borensztein, Miguel Braun, Roque Fernández, Ugo Panizza and other participants in the Workshop on Sovereign Debt held at Universidad Torcuato Di Tella, Buenos Aires, December 2005.

1. Introduction

The conflict between honoring public debt commitments and alleviating the lot of the poor is a recurrent topic among social policy activists and left-wing politicians in the developing world. For instance, at the World Social Forum held in Porto Alegre in 2002, participants observed that external debt payments absorb a substantial amount of resources and that poor developing countries should stop repaying their debt. Funds previously earmarked for debt repayment should be redirected to finance "socially just and ecologically sustainable development" (Toussaint and Zacharie, 2002). Debt relief, either granted by the lenders or obtained unilaterally through outright default, is often seen as an expeditious way to raise social public expenditure and improve the welfare of the poor. As argued by the World Bank and the IMF in support of the Highly Indebted Poor Countries (HIPC) initiative, debt "relief can also be used to free up resources for higher social spending aimed at poverty reduction to the extent that cash debt-service payments are reduced."[2] Jeffrey Sachs has gone even further: "No civilized country should try to collect the debts of people that are dying of hunger and disease and poverty."[3] These arguments resonate strongly in Latin America, where interest debt payments absorb on average 2.8 percent of GDP, which would be enough to increase total social expenditures by 25 percent.[4]

Considering the attention that this issue attracts in the public debate, it is striking how little empirical research has been devoted to assessing whether countries burdened with heavier debt commitments do indeed spend less in the social sectors. A few studies have been concerned with the factors that may influence social expenditure levels, and more specifically, the possible impact of fiscal adjustment measures on social expenditure. For instance, Hicks and Kubisch (1984) and Hicks (1989) found that social expenditures tended to be well-protected in a small sample of highly indebted countries during periods of fiscal retrenchment in the 1970s and early 1980s, a finding that is confirmed by Baqir (2002) with a panel of over 100 countries for the period 1985-1998.

Another topic of study has been the influence of institutional and political variables in social expenditure, which is the focus of the paper by Baqir. His main conclusion is that

[2] As cited by Chauvin and Kraay (2005).
[3] Quoted in the *Financial Times*, July 6, 2004, as cited in Chauvin and Kraay (2005).
[4] Figures are averages over countries for the period 1990-2003. Data on social expenditures come from ECLAC. See further details below.

democratization tends to be followed by important increases in social expenditure, a stylized fact that reflects the Latin American experience, where the wave of democratizations that took place in the 1980s was followed by an important increase in social expenditures, from a median of 7.7 percent of GDP in 1990 to 11.4 percent in 2003.[5] Other authors who have explored how public expenditures may be affected by institutional and political variables have concluded that corruption reduces the share of education expenditures in total expenditures (Mauro, 1998) and that education and health expenditures grow faster in more democratic countries (Snyder and Yackovlev, 2000).

In a related branch of the literature, several studies have analyzed how the economic or the functional categories of public spending may be affected when total expenditure is reduced. For instance, Heller and Diamond (1990) found that the most common shift in spending patterns among a large number of developing countries during the 1975-86 period was away from fixed assets and capital transfers and toward interest, subsidy and transfer payments. Using a sample of 25 countries from 1972 to 1988, Papagitos (1992) concluded that stabilization programs do not shift public expenditure away from "growth-augmenting areas," a concept that includes education and health expenditures.

Nonetheless, while fiscal adjustment or public expenditure reductions may be aimed at honoring debt obligations, these studies do not shed enough light on the impact that debt and debt service payments may have on the level of social expenditures or their share in total expenditures. Mahdavi (2004) is the only author who has attempted to assess how the external debt burden may influence the composition of government spending by economic categories. Using a sample of 47 countries for 1972-2001, Mahdavi finds support for the adverse effect of the debt burden on capital expenditure, and on current expenditures other than wages and salaries. Since a large part of social expenditure takes place in the form of wages and salaries paid to public servants in the education and health public sectors, this finding may suggest that social expenditures are shielded from the adverse effects of the debt burden. This would be consistent with previous findings on the resilience of this type of expenditures to fiscal adjustment measures.

However, this implication is not warranted, not only because the non-wage components of expenditure are important in some social sectors (health prevention and social protection

[5] Data from ECLAC.

programs, for instance), but also because external debt is only a fraction of public debt: on average in Latin America, 22 percent of total public debt is held domestically, but in some countries that share is much higher and has been increasing recently.

Finally, a recent paper by Chauvin and Kraay (2005) has assessed the effects of debt relief on several economic and social variables, including public social expenditures. Using their own database measuring the present value of debt relief for 62 low-income countries between 1989 and 2003, they "find little evidence that debt relief has affected the level and composition of public spending in recipient countries."

The purpose of this paper is to assess the effects of total public debt (external and domestic) on social expenditure worldwide and in Latin America. More specifically, this paper addresses the following questions:

- Are social expenditures (as a share of GDP and as a share of total public expenditure) affected by changes in public debt ratios (over GDP), and in what direction?
- Is this effect due solely to the changes that occur in public debt service payments (as a share of GDP) when debt changes, or does the stock of debt have an effect of its own?
- Do different types of social expenditures (and more specifically, education and health expenditures) behave in the same way in response to changes in debt ratios or debt service payments?
- Does it make any difference if the lender is a multilateral organization, such as the International Monetary Fund, or a multilateral development bank?
- Does a debt default lead to an increase or a reduction in social expenditures?
- Do the answers to the previous questions hold for Latin America, or is the region different in any respect?
- And, finally, what are the policy implications of all of the above?

To our knowledge, this is the first paper to address these questions for a panel of countries. Our findings are striking. First and foremost, higher debt ratios do reduce social expenditures, as popular opinion holds. The largest and most robust part of this effect takes place directly from the stock of debt to social expenditures, which are more affected than other expenditures when debt increases. Surprisingly, increases in debt service payments (which may be the result of higher debt ratios) produce only a minor and non-significant effect on social

expenditures. This clearly suggests that debt displaces social expenditures not so much because it raises the debt burden, but because it reduces the room (or the appetite) for further indebtedness. Worldwide, both education and health expenditures are hit when debt increases but, proportional to the size of the expenditures, the impact is larger on health. Loans from official sources in general, and from the multilateral organizations in particular, do not seem to ameliorate the adverse consequences of debt on social expenditures. In accordance with popular wisdom, our results indicate that defaulting on debt obligations does help increase social expenditures (although our default measures may be somewhat imprecise). Finally, Latin America does seem to be different in several respects. The adverse effects of debt are significantly stronger in Latin America, especially in the health sectors. Social expenditures are also much more vulnerable in Latin America to increases in debt interest payments, which makes defaults more beneficial to social expenditures.

The rest of the paper is organized as follows. Section 2 presents the database and the econometric strategy. Section 3 discusses the main results worldwide before making any distinction between types of social expenditures or lender. These nuances are introduced in Section 4, where the possible effect of defaults is also addressed. Section 5 focuses on Latin America. Section 6 summarizes the results and offers some policy implications.

2. Data and Econometric Strategy

We use an unbalanced panel of up to 58 developing countries for the period 1985-2003 (in most regressions the sample is restricted to around 50 countries due to missing data for some of the explanatory variables, or to the breakup of social expenditures between education, health and other). The information for social government expenditures comes from a data set compiled by the Fiscal Affairs Department of the IMF.[6] As explained by Baqir (2002), this data set is more reliable than the better-known *Government Financial Statistics* (GFS) database, because it is taken directly from IMF country documents produced in association with IMF program activities in each country. The country data vary as to whether they refer to central or general government figures, but the level of coverage over time for each country does not change. Government expenditures are scaled by GDP or by total primary expenditures (that is, all expenditures except interest payments) using data from the IMF's *International Finance Statistics* (IFS) and GFS,

[6] This database is described in more detail in Gupta et al. (2000) and is the same database used (with information only up to 1998) by Baqir (2002).

respectively. Section 5 also makes use of an alternative data source for social expenditures in Latin America, compiled by ECLAC with information provided directly by the governments and processed by ECLAC using standardized definitions of social expenditure. As will be shown there, the two data sets are very similar (for the countries covered by both).

Data for debt stocks, our main explanatory variable, has been processed by the Research Department of the Inter-American Bank in the process of preparing the *2007 Economic and Social Progress* report, which will de devoted to sovereign and external debt issues. This dataset uses information from the IMF's *International Finance Statistics* (IFS), complemented with data from the IMF's *World Economic Outlook* and ECLAC.[7] One important feature of the data for debt stocks is that they cover both external and domestic debt issued by central governments (but not by other levels of government, or by state-owned enterprises). Debt data are expressed as shares of GDP in nominal values (to do that, debts denominated in foreign currencies are converted in domestic currency values using market exchange rates). To avoid the results being driven by outliers, or by major measurement errors, we restrict our sample to countries/years where debt is not larger than 150 percent of GDP.

Interest debt payments and other fiscal variables come from the IMF's *Government Finance Statistics*. Since all these data come in nominal values, they are converted into GDP ratios using the nominal GDP values reported by the IMF's IFS. This is also the source for other macroeconomic variables, such as the exchange rate and the inflation rate. Finally the default variable (a dummy taking the value of 1 in the years that the country is in arrears) comes from Standard & Poor's data processed by Borensztein and Panizza (2006).

Table 1 provides summary statistics for the main variables used in the econometric analysis and Table 2 reports pairwise correlations.

The main concern that needs to be addressed in the estimation method is the endogeneity bias that would result from regressing social expenditures directly on public debt (and other fiscal variables). The most convenient method for dealing with endogeneity problems in panel data is the Arellano and Bond estimator, which uses lagged values of the explanatory variables (in first differences) as instruments for those same variables. The validity of the method rests on the assumption that the instruments are correlated with the explanatory variables but not with the dependent variable. The Sargan test (which is reported below in the main regressions) provides a

[7] A detailed description of the database can be found in Jaimovich and Panizza (2006).

rough and ready test of the validity of the assumption. In a vast majority of our regressions, the Sargan test suggests no reason to suspect the validity of the method. However, in the first set of regressions, we also present standard ordinary least squared estimates that, although necessarily biased, point towards the same basic results as the Arellano and Bond estimator. Since the dependent variable is also converted into first differences, the Arellano and Bond estimator also deals with the non-stationarity problem that arises when the variables exhibit time trends that may lead to spurious correlations between the dependent and the explanatory variables. The Arellano and Bond estimator may still be inadequate when the series exhibit non-stationarity after first differentiation, a problem that may be present in some of our estimates as the z-test indicates (also reported in the first set of results, but which is corrected after the introduction of an additional lag of the dependent variable.

3. Worldwide Results

Table 3 presents the first set of results. In the first four columns, changes in social expenditures as a share of GDP are regressed on lagged changes in debt-to-GDP ratios, and on other controls (all the regressions control for the lagged dependent variable, changes in the log of GDP per capita and changes in the log squared of GDP per capita). According to these estimates, an increase of one percentage point in the debt-to-GDP ratio is associated with a decline of 0.0132-0.0155 percentage points in social expenditures as a share of GDP the following year (or a decline of 0.0191-0.0247 percentage points in the long run).[8] The coefficient is significant at 1 percent and barely changes when the contemporary influence of other fiscal variables is controlled for, implying that the indirect effects of debt through these variables are of second order. However, some fiscal flow variables also directly affect social expenditures. A reduction in the overall or the primary fiscal deficit by $1 is associated with an *average* decline in social expenditures of around 3 cents in the current year (or nearly 5.5 cents in the long run). We stress the average, because the effect may vary widely depending on how that fiscal adjustment is achieved. As the coefficients of Regression 4 indicate, if primary expenditures are cut by $1, the contemporary decline in social expenditures may be as high as 13 cents, while if the same adjustment is achieved by raising more revenues, social expenditures may *increase* by 4 cents contemporaneously. Interestingly, interest debt payments do not have any (additional) effect on

[8] Long-run coefficients are calculated as B/(1-G), where B is the estimated coefficient and G is the coefficient of the lagged dependent variable.

social expenditures. Regressions 5 and 6 separate the effect of public debt between foreign and domestic. Both are negative and statistically similar, although only the effect of foreign debt is significant.

The main results are robust to changes in the method of estimation as shown in Table 4. Regressions 1 and 2 show that for fixed-effects OLS, the contemporary effect of debt stock changes on social expenditure is basically the same as obtained with the Arellano and Bond estimator. Taking the coefficients for the lagged dependent variable at face value, the long-run effect of debt would be substantially lower, but that is probably the result of biases in the estimation of the coefficient of the lagged dependent variable (which takes negative values). Since the z-test in some of our basic regressions in Table 3 indicate the presence of autocorrelation of the residuals, in Regressions 3 and 4 of Table 4 we add to the list of regressors the second lag of the dependent variable, which produces only minor changes in the coefficients.[9]

The last two columns of Table 4 apply the Arellano and Bond estimator again, but define social expenditures not as shares of GDP, but as shares of total primary expenditures. The main result holds, namely, that social expenditures decline when the stock of debt has increased the previous year. The coefficients indicate that the share of social expenditures in total government expenditures declines 0.039–0.054 percentage points for each 1 percent increase in the debt ratio (with long-run effects about twice as large). However, the effects of the current flow variables are substantially different, implying that social and other public expenditures behave in different ways. When total primary expenditures *decline* by 1 percent of GDP, the share of social expenditures in primary expenditures *increases* nearly 0.4 percentage points, a finding consistent with previous literature showing that social expenditures are resilient to fiscal adjustments.[10]

At this point, a short detour will shed some light on how the main fiscal variables react to changes in the stock of debt. Table 5 indicates that an increase of $1 in the stock of debt is associated with an increase of 4.9 cents in the primary balance and 1.3 cents in interest debt payments the following year (or 7 cents and 3.7 cents in the long run). The net effect on the overall fiscal balance is an increase of 2 cents in the short run or 3 cents in the long run (but these values are not statistically significant). The typical response that produces the improvement of the primary balance is a mix of higher revenues (2.6 cents in the following year or 3 cents in

[9] Due to sample size limitations we do not use this additional regressor subsequently.

[10] Incidentally, we find no evidence for an asymmetric response of social expenditures to periods of fiscal expansion/retrenchment, or to periods of increase/decrease in indebtedness.

the long run) and lower expenditures (2.5 cents or 4.4 cents), but neither of them is estimated with precision.

In summary, and putting all the pieces together, following an increase in the stock of debt, governments worldwide typically react by reducing total expenditures and increasing total revenues by an amount beyond the increase in interest debt payments, thus in general tightening somewhat the overall fiscal balance. In this process, social expenditures are hit disproportionately hard, as they are sensitive not only to changes in total expenditures (and somewhat less to changes in revenues), but also to the direct impact of the stock of debt. Previous literature has established that social expenditures are relatively more resilient than other expenditures during periods of fiscal retrenchment. Although our results do not contradict this conclusion in general, they do indicate that social expenditures are more *directly* sensitive to changes in the stocks of debt.

Although the reasons for the higher sensitivity of social expenditures to changes in the stock of debt should be a matter of further research, two hypotheses may be advanced. The first has to do with the short-run return of the non-wage component of social expenditures vis-à-vis other discretionary spending in the budget. It has been stressed that since the wage bill is an important component of social expenditures, it should be better protected against fiscal shocks than other expenditures that are easier to change. But this simple (political economy) argument overlooks the fact that the non-wage component of social expenditures is easy to postpone, not only because political considerations are less important in this case, but also because social expenditures are long-term investments with virtually no short-run welfare returns or costs. This cannot be said, for instance, of unfinished public infrastructure projects, where delays may carry both political costs and financial and operational losses. Non-wage budget cuts in the economic sectors (customs, industry regulation and support) or in the judiciary and the legislature may also carry heavier political costs than similar cuts in the social sectors because of the stronger clout and louder voice of the users of these services vis-à-vis the families and individuals who receive the education and health services from the public sector. While this hypothesis has to do with the relative (political and welfare) costs of budget cuts in the social sectors in the short run, a complementary hypothesis may help to understand why the social sectors may be also more vulnerable than other expenditures over longer time spans. From a fiscal point of view, social expenditures represent pure transfers with little or no direct or indirect effect on fiscal revenues

for long periods of time. Other expenditures may have larger revenue effects, especially if they boost growth by improving the efficiency of some government services or by directly supporting the private sector, and therefore may be better protected than social expenditures in the face of a debt shock that threatens fiscal sustainability.

Before further elaborating on these basic findings, it is worth mentioning that the sensitivity of social expenditures to debt shocks is robust to the inclusion of other variables that might in principle affect social expenditures. All our regressions control for changes in log GDP and its squared (results not reported), which sometimes are significant, but excluding them from the regressions does not reduce the significance of the debt coefficient and barely changes any other result. We have also found that the results are unaltered by changes in inflation, the real exchange rate, the trade balance, imports or exports (results not shown). Furthermore, none of these variables is statistically significant.

4. Some Extensions: By Sector, By Lender, and Defaults

Table 6 replicates the basic regressions for the two main types of social expenditures: education and health. The results indicate that both types of expenditures react adversely to changes in the debt ratio. The coefficients in the regressions where the expenditures are measured as a share of GDP are highly significant and show little change when other fiscal variables are included as controls. When education and health are measured as shares of total expenditures, the coefficients are less stable, but are always negative and statistically significant at least at the 5 percent level. With respect to the size of the debt coefficients, it is important to note that although those for education are larger than those for health in absolute values, the opposite is actually the case when the relative size of the sectors is taken into account.[11] Therefore, education expenditures are somewhat more shielded from the adverse effects of a debt shock. However, the difference is not statistically significant.

Tables 7 and 8 provide a basis from which to discuss how, and if, the main conclusions of the previous section should be qualified considering the role of the official lenders, which include multilateral financial organizations, bilateral official lenders and the International Monetary Fund. The results of Table 7 indicate that total official debt has no *additional* effect on social expenditures. However, when separated by source, it becomes clear that different types of

[11] On average in our sample, education expenditures are 1.87 times larger than health expenditures.

official lending have different effects on social expenditure. Bilateral lending and IMF lending, for example, are supportive of social expenditure. The positive coefficients in both cases roughly counteract the negative coefficient of public debt in general. This contrasts markedly with the effect of other multilateral debt, which further *reduces* social expenditure. Notice, however, that the negative effect of multilateral lending is somewhat weakened (but remains significant at the 10 percent level) when other fiscal variables are included in the regression. Notice also that when social expenditures are measured as shares of total revenues (not as shares of GDP), all types of official lending become insignificant. These results suggest that the different influence that each type of official lending has on social expenditures is due basically to how it influences total expenditures, rather than social expenditures directly. This is important to understand why non-IMF multilateral lending reinforces the adverse effects of debt, while bilateral and IMF lending ameliorates them.

Table 8 attempts to shed some light on this. Official lending, in general, is associated with higher fiscal revenues and a stronger primary balance (both weakly significant), but is especially associated with lower interest payments (significant at 5 percent) and with a stronger overall fiscal balance (significant at 1 percent).[12] Differentiating by source, it becomes clear that while bilateral lending tends to increase total primary expenditures (more than offsetting the negative effect of public lending in general), IMF lending produces no discernible effect, while other multilateral lending reinforces the negative effect that public debt has on total primary expenditures. However, IMF lending is the only type of official lending that is associated with improvements in the primary balance, consistent with the role of this institution as an overseer of macroeconomic and fiscal stability. Interestingly, however, IMF lending seems to lead to higher interest payments, while multilateral lending is associated with substantially lower interest payments (500 basis points). When all these sources of fiscal change are combined, it turns out that only bilateral debt is associated with improvements in the overall fiscal balance. A word of caution is called for, however, since these estimates may be biased by the endogeneity of official lending in general, and IMF lending in particular. For instance, endogeneity may be the reason why IMF lending seems to lead to higher interest payments.

Table 9 deals with another thorny topic, namely the effects of debt default declarations on social expenditures. In the first two regressions, two new explanatory variables are added to the

[12] All these effects are *in addition* to those associated with public debt in general.

basic specification: a dummy for default events, and the interaction between that dummy and the amount of debt outstanding.[13] Regression 1 indicates that, on average, the total effect of defaults on the amount of social expenditure is not statistically significant, but tends to rise significantly with the amount of all types of debt outstanding at the moment of the default. When the effects that defaults may have on primary expenditures and revenues are isolated, the impact on social expenditures is, on average, 0.4 percent of GDP and significant (Regression 2). This suggests that defaults do help reallocate expenditures in favor of the social sectors, a hypothesis that is confirmed by Regressions 5 and 6. Since we do not have information on the amounts of debt in default, we have run additional regressions separating the loans coming from official sources, since these very seldom are the subject of default. We find again that defaults on average have a positive effect on social expenditures in the range of 0.4-0.5 percent of GDP (Regressions 3 and 4) and do contribute to reallocating expenditures towards the social sectors (Regressions 7 and 8). These last two regressions also show that the share of social expenditures increases more significantly in defaulter countries that have more debt from official sources. Additional regressions by sector (not included in the table) indicate that the beneficial effect of defaults on social expenditures is somewhat concentrated in education.

5. Is Latin America Different?

Latin America is often associated with macroeconomic stability and debt crises. Since, as will be shown, social expenditures in Latin America are significantly below world patterns, it is worth discussing whether the links between debt and social expenditures are different in the region.

As a percentage of GDP, social expenditures in Latin America are 1.7 percent below the world pattern among developing countries (Table 10, Regression 1). This gap is significant at a 1 percent level, and is calculated after controlling for income per capita and its square (although these controls are not significant). As shown in Regression 7, this difference can be explained by the fact that the developing countries of East Asia, Europe and Central Asia, and Africa that are included in the sample spend significantly more than Latin America. The bulk of the social expenditure gap is in the education sector, where the gap is 1.2 percent points of GDP (and takes

[13] This interaction is computed as the dummy variable times the difference between public debt and the average for this variable for all the observations included in the regression. The reason for taking deviations from the average is that leaving the coefficient of the interaction term unchanged allows for the interpretation of the coefficient of the default dummy variable as the average effect of default (rather than as the effect for those defaulters with no debt, which would make no sense).

into account the same groups of countries plus the Middle East and North Africa). However, when the analysis is based not on shares of GDP but on shares of total expenditure, social expenditure in Latin America turns out to be *higher* than world patterns. On average, Latin America devotes 6.2 percent more of the total (primary) budget to the social sectors than the rest of the developing world, and this difference is significant at the 5 percent level (Regression 4). Of the 6.2 percent points, 3.3 go to health while the remainder goes to education. (However, by regions, the difference is only significant with respect to the Middle East and North Africa; see Regression 10.) Therefore, if the region spends too little in the social sectors it is only because the sizes of the governments are below world patterns.

Increases in debt stocks and in interest debt payments have much larger effects on social expenditures in Latin America than in the rest of the developing world, according to the results in Table 11. The first regression indicates that when debt stocks increase by $1, social expenditures in Latin America decline 2.9 cents more than in other regions (where the decline is 1.1 cents). As indicated by Regression 2, the additional effect comes entirely from the increase in debt interest payments. For each additional dollar of debt payments, social expenditures in Latin America decline around 23 cents (while in the rest of the world they *increase* about 8 cents).[14] This result suggests that interest rates in Latin America are higher and more sensitive to debt shocks than in the rest of the developing world.

The higher sensitivity of social expenditures to interest payment shocks in Latin America is even more apparent when considering the share of social expenditures in total expenditures (Regressions 3 and 4 in Table 11). Social expenditures lose participation in a significant way when interest payments increase in Latin America (about 0.89 percent for each 1 percent increase in interest payments as a share of GDP). The share of the social sectors in total expenditure in Latin America is also significantly more sensitive to changes in primary expenditures.

The last two columns of Table 11 replicate the two basic regressions for the Latin American countries only, using information on social expenditures produced by ECLAC. Although the limited sample restrains the use of this data set, the most important result is confirmed, namely, that social expenditures are sensitive to changes in public debt. The

[14] Notice that the coefficient for Latin America, –0.31, refers to the *additional* effect (over the 0.08 estimated for the whole sample).

coefficient in Regression 5 is highly significant and larger than that obtained in our previous estimates for our full sample, indicating that social expenditures in Latin America are more sensitive to debt shocks. Regression 6 suggests that this effect takes place mainly through the influence of debt on primary expenditures. The coefficient for this variable is highly significant and around three times as large as that estimated for the whole sample.

Table 12 explores whether expenditures in education and health behave in different ways in Latin America. As we have seen, social expenditures are more sensitive to debt shocks in Latin America, mainly because they are more severely affected by increases in interest payments (which affect more social expenditures than other expenditures). While this conclusion holds for both social sectors, it affects health expenditures *proportionately* harder. This differential response is specific to debt-related variables, and does not hold for other fiscal variables (for instance, it does not apply to the response of social expenditures to total primary expenditures).

The role of official debt is not entirely different in Latin America. The regressions for social expenditures as shares of GDP (Columns 1 through 4 in Table 13) indicate that Latin America behaves like other developing regions in this respect. A slightly different picture emerges when social expenditures are measured as shares of total primary expenditure. Taken together, all the official loans (multilateral, bilateral and loans from the IMF) to the region have an additional positive effect on social expenditures as a share of total expenditures, as shown in Regression 5 in Table 13. Paradoxically, this effect comes from bilateral, not multilateral, loans, as Regression 7 indicates.

Finally, Table 14 assesses whether defaults are more or less beneficial to social expenditure in Latin America. Although the inclusion of so many controls needed to answer this question may be intimidating, the relevant ones are straightforward. Regressions 1 and 2, which do not differentiate by type of lending, indicate that the default-related variables are not different in Latin America. However, in Regression 3, which does differentiate by type of lender, the default dummy coefficient for the whole sample takes a negative (and weakly significant) value, but takes a positive and significant value for Latin America, suggesting that the positive (average) effect of defaults on the level of social expenditure presented in a previous section is due to the Latin American countries. In Regressions 2 and 4, which control for the components of the fiscal balance, the default dummy coefficients—both for the whole sample and for Latin America—become insignificant, while the coefficient of interest debt payments in Latin America

is negative and strongly significant, thus suggesting that the beneficial effect of defaults in the region is associated with the reallocation of funds previously destined to service the debt. However, as Regressions 5 thru 8 consistently indicate, while defaults on average tend to raise the share of social expenditures in primary expenditures in the developing countries, the opposite occurs in Latin America. The adverse effect of defaults on the share of social expenditures in Latin America only becomes positive at high debt-to-GDP ratios (of around 50-60 percent, according to Regressions 5 and 6). Therefore, defaults do seem to raise social expenditures in Latin America, as lower interest payments "crowd in" primary expenditures; at high debt levels this effect tends to favor social sectors vis-à-vis other sectors.

6. Conclusions and Implications

Although the effects of public indebtedness on social expenditures is an issue of concern for politicians, social activists and the public at large, economists have basically disregarded the issue without much discussion of whether the various claims fit the facts or not. To our knowledge, this is the first paper to address some of the most basic questions related to the issue: Do social expenditures rise or fall when public debt increases? Does the effect depend on how other fiscal variables react? Are education and health expenditures affected in the same way? Does official vs. multilateral lending make any difference? Are defaults good for social expenditures? In Latin America, where social expenditures are below world patterns and high indebtedness is a common feature, these are not academic questions.

Our findings give credit to many of the widely held views about the deleterious effects of high indebtedness. Higher debt ratios do reduce social expenditures, and not just because of the extra cost in interest payments (an effect that is especially important in Latin America), but because they are associated with cuts in total expenditures that affect the social sectors. Debt displaces social expenditures mainly because it reduces the room (or the appetite) for further indebtedness. Multilateral lending is not a solution for that problem. On average in the developing world, loans by multilateral organizations have an additional adverse effect on social expenditures, probably because they impose further discipline on total expenditures. Also in line with popular wisdom, defaulting on debt obligations does help increase social expenditures on average in the developing world, and particularly so in Latin America, where lower debt interest payments "crowd in" all types of primary expenditures, including social ones.

Paradoxically as it may seem, these findings suggest that, at least in Latin America, orthodoxy in debt management is the best way to protect social expenditures. Consider the coefficients of Regression 3 in Table 3 and assume that the primary balance is at a level consistent with the stability of the debt ratio.[15] An improvement equivalent to 1 percent of GDP in the primary balance should initially cause a decline of social expenditures of 0.034 percent of GDP. However, this initial reduction is partially offset by an increase in social expenditures of 0.014 percent of GDP the following year, because the stock of debt has fallen. In the third year, the initial reduction would be fully offset, and beginning with the following year social expenditures would rise above the initial level. But the coefficients of Regression 4 indicate that it is possible to have social expenditure rising from the outset if the fiscal adjustment is based on an increase in revenues rather than on a reduction of expenditures, which is the reason why social expenditures fall in periods of fiscal retrenchment.

Our findings for the effects of defaults are also less supportive of heterodox actions than may seem at first sight. On average worldwide, social expenditures typically rise 0.4-0.5 percent of GDP the year after the declaration of a default (isolating the influence of lending from official sources). This is hardly a good business, since defaulters may end up paying a premium and facing much more restricted access to the credit markets, which may easily offset the beneficial effect. The conclusion is valid for Latin America also, because although the average effect is substantially larger (1.6 percent of GDP),[16] social expenditures in the region are much more sensitive to increases in debt interest payments.

Thus, the main policy conclusion of this paper is that the best way to protect social expenditure is to avoid overindebtedness.

[15] That is, approximately, pb = (g-r)*D where pb is the primary balance, g the rate of growth of the economy, r the real interest rate of the debt and D the debt-to-GDP ratio.
[16] That is the sum of the coefficients of the default dummy variables for the whole sample and for Latin America.

References

Baqir, R. 2002. "Social Sector Spending in a Panel of Countries." IMF Working Paper WP/02/35, February. Washington, DC: International Monetary Fund.

Borensztein, E., and U. Panizza. 2006. "The Cost of Default." IDB Research Department Working Paper. Washington, D.C.: Inter-American Development Bank.

Chauvin, N.D. and A. Kraay. 2005. "What Has 100 Billion Dollars Worth of Debt Relief Done for Low-Income Countries?" Research paper draft, Princeton University/Inter-American Development Bank/World Bank.

Gupta, S. et al. 2000. "Social Issues in IMF-Supported Programs." IMF Occasional Paper 191. Washington, DC: International Monetary Fund.

Heller, P.S., and J. Diamond. 1990. "International Comparisons of Government Expenditure Revisited: The Developing Countries, 1975-1986." IMF Occasional Working Paper 69. Washington, D.C.: International Monetary Fund.

Hicks, N.L. 1989. "Expenditure Reductions in High-Debt countries." *Finance and Development* 26: 35-37.

Hicks, N.L., and A. Kubisch. 1984. "Recent Experience in Cutting Government Expenditures." *Finance and Development* 21: 37-39.

Jaimovich, D. and U. Panizza. 2006. "Public Debt Around the World: A New Dataset of Central Government Debt." IDB Research Department Working Paper 561. Washington, D.C.: Inter-American Development Bank.

Mahdavi, S. 2004. "Shifts in the Composition of Government Spending in Response to External Debt Burden." *World Development* 32(7): 1139-1157.

Mauro, P. 1998. "Corruption and the Composition of Government Expenditure." *Journal of Public Economics* 69(2): 263-79.

Papagapitos, A. 1992. "The Effects of Stabilization Programs on the Composition of Public Expenditure in Developing Countries: 1972-1988." Unpublished doctoral dissertation, Ohio State University.

Snyder, J. and I. Yackovlev. 2000. "Political and Economic Determinants of Changes in Government Spending on Social Protection Programs." Cambridge, United States: Massachusetts Institute of Technology. Mimeographed document.

Toussaint, E. and A. Zacharie. 2002. “Abolish the Debt to Free Development.” Document presented at the World Social Forum, Porto Alegre, Brazil.

Table 1. Summary Statistics

Variable	Number of observations	Mean	Standard Deviation	Minimum	Maximum
Social expenditure (share of GDP)	1729	0.06	0.03	0.00	0.34
Education expenditure (share of GDP)	1769	0.04	0.02	0.00	0.20
Health expenditure (share of GDP)	1765	0.02	0.02	0.00	0.13
Social expenditure (share of primary expenditures)	803	0.29	0.10	0.05	0.78
Education expenditure (share of primary expenditures)	812	0.19	0.07	0.04	0.42
Health expenditure (share of primary expenditures)	829	0.10	0.06	0.01	0.37
Public debt (share of GDP)	1208	0.52	0.31	-0.02	1.50
Public domestic debt (share of GDP)	966	0.22	0.18	0.00	1.08
Public foreign debt (share of GDP)	953	0.37	0.31	0.00	1.49
Official debt (share of GDP)	2015	0.66	0.58	0.00	3.10
Multilateral debt (share of GDP)	2120	0.35	0.35	0.00	1.50
Bilateral debt (share of GDP)	2066	0.31	0.32	0.00	1.50
IMF debt (share of GDP)	2244	0.03	0.08	0.00	1.39
Default (Dummy)	2736	0.19	0.39	0.00	1.00
Fiscal balance (share of GDP)	1500	-0.03	0.05	-0.60	0.27
Primary balance (share of GDP)	2014	-0.01	0.05	-0.53	0.24
Debt service (share of GDP)	1184	0.03	0.03	0.00	0.27
Primary expenditure (share of GDP)	1006	0.24	0.10	0.04	0.57
Total Revenues (share of GDP)	1419	0.22	0.11	0.00	0.56
GDP pc (log)	2497	8.10	0.90	6.13	10.30

Table 2. Pairwise Correlations

	Social expenditure (share of GDP)	Education expenditure (share of GDP)	Health expenditure (share of GDP)	Social expenditure (share of primary expenditures)	Education expenditure (share of primary expenditures)	Health expenditure (share of primary expenditures)	Public debt (share of GDP)	Public domestic debt (share of GDP)	Public foreign debt (share of GDP)	Fiscal balance (share of GDP)	Primary balance (share of GDP)	Debt service (share of GDP)	Primary expenditure (share of GDP)	Total Revenues (share of GDP)	Official debt (share of GDP)	Multilateral debt (share of GDP)	Bilateral debt (share of GDP)	IMF debt (share of GDP)	Default (Dummy)	GDP pc (log)	GDP pc (square, log)
Social expenditure (share of GDP)	1.000																				
Education expenditure (share of GDP)	0.900	1.000																			
Health expenditure (share of GDP)	0.760	0.402	1.000																		
Social expenditure (share of primary expenditures)	0.587	0.515	0.467	1.000																	
Education expenditure (share of primary expenditures)	0.518	0.618	0.167	0.908	1.000																
Health expenditure (share of primary expenditures)	0.477	0.171	0.749	0.773	0.437	1.000															
Public debt (share of GDP)	-0.270	-0.266	-0.171	-0.156	-0.148	-0.111	1.000														
Public domestic debt (share of GDP)	-0.067	-0.042	-0.079	0.031	0.036	0.011	0.398	1.000													
Public foreign debt (share of GDP)	-0.234	-0.283	-0.071	-0.148	-0.186	-0.035	0.837	0.026	1.000												
Fiscal balance (share of GDP)	-0.104	-0.110	-0.053	0.245	0.234	0.171	0.034	-0.046	0.082	1.000											
Primary balance (share of GDP)	-0.052	-0.059	-0.022	0.186	0.163	0.152	0.103	0.099	0.076	0.598	1.000										
Debt service (share of GDP)	0.009	0.006	0.009	-0.037	-0.046	-0.008	0.194	0.180	0.115	-0.286	0.054	1.000									
Primary expenditure (share of GDP)	0.399	0.376	0.279	-0.338	-0.335	-0.219	-0.121	-0.034	-0.116	-0.557	-0.383	-0.017	1.000								
Total Revenues (share of GDP)	0.245	0.200	0.217	-0.076	-0.098	-0.015	-0.029	-0.040	0.004	0.343	0.276	0.220	0.249	1.000							
Official debt (share of GDP)	-0.124	-0.141	-0.051	-0.107	-0.115	-0.056	0.477	0.080	0.474	0.067	0.102	0.061	-0.071	-0.009	1.000						
Multilateral debt (share of GDP)	-0.130	-0.155	-0.041	-0.108	-0.125	-0.044	0.315	0.060	0.312	0.018	0.040	-0.006	-0.036	-0.070	0.836	1.000					
Bilateral debt (share of GDP)	-0.087	-0.091	-0.047	-0.078	-0.077	-0.051	0.492	0.076	0.489	0.092	0.129	0.104	-0.082	0.047	0.879	0.473	1.000				
IMF debt (share of GDP)	-0.054	-0.065	-0.017	-0.116	-0.111	-0.081	0.239	0.125	0.196	-0.047	0.099	0.080	0.056	0.002	0.453	0.459	0.329	1.000			
Default (Dummy)	0.085	0.058	0.093	0.102	0.064	0.123	0.092	0.113	0.103	-0.060	0.050	0.074	-0.050	-0.045	-0.025	-0.082	0.030	-0.068	1.000		
GDP pc (log)	0.017	0.016	0.013	-0.017	-0.020	-0.007	-0.136	-0.039	-0.121	-0.104	-0.044	-0.082	0.104	-0.097	-0.290	-0.313	-0.194	-0.069	0.008	1.000	
GDP pc (square, log)	0.014	0.014	0.009	-0.017	-0.018	-0.009	-0.132	-0.043	-0.115	-0.102	-0.046	-0.084	0.096	-0.102	-0.278	-0.302	-0.185	-0.069	0.013	0.998	1.000

Table 3. Social Expenditures and Debt Stock

Independent Variables	Dependent Variable: Social Expenditure (share of GDP)					
	Arellano Bond[1]					
	1	2	3	4	5	6
Social expenditure (share of GDP, lagged)	0.3721	0.3869	0.3823	0.2986	0.3565	0.2811
	(6.4281)***	(6.7277)***	(6.6605)***	(5.5971)***	(5.9447)***	(5.1818)***
Social expenditure (share of primary expenditures, lagged)						
Public debt (share of GDP, lagged)	-0.0155	-0.0132	-0.0138	-0.0134		
	(3.8089)***	(3.4642)***	(3.5154)***	(3.4728)***		
Public domestic debt (share of GDP, lagged)					-0.0105	-0.0164
					(1.2723)	(2.1013)**
Public foreign debt (share of GDP, lagged)					-0.0127	-0.0099
					(2.7923)***	(2.3993)**
Fiscal balance (share of GDP)		-0.0331				
		(2.3533)**				
Debt service (share of GDP)			0.0490	0.0196		0.0134
			(1.5952)	(0.6778)		(0.4868)
Primary expenditure (share of GDP)				0.1315		0.1255
				(8.4764)***		(7.7754)***
Total Revenues (share of GDP)				0.0417		0.0477
				(2.5313)**		(2.8511)***
Primary balance (share of GDP)			-0.0338			
			(2.5722)**			
Constant	0.0007	0.0006	0.0006	0.0007	0.0005	0.0007
	(3.5067)***	(3.4919)***	(3.3600)***	(4.0877)***	(2.7228)***	(4.1010)***
Observations	387	365	365	325	297	297
Number of countries	57	53	53	50	46	46
Sargan test of over-identifying restrictions (chi2)	232.24	259.78	255.77	215.18	242.37	225.83
Test of autocorrelation (z)	-1.17	-1.87	-1.99	-2.12	-1.33	-2.38
R-squared						

Absolute value of z statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Notes: All regressions include as controls GDP pc and (GDP pc)^2 .

1 In all Arellano Bond estimations, the independent variables are in first differences.

2 For OLS fixed effects all variables are in first differences and include a country dummy.

Table 4. Robustness of Basic Results

Independent Variables	Social expenditure (share of GDP)		Social expenditure (share of GDP)		Social expenditure (share of primary expenditures)	
	OLS Fixed Effects[2]		Arellano Bond [1]		Arellano Bond [1]	
	1	2	3	4	5	6
Social expenditure (share of GDP, lagged)	-0.1396	-0.1064	0.5001	0.4008		
	(2.7433)***	(2.1722)**	(8.3567)***	(7.4628)***		
Social expenditure (share of GDP, second lag)			-0.0201	-0.0634		
			(0.4093)	(1.4243)		
Social expenditure (share of primary expenditures, lagged)					0.3345	0.3185
					(5.8154)***	(5.8739)***
Public debt (share of GDP, lagged)	-0.0142	-0.0139	-0.0155	-0.0146	-0.0390	-0.0543
	(3.4928)***	(3.5747)***	(3.5575)***	(3.6846)***	(2.2119)**	(3.1247)***
Debt service (share of GDP)		0.0243		0.0543		-0.0196
		(0.6673)		(1.7811)*		(0.1789)
Primary expenditure (share of GDP)		0.0883		0.1108		-0.4371
		(5.0012)***		(6.5703)***		(5.8065)***
Total Revenues (share of GDP)		0.0172		0.0134		0.1043
		(0.8918)		(0.7963)		(1.3580)
Constant	-0.0078	-0.0069	0.0007	0.0008	0.0014	0.0013
	(1.2728)	(1.1850)	(3.4595)***	(4.2454)***	(1.8399)*	(1.8717)*
Observations	297	297	289	289	290	290
Number of countries	46	46	46	46	44	44
Sargan test of over-identifying restrictions (chi2)			158.08	168.21	188.47	183.14
Test of autocorrelation (z)			-0.48	-0.30	-1.28	-1.41
R-squared	0.2361	0.3194				

Absolute value of z statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Notes: All regressions include as controls GDP pc and (GDP pc)^{2}.

1 In all Arellano Bond estimations, the independent variables are in first differences.

2 For OLS fixed effects all variables are in first differences and include a country dummy.

Table 5. Fiscal Variables and Debt Stock[1]

	Total revenues (share of GDP)	Primary expenditures (share of GDP)	Primary balance (share of GDP)	Debt service (share of GDP)	Fiscal balance (share of GDP)
Independent Variables	1	2	3	4	5
Total revenues (share of GDP, lagged)	0.375				
	(6.0518)***				
Primary expenditures (share of GDP, lagged)		0.435			
		(7.5643)***			
Primary balance (share of GDP, lagged)			0.310		
			(5.1193)***		
Debt service (share of GDP, lagged)				0.689	
				(14.1499)***	
Fiscal balance (share of GDP, lagged)					0.304
					(4.8248)***
Public debt (share of GDP, lagged)	0.026	-0.025	0.049	0.013	0.021
	(1.8858)*	(1.8370)*	(2.6976)***	(1.7543)*	(1.196)
Constant	-0.000	-0.001	0.000	0.001	-0.001
	(0.8387)	(0.9393)	(0.0124)	(3.0284)***	(0.9993)
Observations	288	288	282	282	282
Number of countries	43	43	43	43	43

Absolute value of z statistics in parentheses.

* significant at 10%; ** significant at 5%; *** significant at 1%

Notes: All regressions include as controls GDP pc and (GDP pc)[2.]

1 All estimations are Arellano Bond in first differences.

Table 6. Education Expenditure, Health Expenditure and Debt Stock[1]

	Education expenditure (share of GDP)		Health expenditure (share of GDP)		Education expenditure (share of primary expenditures)		Health expenditure (share of primary expenditures)	
Independent Variables	1	2	3	4	5	6	7	8
Education expenditure (share of GDP, lagged)	0.3992	0.3505						
	(6.9493)***	(6.3722)***						
Health expenditure (share of GDP, lagged)			0.4614	0.3942				
			(6.9053)***	(6.1444)***				
Education expenditure (share of primary expenditures, lagged)					0.3681	0.3318		
					(5.5502)***	(5.4580)***		
Health expenditure (share of primary expenditures, lagged)							0.3612	0.3249
							(5.7038)***	(5.1714)***
Public debt (share of GDP, lagged)	-0.0107	-0.0108	-0.0080	-0.0078	-0.0318	-0.0424	-0.0212	-0.0309
	(3.9162)***	(4.0380)***	(3.8878)***	(3.8458)***	(2.5478)**	(3.5468)***	(2.5025)**	(3.6104)***
Debt service (share of GDP)		0.0126		0.0078		-0.0404		0.0857
		(0.7011)		(0.5704)		(0.5268)		(1.5420)
Primary expenditure (share of GDP)		0.0526		0.0321		-0.3685		-0.1633
		(4.3333)***		(3.6836)***		(7.0075)***		(4.3626)***
Total Revenues (share of GDP)		0.0123		0.0097		0.0216		0.0484
		(0.9935)		(1.0701)		(0.3832)		(1.2713)
Constant	0.0004	0.0004	0.0002	0.0003	0.0011	0.0013	0.0007	0.0006
	(3.1052)***	(3.7313)***	(2.5438)**	(3.3014)***	(2.0260)**	(2.5874)***	(1.7815)*	(1.6762)*
Observations	282	282	282	282	282	282	282	282
Number of ifscode	43	43	43	43	43	43	43	43

Absolute value of z statistics in parentheses.

* significant at 10%; ** significant at 5%; *** significant at 1%

Notes: All regressions include as controls GDP pc and (GDP pc)[2.]

1 All estimations are Arellano Bond in first differences.

Table 7. Social Expenditure and Debt Stock by Lender[1]

	Social expenditure (share of GDP)				Social expenditure (share of primary expenditures)			
Independent Variables	1	2	3	4	5	6	7	8
Social expenditure (share of GDP, lagged)	0.4625	0.3970	0.4579	0.3917				
	(7.8920)***	(7.3596)***	(7.9037)***	(7.3297)***				
Social expenditure (share of primary expenditures, lagged)					0.4511	0.4275	0.4536	0.4403
					(7.0908)***	(7.1449)***	(6.9804)***	(7.1776)***
Public debt (share of GDP, lagged)	-0.0150	-0.0164	-0.0167	-0.0178	-0.0575	-0.0725	-0.0583	-0.0752
	(3.3105)***	(3.8616)***	(3.7430)***	(4.2510)***	(2.8217)***	(3.5961)***	(2.8483)***	(3.7080)***
Official debt (share of GDP, lagged)2	-0.0006	0.0014			0.0120	0.0056		
	(0.1241)	(0.3079)			(0.5751)	(0.2717)		
Multilateral debt (share of GDP, lagged)2			-0.0198	-0.0164			-0.0045	-0.0437
			(2.0104)**	(1.7832)*			(0.1002)	-10,132
Bilateral debt (share of GDP, lagged)2			0.0140	0.0159			0.0336	0.0465
			(1.7808)*	(2.1771)**			(0.9202)	(1.3113)
IMF debt (share of GDP, lagged)			0.0219	0.0124			-0.0883	-0.0031
			(0.7011)	(0.4330)			(0.6192)	(0.0228)
Debt service (share of GDP)		0.0329		0.0204		0.0110		0.0046
		(1.2422)		(0.7572)		(0.0953)		(0.0391)
Primary expenditure (share of GDP)		0.0839		0.0852		-0.4612		-0.4694
		(4.4964)***		(4.6077)***		(5.2531)***		(5.2383)***
Total Revenues (share of GDP)		0.0368		0.0343		0.0862		0.0777
		(1.7583)*		(1.6439)		(0.8546)		(0.7602)
Constant	0.0010	0.0009	0.0012	0.0011	0.0013	0.0018	0.0014	0.0021
	(4.4389)***	(4.4187)***	(5.2000)***	(5.1422)***	(1.2622)	(1.8040)*	(1.2715)	(1.9887)**
Observations	244	244	244	244	244	244	244	244
Number of countries	40	40	40	40	40	40	40	40

Absolute value of z statistics in parentheses.

* significant at 10% ; ** significant at 5% ; *** significant at 1%

Notes: All regressions include as controls GDP pc and (GDP pc)^2

1 All estimations are Arellano Bond in first differences.

2 Official debt is the sum of multilateral, bilateral and IMF debt. Multilateral and bilateral include concessionary and non-concessionary debt.

Table 8. Fiscal Variables and Debt Stock by Lender[1]

	Total revenues (share of GDP)	Primary expenditures (share of GDP)	Primary balance (share of GDP)	Debt service (share of GDP)	Fiscal balance (share of GDP)	Total revenues (share of GDP)	Primary expenditures (share of GDP)	Primary balance (share of GDP)	Debt service (share of GDP)
Independent Variables	1	2	3	4	5	6	7	8	9
Total revenues (share of GDP, lagged)	0.359					0.353			
	(5.6298)***					(5.4697)***			
Primary expenditures (share of GDP, lagged)		0.417					0.386		
		(7.3180)***					(6.6549)***		
Primary balance (share of GDP, lagged)			0.276					0.277	
			(4.4797)***					(4.4706)***	
Debt service (share of GDP, lagged)				0.691					0.702
				(13.5155)***					(13.6693)***
Fiscal balance (share of GDP, lagged)					0.330				
					(5.2529)***				
Public debt (share of GDP, lagged)	-0.010	-0.038	0.023	0.017	0.003	-0.013	-0.040	0.031	0.015
	(0.6911)	(2.5608)**	(1.2364)	(2.0587)**	(0.1650)	(0.9430)	(2.7002)***	(1.6287)	(1.7462)*
Official debt (share of GDP, lagged)2	0.027	0.001	0.037	-0.018	0.055				
	(1.7616)*	(0.0851)	(1.9190)*	(2.0473)**	(2.8850)***				
Multilateral debt (share of GDP, lagged)2						0.007	-0.058	0.045	-0.050
						(0.2252)	(1.7918)*	(1.1256)	(2.8806)***
Bilateral debt (share of GDP, lagged)2						0.049	0.053	-0.005	-0.000
						(1.8320)*	(2.0520)**	(0.1387)	(0.0084)
IMF debt (share of GDP, lagged)						0.016	-0.084	0.277	0.097
						(0.1561)	(0.7841)	(1.9023)*	(1.7246)*
Constant	0.001	0.000	0.000	0.001	-0.001	0.001	0.001	-0.000	0.002
	(1.8845)*	(0.5273)	(0.2731)	(3.6593)***	(0.7342)	(2.0258)**	(1.3553)	(0.0107)	(3.7511)***
Observations	244	244	244	244	244	244	244	244	244
Number of countries	40	40	40	40	40	40	40	40	40

Absolute value of z statistics in parentheses.

* significant at 10% ; ** significant at 5% ; *** significant at 1%

Notes: All regressions include as controls GDP pc and (GDP pc)^2

1 All estimations are Arellano Bond in first differences.

2 Official debt is the sum of multilateral, bilateral and IMF debt. Multilateral and bilateral include concessionary and non-concessionary debt.

Table 9. Social Expenditures, Default and Debt Stock[1]

	Social expenditure (share of GDP)				Social Expenditure (share of primary expenditures)			
Independent Variables	1	2	3	4	5	6	7	8
Social expenditure (share of GDP, lagged)	0.3763	0.3149	0.4562	0.3689				
	(6.4570)***	(5.8006)***	(7.4275)***	(6.7356)***				
Social expenditure (share of primary expenditures, lagged)					0.2502	0.2279	0.2367	0.2203
					(4.4939)***	(4.3518)***	(4.2068)***	(4.1540)***
Public debt (share of GDP, lagged)	-0.0214	-0.0169	-0.0182	-0.0189	-0.032	-0.0598	-0.023	-0.0461
	(4.4233)***	(3.9112)***	(3.7833)***	(4.2497)***	(1.5758)	(2.9897)***	(1.0570)	(2.1750)**
Official public debt (share of GDP, lagged)			-0.0076	-0.0027			-0.0011	-0.0174
			(1.7754)*	(0.7009)			(0.0591)	(1.0043)
Debt service (share of GDP)		0.0173		0.0185		-0.0282		-0.0072
		(0.5907)		(0.6512)		(0.2354)		(0.0589)
Primary expenditure (share of GDP)		0.1348		0.1028		-0.5421		-0.5467
		(8.6293)***		(6.4404)***		(6.7613)***		(6.7642)***
Total Revenues (share of GDP)		0.0451		0.0428		0.0999		0.1202
		(2.7253)***		(2.3641)**		(1.1601)		(1.3807)
Default (Dummy)	0.0008	0.004	0.0038	0.0051	0.0226	0.0172	0.0274	0.0213
	(0.4057)	(2.2044)**	(1.9770)**	(2.9232)***	(2.6856)***	(2.0679)**	(3.1560)***	(2.4997)**
Default*Public debt	0.0111	0.0055	0.0064	0.0043	0.0044	0.0183	-0.0306	-0.0132
	(2.1561)**	(1.1423)	(1.0150)	(0.7574)	(0.1874)	(0.8192)	(1.0662)	(0.4907)
Default*Official public debt			0.0022	0.0039			0.0331	0.0307
			-0.6197	-1.2162			(2.1364)**	(2.0901)**
Constant	0.0007	0.0008	0.0012	0.0012	0.0035	0.0042	0.0032	0.0039
	(3.8432)***	(4.7394)***	(5.3989)***	(5.5280)***	(3.3674)***	(4.1278)***	(3.0271)***	(3.7296)***
Observations	387	325	286	286	275	275	275	275
Number of countries	57	50	47	47	45	45	45	45

Absolute value of z statistics in parentheses

* significant at 10% ; ** significant at 5% ; *** significant at 1%

Notes: All regressions include as controls GDP pc and (GDP pc)^2

1 All estimations are Arellano Bond in first differences.

Table 10. Latin America Stylized Facts (see note below)

Independent Variables	Social Expenditure (share of GDP)	Education expenditures (share of GDP)	Health expenditures (share of GDP)	Social Expenditure (share of primary expenditures)	Education expenditures (share of primary expenditures)	Health expenditures (share of primary expenditures)	Social Expenditure (share of GDP)	Education expenditures (share of GDP)	Health expenditures (share of GDP)	Social Expenditure (share of primary expenditures)	Education expenditures (share of primary expenditures)	Health expenditures (share of primary expenditures)
	1	2	3	4	5	6	7	8	9	10	11	12
GDP pc (log)	-0.025	0.021	-0.045	0.173	0.271	-0.097	-0.027	0.03	-0.057	0.146	0.284	-0.138
	(0.4890)	(0.6346)	(1.6239)	(0.8219)	(2.0184)**	(0.8333)	(0.4907)	(0.8704)	(2.0274)**	(0.6419)	(1.9354)*	(1.1556)
GDP pc (square, log)	0.003	-0.001	0.003	-0.009	-0.017	0.008	0.003	-0.001	0.004	-0.008	-0.017	0.01
	(0.8013)	(0.4489)	(1.9775)*	(0.7116)	(2.0352)**	-1.0514	(0.7958)	(0.6447)	(2.3477)**	(0.5396)	(1.9252)*	-1.3378
East Asia and Pacific (Dummy)							0.02	0.017	0.003	-0.032	0.002	-0.034
							(2.0135)**	(2.7598)***	(0.5560)	(0.7812)	(0.0745)	(1.5784)
Europe and Central Asia (Dummy)							0.02	0.008	0.011	-0.035	-0.03	-0.005
							(2.7417)***	(1.8632)*	(3.0802)***	(1.1768)	(1.5856)	(0.2921)
Middle East & North Africa (Dummy)							0.007	0.013	-0.006	-0.114	-0.04	-0.075
							(0.7401)	(2.2562)**	-1.3183	(3.1204)***	(1.6864)*	(3.8674)***
South Asia (Dummy)							0.001	0.001	0.000	-0.056	-0.028	-0.028
							(0.0439)	(0.0806)	(0.0130)	(0.7843)	(0.6161)	(0.7360)
Africa (Dummy)							0.019	0.018	0.001	-0.055	-0.011	-0.044
							(2.1605)**	(3.2262)***	-0.2717	(1.5368)	(0.4593)	(2.3607)**
Latin America (Dummy)	-0.017	-0.012	-0.005	0.062	0.029	0.033						
	(2.7853)***	(3.0829)***	(1.5045)	(2.4249)**	(1.7661)*	(2.3454)**						
Constant	0.101	-0.064	0.165	-0.52	-0.895	0.375	0.09	-0.124	0.214	-0.359	-0.951	0.592
	(0.4917)	(0.4924)	(1.4644)	(0.6146)	(1.6630)	(0.7994)	(0.3997)	(0.8763)	(1.8565)*	(0.3871)	(1.5907)	-1.2172
Observations	770	770	770	770	770	770	770	770	770	770	770	770
Number of countries	83	83	83	83	83	83	83	83	83	83	83	83
R-squared	0.29	0.17	0.34	0.16	0.10	0.25	0.31	0.22	0.45	0.20	0.12	0.36

Absolute value of t statistics in parentheses

* significant at 10% ; ** significant at 5% ; *** significant at 1%

Note:

Between estimators

Table 11. Social Expenditures and Debt Stock in Latin America[1]

	Social expenditure (share of GDP)		Social expenditure (share of primary expenditures)		Social expenditure (share of GDP)[3]	
Independent Variables	1	2	3	4	5	6
Social expenditure (share of GDP, lagged)	0.3540	0.2515			0.4057	-0.0140
	(6.1239)***	(4.6480)***			(4.4787)***	(0.1079)
Social expenditure (share of primary expenditures, lagged)			0.2499	0.1794		
			(4.4945)***	(3.3975)***		
Public debt (share of GDP, lagged)	-0.0109	-0.0137	-0.0280	-0.0499		
	(2.4672)**	(3.4030)***	(1.4730)	(2.7447)***		
Debt service (share of GDP)		0.0851		0.2104		
		(2.6224)***		(1.5953)		
Primary expenditure (share of GDP)		0.1294		-0.4213		
		(8.1281)***		(5.6564)***		
Total Revenues (share of GDP)		0.0310		0.0345		
		(1.7814)*		(0.4338)		
Latin America						
Public debt (share of GDP, lagged)	-0.0286	0.0024	0.0325	0.0180	-0.0290	-0.0243
	(2.6018)***	(0.2057)	(0.6201)	(0.3340)	(4.3990)***	(1.3287)
Debt service (share of GDP)		-0.3105		-0.8930		0.0233
		(4.1523)***		(2.9948)***		(0.1792)
Primary expenditure (share of GDP)		-0.0084		-0.7699		0.3541
		(0.1486)		(3.1985)***		(3.4722)***
Total Revenues (share of GDP)		-0.0042		0.1665		0.0199
		(0.0817)		(0.7182)		(0.2156)
Constant	0.0007	0.0005	0.0024	0.0026	0.0018	0.0021
	(3.7053)***	(2.8330)***	(3.0145)***	(3.1764)***	(4.4191)***	(2.7687)***
Observations	387	325	314	314	159	99
Number of countries	57	50	48	48	15	13

Absolute value of z statistics in parentheses

* significant at 10% ; ** significant at 5% ; *** significant at 1%

Notes: All regressions include as controls GDP pc and (GDP pc)^2

1 All estimations are Arellano Bond in first differences.

2 Estimations based on ECLAC database of social expenditure.

Table 12. Education Expenditure, Health Expenditure and Debt Stock in Latin America[1]

	Education expenditure (share of GDP)		Health expenditure (share of GDP)		Education expenditure (share of primary expenditures)		Health expenditure (share of primary expenditures)	
Independent Variables	1	2	3	4	5	6	7	8
Education expenditure (share of GDP, lagged)	0.3884	0.3347						
	(6.5560)***	(6.2374)***						
Health expenditure (share of GDP, lagged)			0.4126	0.2879				
			(5.6737)***	(4.0396)***				
Education expenditure (share of primary expenditures, lagged)					0.1981	0.1574		
					(3.4153)***	(2.8690)***		
Health expenditure (share of primary expenditures, lagged)							0.3062	0.1981
							(4.6930)***	(3.1070)***
Public debt (share of GDP, lagged)	-0.0111	-0.0108	-0.0045	-0.0049	-0.0161	-0.0339	-0.0119	-0.0246
	(3.5930)***	(3.7149)***	(2.1320)**	(2.4781)**	(1.2274)	(2.6135)***	(1.3472)	(2.8481)***
Debt service (share of GDP)		0.0372		0.0469		-0.0110		0.2541
		(1.6611)*		(2.9340)***		(0.1192)		(3.7718)***
Primary expenditure (share of GDP)		0.0828		0.0343		-0.3478		-0.1571
		(6.2793)***		(3.9001)***		(6.0275)***		(4.0700)***
Total Revenues (share of GDP)		0.0112		0.0064		0.0038		0.0405
		(0.7618)		(0.6354)		(0.0596)		(0.9273)
Latin America								
Public debt (share of GDP, lagged)	0.0075	0.0173	-0.0133	-0.0015	0.0347	0.0133	-0.0055	-0.0025
	(0.8378)	(1.9197)*	(2.3332)**	(0.2643)	(0.9354)	(0.3339)	(0.2344)	(0.0989)
Debt service (share of GDP)		-0.1309		-0.1319		-0.3788		-0.4368
		(2.6482)***		(3.8618)***		(1.8278)*		(3.1330)***
Primary expenditure (share of GDP)		-0.0503		0.0214		-0.5546		-0.1875
		(1.1892)		(0.7614)		(2.9787)***		(1.6474)*
Total Revenues (share of GDP)		0.0182		0.0128		0.1923		0.0007
		(0.4353)		(0.4664)		(1.0262)		(0.0055)
Constant	0.0008	0.0007	0.0002	0.0001	0.0017	0.0030	0.0005	0.0003
	(5.4104)***	(4.1113)***	(1.8917)*	(1.2881)	(2.4731)**	(3.8784)***	(1.1586)	(0.5587)
Observations	275	275	275	275	275	275	275	275
Number of countries	45	45	45	45	45	45	45	45

Absolute value of z statistics in parentheses

* significant at 10% ; ** significant at 5% ; *** significant at 1%

Notes: All regressions include as controls GDP pc and $(GDP\ pc)^2$

1 All estimations are Arellano Bond in first differences.

Table 13. Social Expenditure and Debt Stock by Lender in Latin America[1]

	Social expenditure (share of GDP)				Social expenditure (share of primary expenditures)			
Independent Variables	1	2	3	4	5	6	7	8
Social expenditure (share of GDP, lagged)	0.4543	0.3507	0.4666	0.3520				
	(7.6198)***	(6.1649)***	(7.8463)***	(6.1937)***				
Social expenditure (share of primary expenditures, lagged)					0.4393	0.3419	0.4382	0.3525
					(6.9708)***	(5.6531)***	(6.7745)***	(5.5994)***
Public debt (share of GDP, lagged)	-0.0134	-0.0187	-0.0155	-0.0198	-0.0567	-0.0722	-0.0513	-0.0693
	(2.7981)***	(4.2319)***	(3.1934)***	(4.4565)***	(2.6084)***	(3.4572)***	(2.3348)**	(3.2607)***
Official debt (share of GDP, lagged)	-0.0023	0.0015			-0.0042	0.0002		
	(0.4485)	(0.3301)			(0.1893)	(0.0084)		
Multilateral debt (share of GDP, lagged)			-0.0230	-0.0132			-0.0074	-0.0256
			(2.1453)**	(1.3466)			(0.1608)	(0.5757)
Bilateral debt (share of GDP, lagged)			0.0123	0.0131			-0.0115	0.0089
			(1.3764)	(1.6121)			(0.2939)	(0.2377)
IMF debt (share of GDP, lagged)			-0.1228	-0.1740			-0.8918	-0.9208
			(0.9729)	(1.4114)			(1.6136)	(1.6516)*
Debt service (share of GDP)		0.0803		0.0748		0.2279		0.2135
		(2.6523)***		(2.4202)**		(1.6813)*		(1.5178)
Primary expenditure (share of GDP)		0.0863		0.0867		-0.4039		-0.4257
		(4.4521)***		(4.4814)***		(4.5736)***		(4.6695)***
Total Revenues (share of GDP)		0.0356		0.0313		0.1287		0.1204
		(1.5529)		(1.3562)		(1.1865)		(1.0976)
Latin America								
Public debt (share of GDP, lagged)	-0.0111	0.0124	-0.0041	0.0359	0.0281	0.0353	0.0685	0.0451
	(0.8941)	(0.9970)	(0.3037)	(2.3976)**	(0.4912)	(0.5916)	(1.1057)	(0.6337)
Official debt (share of GDP, lagged)	0.0156	0.0075			0.1353	-0.0267		
	(0.9312)	(0.4355)			(2.0296)**	(0.3817)		
Multilateral debt (share of GDP, lagged)			0.0349	0.0048			0.1049	0.1538
			(0.9337)	(0.1333)			(0.5904)	(0.8895)
Bilateral debt (share of GDP, lagged)			0.0098	0.0460			0.2494	0.0005
			(0.3839)	(1.6348)			(2.4963)**	(0.0048)
IMF debt (share of GDP, lagged)			0.0363	0.0153			-0.0013	0.0627
			(1.0248)	(0.4861)			(0.0084)	(0.4212)
Debt service (share of GDP)		-0.2290		-0.2493		-0.9562		-0.8910
		(2.9511)***		(3.2351)***		(2.9601)***		(2.7172)***
Primary expenditure (share of GDP)		-0.0229		0.0726		-0.6386		-0.4866
		(0.3467)		(0.9453)		(2.2954)**		(1.4909)
Total Revenues (share of GDP)		-0.0497		-0.0530		-0.3688		-0.4686
		(0.8641)		(0.8740)		(1.3443)		(1.6079)
Constant	0.0010	0.0008	0.0012	0.0009	0.0019	0.0011	0.0017	0.0009
	(4.5315)***	(3.4362)***	(5.0427)***	(3.7576)***	(1.8021)*	(0.9947)	(1.6048)	(0.7868)
Observations	244	244	244	244	244	244	244	244
Number of countries	40	40	40	40	40	40	40	40

Absolute value of z statistics in parentheses

* significant at 10% ; ** significant at 5% ; *** significant at 1%

Notes: All regressions include as controls GDP pc and $(\text{GDP pc})^2$

1 All estimations are Arellano Bond in first differences.

Table 14. Social Expenditures, Default and Debt Stock in Latin America[1]

	Social expenditure (share of GDP)				Social expenditure (share of primary expenditures)			
Independent Variables	1	2	3	4	5	6	7	8
Social expenditure (share of GDP, lagged)	0.352	0.2454	0.4394	0.3425				
	(5.8897)***	(4.4150)***	(7.0793)***	(5.9507)***				
Social expenditure (share of primary expenditures, lagged)					0.1857	0.1477	0.1897	0.1494
					(3.2542)***	(2.7414)***	(3.3166)***	(2.7545)***
Public debt (share of GDP, lagged)	-0.0158	-0.0164	-0.0195	-0.021	-0.0108	-0.0411	-0.0205	-0.0456
	(2.9211)***	(3.5079)***	(3.8073)***	(4.4486)***	(0.4883)	(1.9069)*	(0.8706)	(1.9935)**
Official public debt (share of GDP, lagged)			-0.0122	-0.0042			0.0227	0.0033
			(2.4569)**	(0.9260)			(1.0208)	(0.1535)
Debt service (share of GDP)		0.0799		0.0683		0.1586		0.2001
		(2.4795)**		(2.1669)**		(1.2089)		(1.4836)
Primary expenditure (share of GDP)		0.132		0.1002		-0.475		-0.477
		(8.3598)***		(6.0943)***		(5.8704)***		(5.7920)***
Total Revenues (share of GDP)		0.0361		0.024		0.1047		0.087
		(2.0767)**		(1.2234)		(1.1171)		(0.9153)
Default (Dummy)	0.001	0.0035	-0.0118	-0.0032	0.0531	0.0475	0.0724	0.0534
	(0.3706)	(0.7652)	(1.8939)*	(0.5557)	(2.5943)***	(2.4225)**	(2.6893)***	(2.0520)**
Default*Public debt	0.0083	0.0043	0.0207	0.0137	-0.0666	-0.049	-0.0698	-0.0422
	(1.4345)	(0.5483)	(2.4984)**	(1.8194)*	(1.8635)*	(1.4389)	(1.9012)*	(1.1981)
Default*No official public debt			0.0101	0.0045			-0.0261	-0.0153
			(1.6977)*	(0.8433)			(1.0130)	(0.6293)
Latin America								
Public debt (share of GDP, lagged)	-0.0267	-0.0019	-0.0008	0.0174	-0.0659	-0.0335	-0.0161	-0.0132
	(2.2995)**	(0.1485)	(0.0671)	(1.4359)	(1.1624)	(0.5786)	(0.2800)	(0.2223)
No official public debt (share of GDP, lagged)			-0.0121	-0.0161			-0.0972	-0.1472
			(0.6696)	(0.9160)			(1.3866)	(2.1229)**
Debt service (share of GDP)		-0.3063		-0.214		-0.7517		-0.8198
		(4.0948)***		(2.7171)***		(2.5431)**		(2.4333)**
Primary expenditure (share of GDP)		0.0268		0.0772		-0.4505		-0.5484
		(0.4711)		(1.2389)		(1.7056)*		(1.9369)*
Total Revenues (share of GDP)		-0.0385		0.0611		0.0027		0.134
		(0.7373)		(1.1037)		(0.0103)		(0.5049)
Default (Dummy)	-0.0015	-0.0025	0.0277	0.0129	-0.1241	-0.1031	-0.144	-0.1087
	(0.2041)	(0.2831)	(2.2557)**	(1.1391)	(3.0842)***	(2.6967)***	(2.7016)***	(2.1185)**
Default*Public debt	0.0049	0.0137	-0.0221	-0.016	0.2405	0.1786	0.1153	0.1239
	(0.3173)	(0.9616)	(1.3298)	(1.0602)	(3.5514)***	(2.8230)***	(1.4896)	(1.7291)*
Default*official public debt			0.0051	0.0173			0.1223	0.0697
			(0.5598)	(1.9879)**			(3.1858)***	(1.8473)*
Constant	0.0008	0.0007	0.0013	0.0011	0.0034	0.0035	0.0037	0.0038
	(4.0164)***	(3.6707)***	(5.7076)***	(4.7981)***	(3.3270)***	(3.2489)***	(3.4784)***	(3.3692)***
Observations	387	325	286	286	275	275	275	275
Number of countries	57	50	47	47	45	45	45	45

Absolute value of z statistics in parentheses

* significant at 10% ; ** significant at 5% ; *** significant at 1%

Notes: All regressions include as controls GDP pc and (GDP pc)^2

1 All estimations are Arellano Bond in first differences.

Table Appendix 1
Countries

East Asia and Pacific	Europe and Central Asia	Latin America	Middle East & North Africa	Africa	South Asia
China	Albania	Argentina	Algeria	Angola	Bangladesh
Fiji	Armenia	Bahamas	Bahrain	Benin	Bhutan
Indonesia	Azerbaijan	Barbados	Egypt	Botswana	India
Kiribati	Belarus	Belize	Iran	Burkina Faso	Maldives
Korea	Bosnia & Herzegovina	Bolivia	Jordan	Burundi	Nepal
Laos	Bulgaria	Brazil	Kuwait	Cameroon	Sri lanka
Malaysia	Croatia	Chile	Lebanon	Cape Verde	
Mongolia	Cyprus	Colombia	Libya	Central African Rep.	
Myanmar	Czech Republic	CostaRica	Morocco	Chad	
Papua N.G.	Estonia	Dominica	Oman	Comoros	
Philippines	Georgia	Dominican Republic	Qatar	Congo	
Samoa	Hungary	Ecuador	Saudi Arabia	Congo	
Solomon Isl.	Kazakhstan	El Salvador	Syrian Arab Republic	Cote d'Ivoire	
Thailand	Kyrgyz Republic	Grenada	Tunisia	Djibouti	
Tonga	Latvia	Guatemala	United Arab Emirates	Equatorial Guinea	
Vanuatu	Lithuania	Guyana	Yemen	Eritrea	
Vietnam	Macedonia	Honduras		Ethiopia	
	Moldova	Jamaica		Gabon	
	Poland	Mexico		Gambia	
	Romania	Netherlands Antilles		Ghana	
	Russia	Nicaragua		Guinea	
	Slovak Republic	Panama		Guinea-Bissau	
	Tajikistan	Paraguay		Kenya	
	Turkey	Peru		Lesotho	
	Turkmenistan	St. Kitts and Nevis		Liberia	
	Ukraine	St. Lucia		Madagascar	
	Uzbekistan	St. Vincent & Grens.		Malawi	
		Suriname		Mali	
		Trinidad and Tobago		Mauritania	
		Uruguay		Mauritius	
		Venezuela		Mozambique	
				Namibia	
				Niger	
				Nigeria	
				Rwanda	
				Sao Tome & Principe	
				Senegal	
				Seychelles	
				Sierra Leone	
				South Africa	
				Swaziland	
				Tanzania	
				Togo	
				Uganda	
				Zambia	
				Zimbabwe	