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Revenue and Expenditure Gaps and Fiscal Consolidation: a Cross-Country Analysis

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Revenue and Expenditure Gaps and Fiscal Consolidation: a Cross-Country AnalysisPrepared by **Jose L. Torres**Authorized for distribution by **Preliminary Draft (please do not quote)****This Working Paper should not be reported as representing the views of the IMF.**

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Abstract

Several governments still need to adjust their fiscal balance after the Great Recession. In this paper, I construct a novel dataset to estimate the revenue potential and expenditure cutting space for a cross-section of 150 countries, and decompose their fiscal capacity into specific taxes and spending categories. Then, I compare the estimated fiscal potential with the consolidation required to stabilize the debt ratio, and classify countries into one of three groups: (i) countries that do not need further fiscal consolidation; (ii) countries that seem to have enough fiscal capacity to stabilize their debt ratio; and finally (iii) countries that do not appear to have enough fiscal potential and thus will need to implement major reforms.

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I. INTRODUCTION

Many governments require additional fiscal space either to meet development goals, improve infrastructure, increase human capital, or adjust their fiscal balance. However, some countries might not be able to meet their requirements given their fundamentals. In this paper I calculate the fiscal consolidation potential for a cross-section of 150 countries and compare it to the fiscal adjustment required to stabilize their debt-to-GDP ratios. Moreover, I decompose the estimated fiscal potential into specific taxes and spending categories.

I compute each country's additional revenue capacity and expenditure cutting space, as the difference between observed and expected revenues and expenditures (as a share of GDP), taking into account the country's economic and demographic characteristics. To have reasonable benchmarks, I first estimate the determinants of government's revenues and expenditures, and then compute the expected values from these equations. The capacity for fiscal consolidation is estimated as the sum of the expected additional revenues and expenditure cuts that are feasible given the country's characteristics.

Therefore, by construction, the expected revenues and expenditures are simply the conditional averages of the observed values in the sample, and do not correspond to the maximum possible revenues (which would require a Laffer-curve-type of analysis) or the minimum possible expenditures (which entails some political economy considerations). Thus, the fitted values may be understood as the expected revenues and expenditures for a given country, if its fiscal effort was the same as that of others with similar fundamentals.

This implies that the estimated fiscal potential could be underestimated if countries are willing to undertake unprecedented efforts in the wake of a crisis, as the recent experience in Ireland, Spain and Portugal has shown. However, this also means that these indicators are also more realistic and likely to occur, given the political constraints of fiscal policy, as the current situation in the United States and Japan attests.

Previous works have conducted this type of analysis for the revenue side, using the IMF's Government Financial Statistics (GFS) database, which contains information from 1980 for about 120 countries. Unfortunately, GFS only has a complete decomposition of fiscal revenues and expenditures for a few countries. As a result, previous papers have only estimated revenue potential for a reduced number of countries, and more importantly, have not been able to decompose the estimated revenue potential into specific policy instruments (taxes). Moreover, I am not aware of recent works that have attempted to estimate the expenditure cutting space, which is an important part of the fiscal consolidation plans currently implemented by various Euro Area governments.

To overcome these limitations, I construct a novel dataset based on the IMF's Country Reports (Article IV consultations and revisions to ongoing programs). The dataset contains a complete decomposition of the government's revenues and expenditures in 2012 (as a share of GDP) for 164 countries. Revenues are decomposed into seven sub-categories: (1) *taxes on personal income and profits*, (2) *other taxes*, (3) *payroll taxes*, (4) *taxes on consumption*, (5) *taxes on international trade*, (6) *grants*, and (7) *other non-tax revenues*. Expenditures are decomposed

into five sub-categories: (1) *compensation of employees*, (2) *purchase of goods and services*, (3) *interest payments*, (4) *social benefits*, and (5) *net acquisition of nonfinancial assets*¹.

I estimate the determinants of total revenues and expenditures and of each of the sub-categories. I find that the government's revenues and expenditures can be reasonably explained by variables that broadly fall into three classes: (i) measures of the country's stage of development, (ii) demographic characteristics; and (iii) indicators of the economic structure of the country. In particular, although the explanatory variables vary for each of the sub-categories, I find that countries with a higher level of development, elevated dependency ratios, and a larger share of net oil and gas exports, tend to have higher revenues and expenditures. Moreover, compared to the rest of the world, European countries have higher revenues from *payroll* and from *consumption* taxes, African countries from *taxes to trade* and Middle Eastern countries from *non-tax revenues*. While European and Middle Eastern countries have higher *social* expenditures than in the rest of the world. However, in the former they are mostly explained by pension benefits and in the latter by subsidies (i.e. food, energy).

To compute the fiscal adjustment needed to stabilize the debt-to-GDP ratio I make two assumptions. First, that potential growth is equal to the predicted GDP growth for 2017 by IMF country economists for the World Economic Outlook (WEO)². Second, that the long-run interest rate equals the rate implied in the predicted country's debt service for 2017 in WEO (which is a weighted average of the predicted rates of all concessional and non-concessional loans of all maturities). These two assumptions are intended to minimize the short run (cyclical) considerations that persist in many countries after the Great Recession, where GDP growth rates continue to be subdued and policy interest rates remain at historical lows.

Since revenues from grants, non-tax sources, and taxes to international trade are not easily modifiable, the additional revenue capacity is estimated as the sum of the additional revenue capacity from personal income and profit taxes, property taxes, consumption taxes, and payroll taxes. Similarly, the expenditure cutting space is computed as the sum of the cutting space in wages, purchase of goods and services, and social expenditures, since the interest bill and public investment might not be easily modifiable.

From the comparison of estimated fiscal capacity with fiscal adjustment needs, I conclude that countries in the sample can be classified into three categories. In the first are those that do not need a fiscal adjustment to stabilize their debt (e.g. Germany, Philippines, Saudi Arabia, Zimbabwe, and Chile). In the second are those that apparently have enough additional fiscal capacity to stabilize their debt (e.g. the United States, France, Lebanon, Japan, Egypt, and Afghanistan). In the third are those that do not seem to have sufficient fiscal potential and thus

¹ These categories correspond to the so-called economic classification of expenditures, as opposed to the functional classification of expenditures: defense, education, health, social security and housing, economic services, other government services, and interests. The economic classification is preferred in this document due to data availability as it is typically employed in IMF country documents.

² WEO includes forecasts for up to five years in the future.

will need to undertake large structural reforms and/or implement extraordinary fiscal efforts (e.g. the United Kingdom, Spain, Ghana, and the Dominican Republic).

II. DATA

Previous works have estimated the determinants of government's revenue performance (as a share of GDP) applying panel data techniques to the IMF's GFS database. For example, Pesino and Fenochietto (2010) use data from 1991 to 2006 to estimate the tax capacity of 96 countries. Baunsgaard and Keen (2010) employ data for 117 countries from 1975 to 2006 to address whether countries eventually recover the revenues lost from trade liberalization reforms. Gupta et. al. (2012) utilize data for 118 countries from 1980 to 2009 to conclude that foreign grants displace domestic tax revenues as opposed to concessional loans.

However, even though they have been widely used, GFS statistics have important problems. The decomposition of the revenues and expenditures is often missing. Moreover, the reported values are commonly mistaken, as they differ markedly from those reported by the IMF's economists and published in WEO³. As a result, previous papers have focused on aggregate revenues, and thus have not been decomposed the estimated revenue potential into specific policy instruments (taxes). Furthermore, apart from Tait and Heller (1982), there have not been recent estimates of the expenditure cutting space, although spending reductions are the cornerstone of most European consolidation plans currently implemented⁴.

To overcome these limitations I construct a new database based on the IMF's Country Reports (see further details in the appendix) where I decompose for 164 countries the government's total revenues and expenditures in 2012 (as a share of GDP). The list of countries included in the dataset is presented in Table 1.1. Unfortunately, 74 of the countries in the sample (presented in Table 1.2) only report fiscal statistics for the central government. Furthermore, some only report their fiscal statistics on a cash basis. Whereas, more developed countries provide statistics for the consolidated general government and in an accrual basis (although the degree of coverage of the general government also varies significantly across countries). Previous papers solve this problem by excluding the information from countries whose statistics are reported on a cash basis or from those that only cover the central government, which implies restricting the analysis to a small sample of advanced countries. Other papers only take the information from

³ Since the country reports result from detailed discussions between IMF's staff and country authorities they are more reliable. For further discussion see Baunsgaard and Keen (2010).

⁴ Although a significant amount of papers estimate the scope for expenditure cuts based on efficiency considerations (using either stochastic frontier analysis or data programming methods). For example, Afonso et. al. (2005) compute potential expenditure savings for 23 industrialized countries based on a public performance indicator that averages the outcomes of what they consider to be the objectives of the government (income distribution, stability of GDP growth, inflation, GDP per capita, GDP growth, unemployment rate, enrollment rates in secondary school, educational attainment as measured by the math and science scores in the PISA report, infant mortality, life expectancy, and quality of the infrastructure). They compute the expected savings in public expenditures as the distance to the minimum spending that could produce the same level of output (same level of the performance indicator), if the country reduced its inefficiencies and attained the estimated production possibility frontier.

the central government for all countries. However, this offers an incomplete analysis of the fiscal position in many countries (especially in the ones that are highly decentralized).

In this paper, I prefer to include the available information for each country (cash or accrual, general government or central government) and attempt to limit the effect of this limitation on the analysis in two ways: first, by using a dummy variable for those countries that only report statistics for the central government as a candidate explanatory variable for the government's revenues and expenditures, and second by repeating the analysis with a restricted sample that only includes the richest countries in the sample. The results suggest that the problems with the fiscal statistics (coverage and accounting methodology) are not that important for the analysis, since the dummy variable is never significant in any of the revenue or expenditure regressions (possibly because it is correlated with the country's level of development), and also because the estimated revenue potential and expenditure cutting space are quite similar when using the complete or restricted sample.

For each country in the dataset, revenues are decomposed into seven sub-categories: (1) *taxes on personal income and profits*, (2) *other taxes*, (3) *payroll taxes*, (4) *taxes on consumption*, (5) *taxes on international trade*, (6) *grants*, and (7) *other non-tax revenues*. The first sub-category pools together personal and corporate income taxes because only in advanced and emerging economies a complete decomposition of these taxes is available. The second sub-category includes revenues from property taxes, stamp taxes, taxes to financial transactions, and any other unexplained tax revenues. The sub-category of other revenues includes royalties, proceeds from capital income (interest and dividends), and the sale of goods and services. To aid the comparison across countries, the corporate tax revenues directly related to natural resources were reclassified in the dataset as *non-tax revenues*⁵.

To ease the comparisons across countries, these are further classified into one of the four income categories from the World Bank (based on the gross national income per capita in usd in 2011 according to the Atlas method, which takes five year averages of the exchange rate to avoid excessive fluctuations in the indicator). The observed revenues for each sub-category (as a share of GDP) are presented in Tables 2.1 through 2.4 depending on the country's income level.

Expenditures are decomposed into five sub-categories: (1) *compensation of employees*, (2) *purchase of goods and services*, (3) *interest payments*, (4) *social benefits*, and (5) *net acquisition of nonfinancial assets*. The first sub-category includes all wages and salaries paid to public employees including social security contributions made by the employer. The fourth sub-category pools together social security benefits, grants, subsidies, and other unexplained expenditures, because in most countries the information for each of these sub-components is not available. The last sub-category comprises net public investment (excludes depreciation costs). The observed expenditures for each sub-category in 2012 (as a share of GDP) are presented in Tables 3.1 through 3.4 depending on the country's income level.

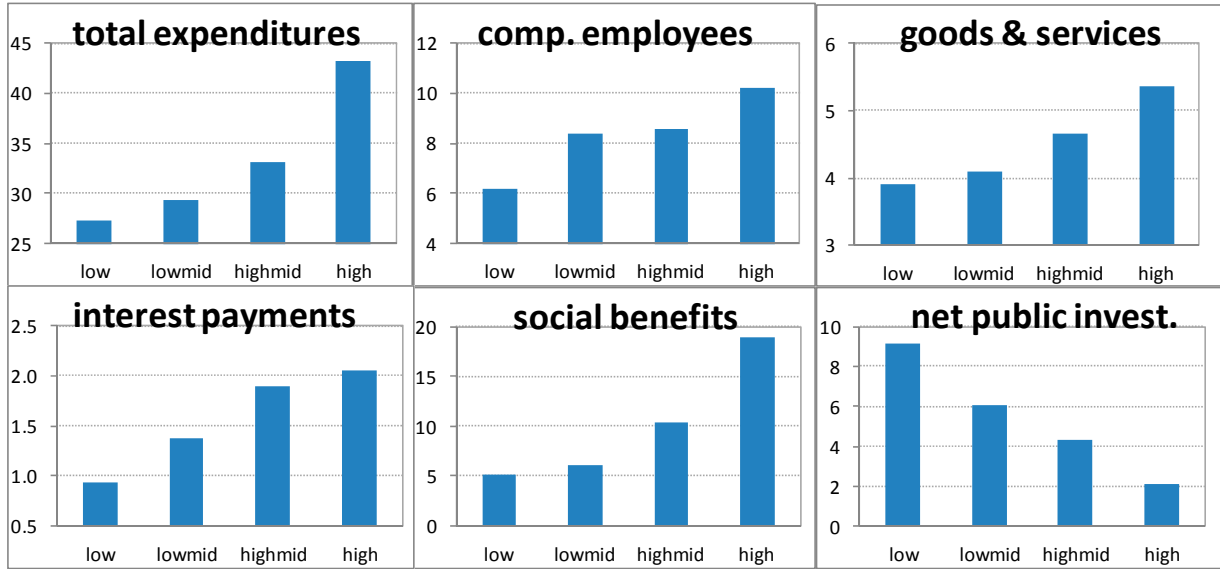
⁵ Some previous works simply exclude from their analysis resource-rich countries.

The medians, by income level, for each of the revenue and spending sub-categories are presented in Figures 1 and 2. It can be readily observed that countries with a higher income level also have higher revenues and expenditures. The higher revenues are explained by higher income taxes, payroll taxes, other taxes, consumption taxes, and from higher non-tax revenues. Although, as countries become richer, they receive fewer revenues from taxes to international trade (lower tariffs). Poorer countries do not have taxes to payroll, since in general they do not have a social security system in place. Richer countries do not receive grants, except from some eastern European countries that receive funds from the EU.

The higher expenditures are explained by a higher wage bill, more spending in interest payments, consumption of goods and services, and social benefits. The net public investment falls as countries become richer, which might reflect the fact that rich countries already have a large stock of public capital (and thus the marginal product of public capital is smaller) or that in these countries the private sector is willing to execute some of the necessary investments (through public-private partnerships).

Figure 1: Median revenues by income level (percent of GDP)



Figure 2: Median expenditures by income level (percent of GDP)

Unfortunately, the complete decomposition of revenues and expenditures available in this dataset comes at a price, since the sample does not include the time dimension covered in GFS statistics. If the time dimension were available it would be possible to control for country and time invariant unobserved effects, and the estimations would be more efficient. However, as explained above, working with GFS would imply that the decomposition of estimated revenue potential and expenditure cutting space, into specific taxes or spending categories, would be either not possible or unreliable. Moreover, for the purpose of this document, the lack of dynamics is not crucial. Hence, in this paper I estimate the relationship between government revenues and expenditures with a set of economic and demographic variables, using a separate equation for total revenues and expenditures, and for each of the seven revenue and five expenditure sub-categories. The additional revenue potential and expenditure cutting space is estimated only for 150 countries because of missing information on one or more of the explanatory variables used in the estimated equations.

III. ESTIMATION

Data for the control variables is taken from the IMF, CIA, World Bank, and United Nations (see further details in the appendix). To avoid endogeneity issues, the control variables correspond to 2011 or earlier, depending on data availability. The explanatory variables in the regressions vary and were selected using a *stepwise* procedure. This means that for each dependent variable, I first run all the possible regressions using just one explanatory variable from the set of candidate explanatory variables. Among these, I select the regression with the highest explanatory power (adjusted R-squared). In the next step, I run all the possible two-variable regressions with the remaining candidate variables (while maintaining the selected explanatory variable from the first round). Again I select the regression with the highest explanatory power and repeat the procedure until the remaining explanatory variables do not have any additional explanatory power. In a given round, if a variable becomes insignificant at the 5 percent level it is deleted from the model. Thus, the selected explanatory variables vary for each of the revenue and

spending sub-categories (although the initial sample of candidate explanatory variables was identical).

A. Revenues

The regressions for the government's total revenue, for each of the sub-categories, and for the *modifiable* component of revenues (which excludes the proceeds from taxes to international trade, grants and non-tax revenues) are presented in Tables 5.1 and 5.2. I find that more developed countries, measured by the gross national income per capita, have higher revenues (as a share of GDP). This might occur mechanically because in more developed countries: (i) the tax base is larger, (ii) the tax administration is more effective in implementing the tax code, (iii) voluntary tax compliance is higher because taxpayers are more educated and there are better institutions (their governments are typically perceived as less corrupt).

However, the higher tax ratios might also be the result of a political choice. Public economic theory suggests that since the demand for public goods is income-elastic (Wagner's law), governments in more developed countries are forced to impose higher effective tax rates to finance the provision of public goods (either via higher nominal rates or less exemptions). The relative importance of these explanations may vary across countries and is beyond the scope of this paper.

The higher revenues (as a share of GDP) in more developed countries are due to higher income taxes, other taxes, and non-tax revenues. As expected, more developed countries receive fewer grants. The level of development is not a significant determinant for payroll taxes and taxes to trade. Interestingly, the results suggest that in more developed countries the revenues from consumption taxes are lower. Since the *modifiable* revenues are higher in more developed countries, this result suggests that more developed countries prefer direct taxes over indirect taxes since the latter are more regressive. An alternative explanation is that although the governments in poor countries also dislike the regressive nature of indirect taxes, since administering a VAT tax is easier and less costly it is their only viable option.

The growth gap is defined as the difference between the observed GDP growth in 2011 and the predicted GDP growth in WEO for 2017. The rationale behind this indicator is that the tax ratio might be affected by cyclical considerations. For example, it might be the case that in 2012 the tax revenues are abnormally low in those countries that are still affected by the consequences of the Great Recession. GDP growth might not be a sufficient indicator, if what matters is how high or low is growth compared to its long-run level. Ideally, one would want to include a measure of the output gap; because after a crisis a country's growth may be high because of purely statistical reasons (a lower base) but the tax revenues may continue to be depressed. However this would imply the use of some kind of statistical filter that would be subject to the end point bias. I find that income taxes and the *modifiable* revenues are higher when growth is above its long run (potential) level.

The old-age dependency ratio measures the proportion of the population with a retirement age as a share of the working age population. Notice that one could argue that if a country has an older population this might decrease the payroll tax base (since a smaller share of the population is working), although it might also be true that older persons are richer which would increase the tax base for a wealth or income tax. However, the old-age ratio is intended to be a proxy for

spending pressures (from age related expenditures such as pensions and health care). The rationale is that people dislike high taxes; however a government might have lower political costs if it can justify a high tax ratio on the basis of elevated spending pressures. More mechanically, for the government's budget constraint to hold, it must be true that countries with higher spending needs have higher revenues. The higher revenues from countries with elevated spending needs are due by to higher income, payroll, and consumption taxes, which result in higher *modifiable* revenues.

Countries with elevated population growth have lower revenues from the income tax, other taxes, and lower *modifiable* revenues. This might occur, if the tax administration cannot keep up with the pace of population growth and thus cannot fully enforce the tax code. Not surprisingly, countries with higher net exports of oil and gas have higher revenues because their non-tax revenues are larger. However, they also have lower revenues from taxes to consumption and international trade. In other words, they can afford lower taxes to consumption and international trade, which are not desirable but necessary in poorer countries. It is also interesting, that the results suggest that in resource rich countries *modifiable* revenues are lower, which implies that the proceeds from the sale of natural resources tend to displace traditional tax revenues sources.

In countries with a higher share of imports to GDP, the tax base for taxes to international trade is larger and thus the revenues from this tax are higher. In countries with a higher political participation (measured by the turnout in the latest national election), the income taxes are higher. This could be explained with a political economy model where the median voter is poorer than the average voter, and thus votes for higher income taxes to increase the redistribution of resources. Naturally, in countries with an outstanding IMF program (presented in Table 4), the government's revenues from grants are higher.

The regressions also include regional dummies (selected with the stepwise procedure) based on the IMF area departments (presented in Table 1.3) to control for region specific characteristics or political preferences. I find that, compared to the rest of the world, countries in the Middle East and Central Asia (MCD) have elevated revenues from non-tax revenues; those in Africa (AFR) and the Antilles receive more revenues from taxes on international trade; and in Europe (EUR) have higher revenues from payroll and consumption taxes, and ultimately have higher *modifiable* revenues.

Some country specific characteristics can make the data from a particular country, in a specific sub-category, very different from the observations of the other countries in the sample. Thus, to avoid any biases in the estimations coming from these outliers, some country specific dummies were also employed. Naturally, this is comparable to dropping that particular observation from the sample, which implies that there is no expected value for this country in this particular sub-category (since the revenue gap will by definition be zero). The country dummies were selected manually on a case by case basis, by analyzing abnormally large deviations from the fitted values of the regression. When a reasonable justification for the deviation was available a country dummy was used (the explanations for the country dummies in the revenue regressions are summarized in Table 5.3).

Denmark requires two dummies because their social security system is financed through income taxes and not with payroll taxes (thus their revenues from income taxes are abnormally elevated

while their payroll taxes are too low). Russia requires two dummies because it charges a tax to the energy exporting companies and thus its taxes from international trade are too high and its non-tax revenues too low. Botswana, Namibia, Lesotho, and Swazilandia require dummies due to their elevated revenues from taxes on international trade from the South African Customs Union (SACU). Solomon Islands, and Burundi, require specific dummies to account for their very large revenues from grants. Finally, Brunei, Iraq, Kuwait, and Saudi Arabia require a dummy because they have exceptionally large revenues from oil and gas, especially because they export a high share of refined products (rather than crude oil).

B. Expenditures

The regressions for the government's total expenditures, for each of the sub-categories, and for the *modifiable* component of spending (which excludes the outlays on interests and net public investment) are presented in Tables 6.1 and 6.2. I find that countries have higher outlays (as a share of GDP) when they have: (i) elevated dependency ratios which result in additional social outlays (from health and pensions), (ii) higher debt ratios as their interest payments escalate (both because the debt service of more debt is costlier but also because the interest rate of the debt tends to increase with the debt ratio), and (iii) when they have larger revenues from oil and gas, which are associated with increases in net public investments and social expenditures (from social security benefits and subsidies).

Most public workers are hired either to provide health, education or security services. But, on average, the education expenditures can explain about $\frac{3}{4}$ of the cross-sectional variance in the wage bill. Yet, taking the countries' education expenditures as an explanatory variable of their spending in wages would imply that all those outlays are justified⁶. However a country may report very high education expenditures that do not reflect better public services but rather a misallocation of resources (as a result of inadequate budgeting practices) or even corruption.

Hence, to provide a more reasonable benchmark, I use the expected years of schooling for children (as reported by the UNESCO) to explain the expenditures in wages. The idea is that if the money is correctly spent, countries with elevated education expenditures should have higher expected years of schooling and this would naturally require higher spending in wages. Ideally one would want to control for the quality of this spending. Since a country might spend more in education than another that has the same expected years of schooling, if it provides a service with a higher quality, either because the teachers are better prepared or simply because there are less students per teacher (similar arguments could be made for the health services or the administration of justice). Moreover, in countries with a high share of private education, the expected years of schooling might be higher with lower public expenses. Unfortunately, none of these additional controls is feasible due to data limitations.

In more developed countries the average wage (as a share of GDP) is higher, even after adjusting for purchasing power. Thus, in more advanced economies providing the same public service might be costlier. Ideally, one would want to include as an explanatory variable, the

⁶ This is the empirical strategy followed by Tait and Heller (1982), where the sub-categories of the functional classification of expenditures are used to explain the sub-categories of the economic classification of expenditures.

number of public employees per country (and naturally some measure of their productivity would also be very useful), to estimate what should be the expected wage bill. However, since this information is not available I use the annual gross minimum wage in USD (as reported by the Doing Business survey of the World Bank) as a proxy for the average cost of hiring a worker. As expected, I find that more developed countries have more elevated wage expenditures (as a share of GDP), since average wages are higher.

Since both the expected years of schooling and the minimum wage are correlated with the level of development, the GNI per capita has no additional explanatory power. It is important to note, that by controlling by the average wage, the estimation is implicitly taking into consideration the quality of the public services (if public workers in more developed countries are more expensive because they are better qualified). In other words, if the quality of the public services in a country is comparable to that of its peers, the estimation strategy remains valid since there is no reason for a particular country to have a higher wage bill.

The *consumption of goods and services* is an accounting category that consists of the cost of all goods used for the production of market and non-market goods and services (such as office supplies, rent, fuel, electricity etc.). On average, countries spend about 5 percentage points (pp) of GDP in this category (14 percent of total expenditures), but in practice it is difficult to associate this spending to a particular public service. Thus, it is hard to tell if a country is spending too much in this particular sub-category. The strategy employed in this paper was to assume that there is some production technology for public services that requires labor and the use of goods and services in some proportions (assuming that labor and materials are at best imperfect substitutes).

Thus, countries that provide more public services require more workers (have a higher wage bill), but also have higher expenditures in goods and services. The problem is that, as explained earlier, a part of the spending in wages and/or in goods and services might simply reflect corruption or a misallocation of resources. Alternatively, it might also be the case that voter's preferences in some particular country dictate that the government should spend more in goods and services than another country to provide a faster or more efficient service. Another problem might be that the technology to provide public services is for some reason not standard, and it might justify why some countries need to spend more than other to provide the same services.

Unfortunately, these considerations are not easy to quantify or prove. Hence, the strategy adopted in this paper was to use the fitted wage expenditures (from the regression model for this sub-category) as an explanatory variable (instrument) for the expected level outlays in goods and services (akin to 2SLS). As expected, I find that in countries where the government has higher labor expenditures it also has higher outlays in goods and services, and also that in more densely populated countries it is cheaper to provide the same service (the government needs to spend less in goods and services).

Social spending is higher (as a share of GDP) in more developed countries (higher GNI per capita), with higher dependency ratios, and with elevated commodity related revenues. It is important to notice that the stage of development serves as a proxy for different aspects of the social programs that cannot be controlled due to data availability problems. For example, in more advanced countries, the social security system tends to be more generous and cover a

higher proportion of the population (moreover in poorer countries, typically there are no social security schemes in place). In some countries, the high social expenditures might simply reflect poorly designed subsidies and transfers that could have a higher impact at a lower cost if properly targeted.

As mentioned above, in countries with higher debt ratios the interest expenditures are larger. Net public investment is more elevated in countries: (i) with higher growth, (ii) with larger revenues from oil and gas, and (iii) that receive larger grants (as they are commonly attached to a specific use or project). This suggests that most countries are cashed constrained and thus they invest more in good times (thus net public investment appears to be highly pro-cyclical and not the result of medium-term planning). This may be explained by the fact that for most countries the access to international capital markets is quite restricted and even erratic. Finally, a higher ranking in the Doing Business survey is also associated with higher net public investments.

The spending regressions also include some region specific dummies (selected with the stepwise procedure). I find that, compared to the world, Middle Eastern (MCD) and European (EUR) countries tend to have higher social expenditures; although, as mentioned before, these outlays are mainly explained by pension benefits in the latter and by subsidies in the former. As explained before, some country-specific characteristics can make the data from a particular country, in a specific sub-category, very different from the observations for the rest of the countries in the sample. Thus, to avoid any biases from the inclusion of these outliers, the expenditure regressions also include some country specific dummies (in which case there is no estimation of the expenditure gap for this country for this particular sub-category, as the estimated gap would be zero by definition). The explanations for the country dummies in the expenditure regressions are summarized in Table 6.3.

Since Lesotho and Swaziland have high revenues from the SACU, and Iraq and Libya have high revenues from energy related sales, dummies are needed to explain their exceptionally large expenditures. Japan needs a dummy due to the exceptionally low interest payments given its astounding gross debt ratio (although part of the explanation lies in the fact that the net debt is much lower and that most of its debt is domestically held). On the contrary, Jamaica needs a country dummy for quite opposite reasons, because although it has a moderate debt ratio, its debt service is exceptionally high since the country has a history of repeated debt restructurings (in 2013 they had their second restructuring in three years). Afghanistan requires a dummy because a sizable part of the grants it receives are spent in security (and not invested in infrastructure as in other countries).

IV. RESULTS

A. Fiscal gaps

Based on the above regressions, Tables 7.1 through 7.4 present revenue gaps (as a share of GDP), defined as the difference between observed and fitted values from the regressions⁷. A

⁷ Previous works, present their results in terms of an “effort index” computed as the **ratio** between observed and expected values. In this paper I present the results in terms of gaps (as a share of GDP), first because the gaps are easier to understand, but more importantly to make the estimated fiscal consolidation capacity comparable to the

(continued...)

negative revenue gap indicates that the observed revenues (as a share of GDP) from that particular sub-category are below what would be expected, taking into account the countries' idiosyncrasies, and thus it might have some revenue raising potential. I find that Switzerland, Latvia, and Bulgaria could potentially increase their revenues by about 10 pp of GDP. Netherlands, Lebanon, and Macedonia could augment their income tax revenues by around 4 pp of GDP. Bulgaria, Sweden, and the United Kingdom could raise their payroll tax revenues by about 6 pp of GDP. Japan, Spain, and Italy could augment their revenues from consumption taxes by about 5 pp of GDP.

However, although interesting as they reflect countries' particular political preferences, it is important to focus on the overall picture and not overly fixate on particular sub-categories. For example, a given country may have low income taxes that are compensated by high revenues from consumption taxes. On the aggregate one may argue the tax ratio is adequate. Even if the composition might be questionable on the grounds of the distributional aspects of the tax system. Moreover, the composition might even be efficient, since consumption taxes are less distortionary than income taxes. But it would certainly be mistaken to argue that this particular country should simply increase their income taxes because they are low, compared to its peers, while ignoring the fact that consumption taxes are higher than expected.

To address these aggregation issues, the gap of the *modifiable* part of revenues is computed in two ways. First, from the regression for this particular sub-category (labeled as the *aggregate* estimate in the tables), and then as the sum of the revenue gaps from each of its sub-components (*parts* estimate)⁸. In this way it is possible to obtain an interval to gauge how precise the revenue gap estimates are. For 16 countries only the aggregate measure is available, either because some explanatory variables for one or more of the revenue sub-category was unavailable or because a country dummy was employed in one or more of the sub-categories. The median size of the interval between the two measures is about 1 pp of GDP and the correlation between the two measures is around 93 percent.

The expenditure gaps are presented in Tables 8.1 through 8.4. A positive expenditure gap means that the country is spending more than expected in that particular sub-category given its characteristics, and thus it might have some cutting space. I find that Zimbabwe, Serbia, and France could presumably reduce their expenditures by about 10 pp of GDP. Denmark, Cyprus, and Austria could decrease their wage bill around 7 pp of GDP. Brazil, Israel, and the United Kingdom could lower their spending in goods and services about 7 pp of GDP. Brunei, Jordan, and France could reduce their social expenditures by about 10 pp of GDP.

I also estimate the gap of the *modifiable* part of expenditures (include the outlays in wages, goods and services, and social benefits) with an *aggregate* method (based on the regression for

adjustment needs. Because for example, an effort index of 160 per cent in the consumption tax revenues, might imply very different fiscal consolidation capacities for two countries, depending on how large are the current revenues from this particular instrument (as a share of GDP).

⁸ In other words, the *parts* estimate, is the sum of the revenue gaps of the income, consumption, other, and payroll taxes.

this sub-category) and by *parts* (adding the expenditure gaps from its sub-components). As explained above, this is intended to address any aggregation problems, and also shows how reliable the estimates of the expenditure cutting space are. For 10 countries only the aggregate measure is available, either because of missing information in one or more of the explanatory variables in a particular spending sub-category or when a country specific dummy was used. The median size of the interval between the two measures is around 1 pp and the correlation of the two measures is about 96 percent.

As explained above, it is important to focus on the overall picture and not too much in particular categories. Moreover, in some countries the government might not wish to tap their revenue potential as the political preferences of their citizens may not require additional revenues to satisfy their demand for public goods. In other words, it is critical to take into account the expenditures to assess the adequacy of revenues and vice versa. For example, if a country has high revenues to finance high expenditures, it would be incorrect to suggest that this country should cut its spending (although it might be desirable to alter its composition of outlays if for example it spent too much on goods and services and not enough on infrastructure). Similarly, in a country that requires low revenues to finance a low provision of public services, it would be incorrect to conclude that the government should increase its taxation simply because it has low revenues compared to its peers.

It is also important to note, that the expected revenues (expenditures) can be below (above) the maximum (minimum) historical values for the total and for each of the sub-categories. Moreover, it is not clear that the historical values are necessarily the correct benchmark for each country. For example, if a country had high income tax rates in the past (and thus had high revenues from this sub-category), does it imply that it has a revenue potential in this sub-category? Not necessarily, taking into account that there has been a secular tendency around the world to lower taxes to become more competitive, this revenue potential might nowadays be unattainable (especially if the increased mobility of the rich individuals is considered).

Similarly, if in the past a country had a phase of unsustainable growth due to a real state or a financial bubble, which resulted in very high but (unsustainable) tax revenues, does it have additional revenue potential? Probably not, as the government will certainly want to avoid another bubble, and thus those vigorous tax revenues may never return. Moreover, for some countries the estimated revenue potential might be above its historical values. However, this does not mean that the revenue potential is non-existent, maybe it was not possible in the past but given the changes in the country characteristics, it might currently be within reach.

B. Fiscal adjustment needs

Since the size of the government is a political choice of its citizens or their rulers, in this paper I refrain from any discussion on: (i) the optimal size of the government, (ii) the efficiency and/or fairness of the composition of revenues and expenditures. Instead I focus on the size of the fiscal consolidation required to stabilize the debt-to-GDP ratio in the medium run (taking into account that in some countries the debt ratios will continue to rise as long as growth remains anemic). In other words, I concentrate the analysis on the size of the fiscal adjustment required to satisfy the government's inter-temporal budget constraint.

Naturally, this is only a minimum requirement for debt sustainability and it completely ignores the discussion on the optimal debt level. This is important because in some countries the debt ratio is currently at historically high levels as result of the Great Recession (in some cases even above wartime peaks), and thus it might be optimal for them to try to reduce their indebtedness over time, and not just to stabilize the debt ratio (for example, before the Great Recession the average debt ratio was 60 percent of GDP in advanced economies and currently about 90 percent). Moreover, this measure does not take into account the expected increases in age related expenditures (pensions and health) or any unfunded contingent liabilities.

For each country the primary balance (as a share of GDP) that stabilizes the debt-to-GDP ratio is:

$$pb = \frac{(i - g)}{(1 + g)} d$$

Where d is the debt-to-GDP ratio, i is the nominal interest rate, and g is the nominal GDP growth (the result does not vary if the real interest rate and real growth are used instead). The nominal interest rate is computed for each country as the implicit rate in their debt service, which is a weighted average of the rates for all concessional and non-concessional, and domestic and foreign loans of all maturities. Thus, for a country with a high share of concessional loans the effective interest rate in its debt service would be below the market (marginal) rates for its debt.

Since in many countries, growth and interest rates remain subdued after the Great Recession, I take a proxy for their long run values to better reflect the country's fiscal adjustment needs (devoid of cyclical considerations). The long run nominal growth rate is approximated by the predicted nominal growth for 2017 in WEO (which provides forecasts for up to five years in the future). The expected debt-to-GDP ratios for 2017 are also taken from WEO. The required fiscal adjustment is defined as the difference between the observed primary balance in 2012 and the primary balance that would be required to stabilize the debt ratio in 2017.

The estimated fiscal adjustment needs (as a share of GDP) are presented in Tables 9.1 through 9.4. The distribution of the adjustment needs is very right-skewed. About 50 per cent of the countries do not seem to need further adjustments to stabilize their debt ratios, 30 per cent would presumably require moderate adjustments (less than 2 pp of GDP), while the remaining 20 per cent would necessitate much larger efforts. In particular, Spain will need an adjustment of about 9 pp of GDP to stabilize its debt ratio at about 100 per cent of GDP. Japan needs an adjustment of about 5pp of GDP to stabilize its debt at about 250 per cent of GDP (a net debt of about 160 per cent of GDP). The United Kingdom and Ireland would need adjustments of about 5 pp of GDP to stabilize their debt at around 90 and 110 percent of GDP. The United States would need an adjustment of around 4 pp of GDP to stabilize its debt at about 110 per cent of GDP (which entails a federal debt in the hands of the public, the measure favored by CBO, of about 75 per cent of GDP).

C. Fiscal gaps and adjustment needs

Tables 10.1 through 10.4 present the difference between the additional revenue capacity and the computed fiscal adjustment needs (that would stabilize the debt ratio). Negative fiscal adjustment needs were replaced by zeros, which means that I do not take into account the fiscal loosening that would be required in some countries to stabilize their debt ratio and avoid it from falling (as mentioned above, countries may have legitimate reasons to reduce their indebtedness).

The revenue and expenditure gaps are computed as the median of the estimated intervals for the gaps of the *modifiable* part of revenues and expenditures (presented in Tables 7.1 through 8.4). However, the negative expenditure gaps and positive revenue gaps were also replaced by zeros. This means, that I do not take into account the space that a country may have to lower its taxes and/or increase expenditures. Thus these estimations may overstate the size of the adjustment that would be attainable. Because in a country with high revenues that finance high expenditures, I only take into account the expenditure cutting space, and in countries with low revenues and expenditures I only take into account the revenue raising capacity. The fiscal gap (i.e. the fiscal consolidation capacity) is computed as the sum of the revenue and expenditure gaps.

A negative difference between the fiscal gap and the necessary adjustment suggests that the fiscal consolidation potential might not be sufficient to stabilize the debt ratio, and thus the country will need either to exert a fiscal effort that is beyond the average of countries with similar characteristic, or to conduct major structural reforms. Naturally, this does not mean that these countries do not have enough instruments to implement the fiscal consolidation that is required. For example, Uhlig and Trabandt (2011) compute Laffer curves for the United States and the EU-14 and conclude that the maximum possible tax revenues would be about 100 per cent of GDP if the labor tax or the capital tax were increased to about 60 percent, and that consumption taxes have no peak (there is no Laffer curve) and thus they would always provide additional revenues when increased. Although, in practice these theoretical boundaries may not be relevant in most countries as the political and social costs of this kind of measures would be unbearable (moreover the having the maximum possible revenue would not necessarily be efficient or desirable from an economic point of view).

I find that the country with the biggest fiscal problems are the Dominican Republic, Spain, Ghana, and Montenegro that have adjustment needs that exceed by about 3 pp of GDP their fiscal consolidation capacity. In the United Kingdom, Senegal, Costa Rica, and Honduras the required adjustment exceeds the fiscal capacity by about 2 pp of GDP. Furthermore, based on the comparison between revenue potential and fiscal adjustment needs, I classify countries into one of three groups. In the first group are countries that do not have adjustment needs. In the second group are countries whose revenue potential is enough to stabilize their debt ratio. In the third group are countries in which the revenue capacity is not enough to stabilize the debt and thus will also need to cut their expenditures. The list of countries in each category is presented in Table 11.

As explained before, in countries that have high revenues and expenditures or low revenues and expenditures the fiscal consolidation capacity might be overestimated. These countries,

classified in the second in Table 11, have an asterisk beside their name. If the willingness to pay taxes is a function of the amount of public goods and services provided by the government, it is conceivable that spending pressures could augment when the government increases its revenues or that the government might be forced to lower its taxes at the same time that it lowers its expenditures. Depending on how large are these forces, the countries with an asterisk might end up in the third group in Table 11, as their fiscal consolidation space might not be enough to satisfy their fiscal consolidation needs.

Based on the estimated revenue and expenditure gaps (presented in Tables 7.1 through 8.4) it is possible to decompose the fiscal consolidation capacity, into revenue and expenditure measures and in particular into specific policy instruments (taxes and spending categories). The size and composition of the estimated fiscal consolidation capacity are presented in Tables 12.1.1 through 12.4.4 (only for countries that have fiscal consolidation needs). Both the size and composition of the fiscal space vary significantly across countries. However, in poorer countries a larger share of the consolidation potential is their revenue potential, and in rich countries by their expenditure cutting space.

D. Robustness checks

Since the countries in the sample are so different, and since the fiscal statistics of poorer countries might not be sufficiently reliable or comparable to those of richer countries, I repeat the analysis for a restricted sample of richer countries (84 countries classified as high middle income or high income countries in Table 1.1). The regressions of the determinants of government revenues (for the restricted sample) are presented in Tables 13.1 and 13.2. Since rich countries do not receive grants, it is not possible to estimate a regression equation for this particular revenue sub-category. The income per-capita is no longer a significant determinant of the revenues from non-tax revenues. The growth gap and old-age dependency ratio are no longer significant determinants of the revenues from income taxes. The population growth is not a significant determinant of other tax revenues. While the rest of the coefficients remain significant, have the same sign, and comparable magnitudes.

The regressions on the determinants of government expenditures (for the restricted sample) are presented in Tables 14.1 and 14.2. All of the explanatory variables remain significant, have the same signs, the coefficients have similar magnitudes, and the regressions have about the same explanatory power. Thus, the estimated fiscal consolidation capacity from the full and restricted samples are quite similar (as presented in Table 15, the countries with a negative fiscal space are excluded to aid the comparison). Moreover, the composition of the estimated fiscal consolidation with the restricted sample (presented in Tables 16.1 through 16.2) is also quite similar to the one computed with the large sample (presented in Tables 12.3 and 12.4).

V. CONCLUSIONS

In this paper I estimated the size and composition of the fiscal consolidation capacity for 150 countries around the world, and compared it to the required adjustment that would be needed to stabilize their debt ratios. The main conclusion is that the fiscal deficit is an insufficient indicator of the fiscal outlook. For example, when the fiscal consolidation capacity is taken into account the situation in Japan and the United States appears to be less difficult, because

although they have massive fiscal imbalances, their consolidation potential appears to be sufficient to correct their deficits (if desired). On the contrary, the outlook in Spain and the United Kingdom appears more intricate.

The results in this work are only indicative as they depend on the estimated equations. Moreover, for some countries, institutional or political constraints might make unattainable the estimated size of revenue increases or expenditure cuts. Thus, these results cannot replace individual country studies and recommendations (such as the ones provided in the IMF technical assistance reports) that are specifically tailored to incorporate country-specific features and needs (for example, they might advise how to enhance the tax code enforcement or how to improve the budgeting process by focusing on results). However, the exercise in this paper is quite useful as it illustrates in a standardized manner the size and composition of the fiscal adjustments that in principle could be achievable by a particular country if it wished to adjust its fiscal imbalance. Moreover, it provides benchmarks that might be used for assessing fiscal policy outcomes, understanding country's particular preferences, and can even provide a reasonable starting point for a discussion of policy reform options.

A number of interesting issues, relevant to the discussion in this document, cannot be addressed with this methodology, and thus remain beyond the scope of this paper. The two most salient are: (i) the efficient policy mix between revenue and expenditure measures (and more precisely between specific taxes and spending categories), and (ii) the optimal debt level (and moreover how costly would it be for a country to delay its adjustment if its debt ratio is currently not at the optimal level, and how fast should the fiscal consolidation be). More recently, due to the dire situation of some European countries, the debate has turned to the possibility of changing the mix of the consolidation to make it more supportive of growth (smaller fiscal multiplier) or such that its distributional consequences are less costly.

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APPENDIX

The dataset contains a full decomposition of the general government's revenues and expenditures (as a share of GDP) for 164 countries (96% of world's GDP) in 2012. The list of countries is presented in Table 1.1. Whenever possible, the information corresponds to the general government on an accrual basis. However, 74 countries in the sample only report statistics for the central government (presented on Table 1.2) or on a cash basis.

The dataset combines information from various sources and years to maximize the number of countries covered. The main source of information is the submission by country desks to WEO in April 2013. The information was then corrected and completed with the latest available information for the country from IMF staff reports (Article IV and program reviews). For OECD countries, when information was still missing, it was completed with revenue statistics from the OECD.

The government's revenues are decomposed into seven categories:

- 1) *taxes on income profits and capital gains* (excluding taxes to oil and gas companies),
- 2) *other taxes* (property taxes),
- 3) *payroll taxes* (all social security contributions for pensions, health, and unemployment insurance),
- 4) *taxes on goods and services* (excises and VAT),
- 5) *taxes on international trade and transactions* (tariffs and duties),
- 6) *grants*, and
- 7) *non-tax revenues* (royalties, capital income, and commodity related income).

Social security contributions are assumed to be part of the government's revenues. Whenever possible the tax revenues that are directly related to natural resources (e.g. oil, gas, minerals) are included as non-tax revenues to make the tax revenues comparable among countries. The proceeds from privatizations are not included as revenues.

The government's expenditures are decomposed into five categories:

- 1) *compensation of employees* (wages),
- 2) *purchase of goods and services*,
- 3) *interest payments*,
- 4) *social benefits* (social security benefits, grants and subsidies, and other expenses), and
- 5) *net acquisition of nonfinancial assets* (net public investment).

The explanatory variables (to avoid endogeneity issues they correspond to 2011 or earlier) are:

- 1) Gross National Income per capita in 2011 (nominal USD), as reported by the World Bank according to the Atlas Method.
- 2) Expected years of schooling in 2011, that a child of school entrance age can expect to receive if prevailing patterns of age-specific enrollment rates persist throughout the child's life as reported by the UNESCO.
- 3) Real GDP growth in 2011 as reported in WEO.
- 4) The growth gap estimated as the difference between the observed GDP growth in 2011 and the projected growth for 2017 in WEO (the latter used as a proxy for potential growth).

- 5) Old-age dependency ratio in 2010, the ratio of population older than 65 to the population aged 15-64, as reported by the United Nations Population Division.
- 6) Annual population growth is the average annual percentage rate of population change from 2005 to 2010, as reported by the United Nations Population Division.
- 7) Net oil and gas exports (as a percentage of GDP), are the exports and imports of oil (millions barrels per day) and natural gas (cubic meters) in 2011 as reported in the CIA World Factbook, and converted into USD using the average price of the WTI and Henry's Hub for 2011.
- 8) Imports (as a percentage of GDP) in 2011 as reported in WEO.
- 9) Political participation index, as reported in the 2011 Democracy Index of the Economist Intelligence Unit.
- 10) Population density is the number of persons (in thousands) in 2010 (from the United Nations Population Division) per square kilometer.
- 11) Gross public debt in 2011 (as a percentage of GDP) as reported by WEO.
- 12) Gross minimum annual wage in 2011 (USD) as reported in the Doing Business report of the World Bank.
- 13) Doing Business ranking in the 2011 report of the World Bank.

The countries in the dummy variable *Antilles* are: Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago.

The countries in the dummy variables *EUR*, *AFR*, *APD*, *WHD* and *AFR* correspond to area departments in the IMF and are detailed in Table 1.3.

Table 1.1: List of countries by income level (GNI per capita):

Low income countries			Low middle income countries		
Afghanistan	Gambia, The	Mozambique	Albania	Guyana	São Tom and Prín
Benin	Guinea	Nepal	Armenia	Honduras	Senegal
Burkina Faso	Guinea-Bissau	Niger	Belize	Indonesia	Solomon Islands
Burundi	Haiti	Rwanda	Bolivia	Iraq	Sri Lanka
Cambodia	Kenya	Sierra Leone	Cameroon	Lao P.D.R.	Sudan
Cent Afr Republic	Kyrgyz Republic	Tajikistan	Cape Verde	Lesotho	Swaziland
Chad	Liberia	Tanzania	Congo, Rep	Moldova	Tonga
Comoros	Madagascar	Togo	Côte d'Ivoire	Mongolia	Ukraine
Congo, Dem	Malawi	Uganda	Djibouti	Morocco	Vanuatu
Eritrea	Mali	Zimbabwe	Egypt	Nicaragua	Vietnam
	Mauritania		El Salvador	Nigeria	Yemen
			Georgia	Papua New Gui	Zambia
			Ghana	Paraguay	
			Guatemala	Philippines	
High middle income countries			High income countries		
Algeria	Iran	Peru	Austria	Greece	Portugal
Angola	Jamaica	Romania	Bahamas, The	Hungary	Qatar
Antigua and Barb	Jordan	Russia	Bahrain	Iceland	San Marino
Argentina	Kazakhstan	Serbia	Barbados	Ireland	Saudi Arabia
Belarus	Latvia	Seychelles	Belgium	Israel	Singapore
Bosnia and Herz	Lebanon	South Africa	Brunei Dar	Italy	Slovak Republic
Botswana	Libya	St. Lucia	Canada	Japan	Slovenia
Brazil	Lithuania	St. Vin and Gren	Croatia	Korea	Spain
Bulgaria	Macedonia, FYR	Suriname	Cyprus	Kuwait	St. Kitts and Nevis
Chile	Malaysia	Thailand	Czech Republic	Luxembourg	Sweden
Colombia	Maldives	Tunisia	Denmark	Malta	Switzerland
Costa Rica	Mauritius	Turkey	Equ Guinea	Netherlands	Trin and Tobago
Dominica	Mexico	Tuvalu	Estonia	New Zealand	United Arab Em
Dom Republic	Montenegro, Rep	Uruguay	Finland	Norway	United Kingdom
Gabon	Namibia		France	Oman	United States
Grenada	Panama		Germany	Poland	

Table 1.2: List of countries that only report central government statistics:

Low income countries		Low middle income countries	
Afghanistan	Kenya	Armenia	Morocco
Benin	Liberia	Belize	Papua New Guin
Burkina Faso	Mali	Cameroon	São Tomé and Prín
Burundi	Mauritania	Cape Verde	Solomon Islands
Central Afr. Rep	Nepal	Congo, Rep	Sri Lanka
Chad	Niger	Djibouti	Sudan
Congo, Dem	Rwanda	Ghana	Swaziland
Eritrea	Sierra Leone	Guatemala	Tonga
Gambia, The	Tanzania	Iraq	Vanuatu
Guinea	Togo	Lesotho	Zambia
Guinea-Bissau	Uganda		
Haiti	Zimbabwe		

High middle income countries		High income countries	
Algeria	Macedonia, FYR	Bahamas, The	New Zealand
Angola	Malaysia	Brunei Dar	Oman
Antigua and Barb	Maldives	Equatorial Guin	San Marino
Botswana	Mauritius	Korea	Singapore
Dominica	Namibia	Kuwait	St. Kitts and Nevis
Gabon	St. Lucia		
Grenada	St. Vin and Gren		
Jamaica	Suriname		
Jordan	Tuvalu		
Lebanon	Uruguay		

Table 1.3: List of countries by area department in the IMF:

European Department (EUR)			African Department (AFR)		
Albania	Hungary	Poland	Angola	Gabon	Nigeria
Austria	Iceland	Portugal	Benin	Gambia, The	Rwanda
Belarus	Ireland	Romania	Botswana	Ghana	São Tom and Prín
Belgium	Israel	Russia	Burkina Faso	Guinea	Senegal
Bosnia and Herz	Italy	San Marino	Burundi	Guinea-Bissau	Seychelles
Bulgaria	Kosovo	Serbia	Cameroon	Kenya	Sierra Leone
Croatia	Latvia	Slovak Republic	Cape Verde	Lesotho	South Africa
Cyprus	Lithuania	Slovenia	Cent Afr Republic	Liberia	Swaziland
Czech Republic	Luxembourg	Spain	Chad	Madagascar	Tanzania
Denmark	Macedonia, FYR	Sweden	Comoros	Malawi	Togo
Estonia	Malta	Switzerland	Congo, Dem	Mali	Uganda
Finland	Moldova	Turkey	Congo, Rep	Mauritius	Zambia
France	Montenegro, Rep	Ukraine	Côte d'Ivoire	Mozambique	Zimbabwe
Germany	Netherlands	United Kingdom	Equatorial Guinea	Namibia	
Greece	Norway		Eritrea	Niger	

Middle East & Central Asia Department (MCD)		Western Hemisphere Department (WHD)		Asia and Pacific Department (APD)	
Afghanistan	Lebanon	Ant and Barb	Guyana	Brunei Dar	New Zealand
Algeria	Libya	Argentina	Haiti	Cambodia	Papua New Gui
Armenia	Mauritania	Bahamas, The	Honduras	Indonesia	Philippines
Bahrain	Morocco	Barbados	Jamaica	Japan	Singapore
Djibouti	Oman	Belize	Mexico	Korea	Solomon Isl
Egypt	Qatar	Bolivia	Nicaragua	Lao P.D.R.	Sri Lanka
Georgia	Saudi Arabia	Brazil	Panama	Malaysia	Thailand
Iran	Sudan	Canada	Paraguay	Maldives	Tonga
Iraq	Tajikistan	Chile	Peru	Mongolia	Tuvalu
Jordan	Tunisia	Colombia	St. Kitts and Nev	Nepal	Vanuatu
Kazakhstan	United Arab Em	Costa Rica	St. Lucia		
Kuwait	Yemen	Dominica	St. Vin and Gren		
Kyrgyz Republic		Dom Republic	Suriname		
		El Salvador	Trin and Tobago		
		Grenada	United States		
		Guatemala	Uruguay		

Table 2.1: Revenues low income countries (percent of GDP)

	total revenues	income taxes	other taxes	payroll taxes	taxes goods & services	taxes int. trade	grants	non-tax revenues
Afghanistan	25.4	2.6	0.3	0.0	2.0	2.9	15.2	2.4
Benin	20.6	2.2	1.3	0.0	3.6	8.4	1.5	3.6
Burkina Faso	24.0	4.3	0.4	0.0	7.9	2.3	7.3	1.8
Burundi	33.0	4.4	0.0	0.0	8.0	1.4	18.2	1.0
Cambodia	16.2	2.2	0.0	0.0	6.3	2.5	3.0	2.2
Cent Afr Republic	16.4	1.9	0.0	0.2	5.2	2.8	4.9	1.4
Chad	25.2	1.7	0.7	0.0	1.3	1.8	1.9	17.8
Comoros	28.4	2.8	0.1	0.0	3.9	5.0	10.2	6.4
Congo, Dem	30.5	5.2	0.0	0.0	7.8	3.6	8.3	5.5
Eritrea	17.2	6.9	0.0	0.0	1.6	1.2	1.2	6.4
Gambia, The	29.1	5.4	0.2	0.0	6.5	3.0	12.3	1.8
Guinea	23.7	4.2	0.0	0.0	7.2	3.5	3.7	5.1
Guinea-Bissau	14.1	2.7	0.6	0.0	3.2	2.1	3.4	2.0
Haiti	23.3	3.0	1.6	0.0	4.0	4.2	10.6	0.1
Kenya	25.2	10.3	0.0	0.0	8.4	1.7	1.5	3.4
Kyrgyz Republic	34.4	6.1	0.8	5.0	11.0	3.1	2.6	5.8
Liberia	28.8	9.7	0.7	0.0	3.4	8.7	2.5	3.8
Madagascar	11.9	2.8	0.0	0.0	3.4	4.6	0.9	0.2
Malawi	38.6	9.7	0.4	0.0	9.9	2.6	12.6	3.4
Mali	18.3	5.0	0.0	2.7	7.7	2.0	0.7	0.3
Mauritania	35.0	6.4	0.7	1.7	10.6	2.3	5.4	7.8
Mozambique	29.7	8.5	0.4	0.0	10.3	1.8	5.8	2.9
Nepal	18.3	2.9	0.8	0.1	5.9	3.5	2.6	2.6
Niger	22.2	3.8	0.7	0.0	6.4	3.8	6.2	1.3
Rwanda	25.5	5.4	0.0	0.0	7.1	1.0	10.8	1.2
Sierra Leone	13.4	4.6	1.4	0.0	2.8	1.8	2.3	0.5
Tajikistan	25.0	3.7	0.6	2.7	11.3	1.7	1.8	3.3
Tanzania	22.2	5.7	1.8	0.0	7.4	1.3	4.2	2.0
Togo	22.9	2.1	1.6	0.0	4.0	9.4	3.6	2.1
Uganda	15.6	4.4	0.0	0.0	6.8	1.0	2.4	1.0
Zimbabwe	36.3	14.8	0.5	0.0	15.0	3.6	0.0	2.4
median	24.0	4.4	0.4	0.0	6.5	2.6	3.6	2.4

Table 2.2: Revenues low-middle income countries (percent of GDP)

	total revenues	income taxes	other taxes	payroll taxes	taxes goods & services	taxes int. trade	grants	non-tax revenues
Albania	24.7	3.4	2.7	4.2	11.7	0.4	0.4	1.8
Armenia	21.3	5.8	1.4	3.1	9.1	1.0	0.4	0.5
Belize	27.4	7.2	0.3	0.0	8.6	6.1	1.1	4.0
Bolivia	38.5	5.3	0.0	0.0	9.4	5.9	1.0	16.9
Cameroon	19.1	5.0	0.0	0.0	6.4	2.4	0.5	4.7
Cape Verde	21.8	5.7	0.1	0.0	7.4	3.6	2.4	2.5
Congo, Rep	42.8	3.3	0.2	0.0	3.6	1.6	0.8	33.2
Côte d'Ivoire	20.5	4.0	2.5	1.8	2.9	6.4	0.5	2.4
Djibouti	35.5	9.3	1.3	0.0	8.2	2.1	6.6	8.1
Egypt	22.6	6.5	0.2	2.3	5.6	1.2	0.7	6.2
El Salvador	19.1	4.8	0.0	1.7	8.0	0.0	0.7	3.8
Georgia	28.7	9.9	1.0	0.0	14.0	0.3	1.1	2.4
Ghana	20.6	8.1	0.0	0.2	5.9	2.9	2.1	1.5
Guatemala	11.6	3.4	1.5	0.0	5.3	0.6	0.0	0.7
Guyana	27.7	7.3	0.8	2.0	10.0	2.3	2.9	2.4
Honduras	23.1	5.2	0.0	2.4	9.1	0.9	0.9	4.5
Indonesia	18.5	6.0	0.5	0.0	5.0	0.6	0.0	6.5
Iraq	75.6	0.8	0.0	0.0	0.2	0.6	0.6	73.3
Kosovo	27.2	20.0	-0.8	0.0	3.4	0.0	1.5	3.1
Lao P.D.R.	20.1	4.2	1.4	0.0	8.8	1.7	1.9	2.0
Lesotho	67.6	13.4	0.7	0.0	9.6	31.2	8.5	4.2
Moldova	37.9	4.5	0.5	10.1	15.3	1.5	1.8	4.1
Mongolia	35.5	7.5	4.7	4.3	10.7	2.3	0.0	6.0
Morocco	27.7	8.6	1.9	0.0	11.9	1.7	0.1	3.4
Nicaragua	28.7	5.8	2.0	4.5	5.3	3.8	1.9	5.4
Nigeria	27.9	9.5	2.2	0.0	3.9	0.9	0.0	11.5
Papua New Guin	29.6	6.5	0.5	7.4	3.9	1.8	4.2	5.3
Paraguay	25.4	2.5	0.3	1.7	9.1	1.7	0.0	10.1
Philippines	17.7	5.9	1.4	1.9	5.6	0.5	0.0	2.5
São Tom and Prín	24.4	4.1	2.2	0.0	1.1	6.6	8.3	2.1
Senegal	23.9	5.0	0.2	0.0	11.7	2.8	2.9	1.2
Sri Lanka	14.3	2.6	2.4	0.0	6.0	1.6	0.3	1.4
Sudan	9.9	0.5	0.0	0.0	3.7	1.8	0.2	3.5
Swaziland	37.6	9.3	0.1	0.0	5.2	22.6	0.3	0.1
Tonga	28.2	4.0	0.0	0.0	10.8	1.7	9.5	2.2
Ukraine	44.6	9.0	2.6	13.1	14.5	0.9	0.0	4.5
Vanuatu	21.5	0.0	0.7	0.0	11.7	4.0	3.0	2.2
Yemen	29.6	3.2	0.3	0.0	2.3	1.1	5.7	17.0
Zambia	21.3	9.5	0.0	0.0	6.4	1.9	1.5	2.0
median	25.4	5.7	0.5	0.0	7.4	1.7	0.9	3.5

Table 2.3: Revenues high-middle income countries (percent of GDP)

	total revenues	income taxes	other taxes	payroll taxes	taxes goods & services	taxes int. trade	grants	non-tax revenues
Algeria	39.0	4.8	0.3	0.0	3.9	0.6	0.0	29.3
Angola	44.5	4.4	1.0	0.6	1.5	1.0	0.0	36.0
Antigua and Barb	20.6	2.6	0.8	0.0	6.9	9.2	0.0	1.2
Argentina	39.5	6.4	0.4	8.1	17.8	3.6	0.0	3.3
Belarus	40.8	8.4	1.7	11.0	10.8	4.8	0.0	4.1
Bosnia and Herz	46.5	3.6	0.0	15.7	18.6	0.7	2.1	5.7
Botswana	29.6	5.9	0.2	0.0	4.2	10.0	0.2	9.1
Brazil	35.2	6.9	1.9	6.1	13.9	0.7	0.0	5.7
Bulgaria	34.5	4.9	1.1	6.0	14.7	0.2	3.3	4.4
Chile	23.8	8.6	1.1	1.4	9.4	1.2	0.3	1.9
Colombia	27.9	7.4	2.6	2.0	9.4	0.8	0.0	5.7
Costa Rica	21.3	3.6	0.3	7.4	9.1	0.5	0.0	0.4
Dominica	29.8	4.2	0.6	0.0	12.7	4.9	4.0	3.4
Dom Republic	13.9	4.0	0.8	0.1	7.7	1.1	0.2	0.2
Gabon	26.7	3.9	0.6	0.0	2.7	4.1	0.0	15.5
Grenada	19.7	3.3	0.7	0.0	8.7	5.0	0.9	1.0
Iran	15.2	3.3	0.2	0.0	1.1	1.0	0.0	9.6
Jamaica	25.5	8.3	0.3	0.0	7.1	7.7	0.5	1.6
Jordan	25.2	3.1	0.7	0.0	9.8	1.3	4.2	6.0
Kazakhstan	28.0	4.0	0.7	1.2	3.8	2.8	0.0	15.5
Latvia	38.0	6.8	0.7	7.6	10.1	0.3	6.0	6.5
Lebanon	23.4	4.1	2.7	0.0	6.3	3.7	0.1	6.5
Libya	63.7	0.7	0.0	0.0	0.0	0.3	0.0	62.7
Lithuania	33.8	5.1	0.0	11.3	10.8	0.7	3.2	2.7
Macedonia, FYR	28.3	2.9	0.8	8.0	12.8	0.8	0.6	2.4
Malaysia	25.2	11.7	0.0	0.0	3.5	0.3	0.0	9.7
Maldives	30.5	3.2	0.3	0.0	12.0	4.3	1.6	9.1
Mauritius	21.5	5.1	1.6	0.3	11.6	0.4	0.9	1.5
Mexico	22.7	5.3	0.0	2.9	4.4	3.1	0.0	7.0
Montenegro, Rep	36.2	4.8	2.0	10.9	16.8	1.6	0.1	0.0
Namibia	33.7	12.0	0.2	0.0	7.6	11.7	0.0	2.1
Panama	24.6	5.1	0.6	5.9	5.6	1.3	0.1	6.0
Peru	21.1	6.9	1.2	2.0	7.5	0.3	0.0	3.1
Romania	33.0	5.6	1.7	8.8	12.1	0.1	1.4	3.2
Russia	37.1	7.6	1.9	5.6	11.7	8.1	0.0	2.1
Serbia	43.5	6.7	1.3	11.5	17.3	1.1	0.1	5.5
Seychelles	42.8	10.3	3.4	0.0	15.8	2.9	5.5	4.9
South Africa	27.9	14.4	1.1	0.0	8.6	0.0	0.0	3.7
St. Lucia	25.0	6.7	0.1	0.0	8.2	7.0	1.4	1.5
St. Vin and Gren	25.6	6.2	0.1	0.0	6.8	9.3	1.4	1.8
Suriname	27.8	11.0	0.0	0.7	5.2	4.4	0.5	6.0
Thailand	21.2	6.8	0.7	0.9	8.5	0.9	0.0	3.3
Tunisia	30.2	7.9	2.8	4.6	4.5	5.0	0.9	4.5
Turkey	34.2	5.7	1.3	7.0	11.1	1.6	0.1	7.4
Tuvalu	84.6	12.2	0.0	0.0	2.5	4.7	24.7	40.6
Uruguay	31.9	5.3	1.5	9.4	11.9	1.0	0.0	2.8
median	29.0	5.5	0.7	0.8	8.7	1.3	0.1	4.5

Table 2.4: Revenues high income countries (percent of GDP)

	total revenues	income taxes	other taxes	payroll taxes	taxes goods & services	taxes int. trade	grants	non-tax revenues
Austria	48.6	13.4	2.7	16.3	10.2	1.5	0.0	4.5
Bahamas, The	18.4	0.0	5.3	0.0	2.0	9.0	0.0	2.1
Bahrain	29.2	0.0	0.0	0.0	0.0	1.1	0.3	27.8
Barbados	34.5	8.2	2.1	5.7	14.0	2.3	0.2	2.0
Belgium	49.8	16.4	4.3	16.6	7.1	1.8	0.0	3.6
Brunei Dar	62.9	2.8	0.1	0.0	0.1	0.7	0.0	59.2
Canada	37.7	14.2	4.0	4.5	5.5	2.1	0.0	7.5
Croatia	38.1	5.1	0.3	11.5	16.0	0.5	0.5	4.3
Cyprus	39.9	11.0	0.0	10.1	17.1	0.0	0.0	1.7
Czech Republic	40.0	7.2	0.3	15.6	11.2	0.7	0.9	4.1
Denmark	52.1	29.4	2.4	1.9	14.9	1.2	0.0	2.4
Equ Guinea	36.0	7.6	0.2	0.0	0.7	0.2	0.0	27.4
Estonia	43.8	6.6	0.5	12.1	13.0	0.6	7.4	3.6
Finland	53.3	15.5	1.3	12.9	12.8	1.4	0.2	9.3
France	51.8	10.5	4.9	17.6	10.1	1.5	0.0	7.1
Germany	44.7	11.2	1.1	17.0	9.9	0.9	0.3	4.4
Greece	43.6	6.9	4.0	12.4	11.2	1.0	0.0	8.1
Hungary	46.5	6.9	0.5	13.7	13.4	3.9	1.4	6.7
Iceland	42.9	16.8	3.0	4.1	12.0	0.4	0.2	6.4
Ireland	34.0	11.5	1.3	5.9	8.1	1.0	0.0	6.3
Israel	39.1	14.6	0.0	6.6	9.9	3.0	0.9	4.2
Italy	48.1	15.5	3.8	13.8	8.4	2.9	0.2	3.7
Japan	31.2	8.6	3.5	12.7	4.6	0.7	0.0	1.2
Korea	23.5	7.1	1.8	3.7	5.8	0.9	0.0	4.1
Kuwait	69.7	0.2	0.5	2.2	0.0	0.0	0.0	66.8
Luxembourg	41.3	13.8	0.0	12.0	8.5	3.2	0.0	3.7
Malta	40.2	14.4	0.4	7.6	13.2	0.0	0.0	4.6
Netherlands	46.0	10.2	1.7	16.1	11.2	0.0	0.0	6.8
New Zealand	34.8	16.8	0.0	0.0	10.8	1.8	0.0	5.3
Norway	56.8	21.0	1.2	9.6	10.6	0.8	0.0	13.6
Oman	45.5	1.0	0.4	1.5	0.0	0.6	0.0	42.0
Poland	39.9	7.1	2.5	12.3	11.1	0.2	0.0	6.7
Portugal	40.6	9.3	0.0	11.7	13.9	0.0	0.0	5.6
Qatar	43.5	8.2	0.0	0.0	0.0	0.5	0.0	34.9
San Marino	22.1	6.4	3.4	0.0	0.0	6.5	0.0	5.8
Saudi Arabia	48.6	0.4	0.0	0.0	0.0	0.7	0.0	47.4
Singapore	22.8	7.1	3.6	0.0	2.4	0.8	0.0	8.9
Slovak Republic	31.5	5.3	0.4	12.4	10.0	1.0	1.1	1.4
Slovenia	41.9	7.2	0.6	14.9	12.6	1.2	2.5	2.8
Spain	36.4	9.7	2.3	12.9	7.3	1.0	0.5	2.8
St. Kitts and Nevis	35.9	4.0	0.6	0.0	10.4	5.1	3.3	12.5
Sweden	49.7	18.8	0.0	7.2	17.3	0.9	0.0	5.5
Switzerland	33.1	13.0	2.1	7.0	5.1	1.3	0.0	4.7
Trin and Tobago	33.4	2.2	3.8	0.0	5.0	1.4	0.2	20.8
United Arab Em	36.6	0.1	2.1	0.0	0.0	0.8	0.0	33.7
United Kingdom	35.5	12.9	4.5	6.5	10.4	1.2	0.0	0.0
United States	31.7	11.5	3.2	6.1	4.2	0.2	0.0	6.6
median	40.0	8.6	1.3	7.0	9.9	1.0	0.0	5.6

Table 3.1: Expenditures low income countries (percent of GDP)

	total expend.	compens. employees	goods & services	interest payments	social benefits	net acqu. non-financ. assets
Afghanistan	25.5	13.2	3.6	0.1	6.1	2.5
Benin	21.4	7.4	2.9	0.6	4.8	5.7
Burkina Faso	27.1	6.2	2.3	0.5	5.6	12.5
Burundi	34.6	8.0	2.8	0.9	10.6	12.4
Cambodia	19.4	4.8	3.5	0.3	2.8	8.0
Cent Afr Republic	16.5	4.6	2.8	0.8	2.1	6.2
Chad	28.7	5.1	2.7	0.8	6.3	13.8
Comoros	25.8	8.0	3.9	0.4	5.1	8.3
Congo, Dem	32.9	7.5	5.2	2.4	5.3	12.6
Eritrea	30.7	8.2	7.9	2.9	4.1	7.5
Gambia, The	33.7	6.4	5.5	4.3	2.3	15.3
Guinea	28.1	4.5	5.8	1.4	3.8	12.5
Guinea-Bissau	14.8	5.6	2.7	0.1	5.1	1.5
Haiti	29.3	5.1	3.5	0.4	2.9	17.4
Kenya	30.4	7.1	2.3	2.8	8.7	9.6
Kyrgyz Republic	40.4	8.8	9.3	1.0	13.3	8.0
Liberia	28.4	10.7	9.2	0.3	4.9	3.4
Madagascar	15.0	5.3	3.0	0.8	2.7	3.2
Malawi	43.2	8.7	11.9	2.2	11.2	9.2
Mali	19.1	5.8	4.2	0.6	5.5	2.9
Mauritania	34.2	7.5	4.3	1.0	10.4	10.9
Mozambique	32.7	10.0	4.5	1.1	4.7	12.3
Nepal	18.9	3.4	1.5	1.0	9.7	3.3
Niger	25.7	4.1	3.3	0.3	4.7	13.3
Rwanda	27.2	3.7	3.1	0.4	7.2	12.8
Sierra Leone	16.2	5.6	2.8	1.7	2.0	4.1
Tajikistan	27.4	5.7	6.0	0.7	5.1	9.9
Tanzania	27.2	6.6	10.0	1.2	0.0	9.4
Togo	29.7	6.2	5.6	0.9	7.1	9.8
Uganda	19.2	3.9	5.5	1.5	0.4	7.9
Zimbabwe	36.7	17.6	4.3	1.3	9.8	3.7
median	27.4	6.2	3.9	0.9	5.1	9.2

Table 3.2: Expenditures low-middle income countries (percent of GDP)

	total expend.	compens. employees	goods & services	interest payments	social benefits	net acqu. non-financ. assets
Albania	27.5	5.1	2.4	3.1	12.3	4.7
Armenia	23.4	2.4	4.1	1.1	12.9	2.8
Belize	30.0	9.7	5.6	4.3	5.6	4.8
Bolivia	36.7	9.5	3.0	1.3	9.9	13.1
Cameroon	19.9	5.8	4.5	0.3	3.1	6.2
Cape Verde	29.3	10.3	3.4	1.5	6.5	7.6
Congo, Rep	38.8	3.5	8.9	0.2	0.6	25.7
Côte d'Ivoire	24.8	7.5	4.1	1.9	5.9	5.4
Djibouti	35.5	10.9	10.5	0.5	2.2	11.6
Egypt	33.4	8.1	1.8	6.1	15.2	2.2
El Salvador	22.9	8.7	3.8	2.3	4.8	3.3
Georgia	29.4	4.6	4.9	1.0	12.5	6.4
Ghana	30.5	11.8	1.9	3.3	6.1	7.4
Guatemala	13.9	3.9	2.1	1.5	3.3	3.1
Guyana	32.3	6.1	6.2	1.2	8.6	10.3
Honduras	27.4	11.9	3.5	1.5	4.7	5.8
Indonesia	20.2	5.5	1.6	1.4	7.3	4.5
Iraq	73.3	19.4	11.4	1.6	18.9	22.2
Kosovo	29.9	8.4	4.4	0.3	4.9	11.9
Lao P.D.R.	22.7	5.1	3.5	0.9	3.8	9.4
Lesotho	61.7	20.4	13.6	0.9	12.2	14.6
Moldova	39.9	9.6	8.9	0.8	14.6	6.1
Mongolia	42.5	9.0	5.8	0.9	16.2	10.6
Morocco	33.8	12.5	2.8	2.4	11.8	4.2
Nicaragua	29.3	6.0	4.5	1.2	13.0	4.5
Nigeria	27.1	4.5	1.4	1.6	12.4	7.2
Papua New Guin	31.1	7.0	6.8	1.4	3.7	12.2
Paraguay	27.1	11.6	3.0	0.7	6.5	5.3
Philippines	19.2	5.5	2.3	3.0	5.6	2.9
São Tom and Prín	30.6	8.3	3.9	0.6	4.5	13.2
Senegal	29.9	6.3	5.2	1.7	4.5	12.1
Sri Lanka	20.5	2.6	1.2	5.2	6.1	5.4
Sudan	15.1	5.0	1.1	1.6	5.4	2.0
Swaziland	37.1	14.8	6.0	1.0	8.4	6.9
Tonga	28.4	11.5	8.9	0.8	2.2	4.9
Ukraine	48.0	11.2	7.3	2.2	24.1	3.3
Vanuatu	23.1	11.5	5.7	0.6	3.8	1.6
Yemen	35.1	10.9	3.0	5.6	12.9	2.6
Zambia	25.8	9.0	3.7	1.8	5.3	6.0
median	29.4	8.4	4.1	1.4	6.1	6.0

Table 3.3: Expenditures high-middle income countries (percent of GDP)

	total expend.	compens. employees	goods & services	interest payments	social benefits	net acqu. non-financ. assets
Algeria	42.4	12.2	1.1	0.2	16.3	12.6
Angola	36.0	8.3	10.1	1.0	5.7	10.9
Antigua and Barb	21.9	9.4	3.6	2.2	5.7	1.0
Argentina	43.2	13.4	3.2	3.2	19.5	3.9
Belarus	40.3	9.0	5.0	1.7	18.5	6.1
Bosnia and Herz	49.5	13.1	10.6	0.9	18.5	6.4
Botswana	29.3	8.5	7.6	1.1	5.1	7.0
Brazil	38.0	9.5	13.9	4.9	7.2	2.6
Bulgaria	35.7	5.4	6.0	0.8	18.1	5.5
Chile	23.5	6.1	2.4	0.8	10.2	4.1
Colombia	28.3	5.2	2.7	2.7	9.9	7.9
Costa Rica	26.1	9.9	2.2	2.5	9.2	2.3
Dominica	33.6	10.3	6.6	1.6	5.1	10.0
Dom Republic	21.0	3.9	1.9	2.5	6.3	6.5
Gabon	27.0	5.6	3.5	0.9	5.4	11.6
Grenada	23.2	10.0	3.8	1.5	3.2	4.7
Iran	19.6	4.7	1.8	0.0	10.0	3.1
Jamaica	30.8	10.9	4.4	10.5	1.8	3.1
Jordan	31.7	5.2	1.3	2.6	19.2	3.4
Kazakhstan	23.3	3.2	6.7	0.4	8.2	4.7
Latvia	38.7	7.2	4.4	1.6	21.4	4.1
Lebanon	32.3	10.5	0.6	8.6	11.0	1.7
Libya	40.0	16.7	8.0	0.0	10.2	5.1
Lithuania	36.9	9.4	5.4	1.9	16.2	4.1
Macedonia, FYR	32.1	4.8	3.1	0.9	19.3	4.0
Malaysia	29.6	6.3	3.8	2.3	11.7	5.6
Maldives	51.1	15.4	6.0	3.1	13.4	13.2
Mauritius	24.0	5.6	2.1	3.1	10.2	3.0
Mexico	25.3	6.0	3.2	2.6	9.2	4.3
Montenegro, Rep	41.1	11.6	6.1	1.9	17.9	3.6
Namibia	37.8	12.9	5.8	1.9	12.1	5.0
Panama	27.3	6.1	4.3	2.0	6.6	8.3
Peru	19.3	4.8	5.4	1.0	2.6	5.5
Romania	35.5	7.0	5.3	1.8	17.8	3.6
Russia	36.7	7.6	5.0	0.7	17.7	5.8
Serbia	50.7	11.5	8.8	2.2	24.8	3.5
Seychelles	40.9	7.2	8.2	4.1	11.6	9.8
South Africa	32.8	11.7	5.5	2.7	10.7	2.2
St. Lucia	36.7	10.9	4.9	3.6	5.9	11.4
St. Vin and Gren	28.3	12.8	3.8	2.7	6.8	2.2
Suriname	29.7	8.4	7.2	0.9	8.3	5.0
Thailand	23.9	8.6	5.0	0.8	5.9	3.6
Tunisia	35.1	12.4	1.5	1.8	16.6	2.8
Turkey	36.4	8.3	4.0	3.7	16.7	3.8
Tuvalu	80.4	32.7	21.2	0.3	21.9	4.3
Uruguay	34.5	7.1	3.6	2.8	18.3	2.8
median	33.2	8.5	4.7	1.9	10.5	4.3

Table 3.4: Expenditures high income countries (percent of GDP)

	total expend.	compens. employees	goods & services	interest payments	social benefits	net acqu. non-financ. assets
Austria	51.8	9.5	4.3	2.7	35.6	-0.2
Bahamas, The	24.2	7.4	4.5	2.4	5.0	5.0
Bahrain	31.9	11.6	3.1	1.3	9.7	6.1
Barbados	40.7	9.7	4.8	5.7	16.6	3.9
Belgium	52.9	12.8	3.5	3.2	31.7	1.7
Brunei Dar	35.4	9.1	9.0	0.0	11.7	5.7
Canada	40.9	12.8	10.3	3.3	12.9	1.5
Croatia	42.1	10.7	4.5	2.5	22.8	1.6
Cyprus	45.8	16.7	5.0	3.6	18.6	1.9
Czech Republic	45.1	7.5	6.4	1.5	26.2	3.5
Denmark	56.1	19.5	10.5	2.0	21.7	2.4
Equ Guinea	38.0	1.2	2.8	0.3	9.4	24.2
Estonia	44.0	11.1	7.1	0.2	23.4	2.2
Finland	54.9	13.9	10.8	1.3	28.5	0.4
France	56.2	13.0	5.4	2.6	34.7	0.4
Germany	44.8	7.8	4.8	2.3	29.8	0.0
Greece	50.3	12.2	4.5	5.2	24.6	3.7
Hungary	48.9	10.4	7.1	4.2	26.7	0.6
Iceland	45.6	14.4	11.6	5.4	14.5	-0.3
Ireland	41.8	11.5	5.2	3.9	19.5	1.7
Israel	44.1	11.9	12.7	4.3	15.0	0.2
Italy	50.9	10.7	5.7	5.5	29.4	-0.3
Japan	41.3	6.2	3.7	2.1	28.2	1.1
Korea	21.5	7.4	3.6	1.3	7.8	1.4
Kuwait	39.3	10.2	5.8	0.1	17.7	5.6
Luxembourg	43.2	8.1	3.6	0.5	28.8	2.1
Malta	43.2	13.3	6.7	3.3	16.6	3.3
Netherlands	50.1	9.8	7.6	1.9	28.6	2.2
New Zealand	37.4	8.7	12.0	1.5	14.4	0.8
Norway	43.9	13.6	6.8	1.0	21.3	1.2
Oman	37.5	6.9	2.7	0.2	17.0	10.7
Poland	43.2	9.7	5.7	2.9	19.4	5.5
Portugal	45.6	10.0	4.7	4.2	27.0	-0.4
Qatar	35.5	5.5	11.1	1.5	8.6	8.8
San Marino	24.5	8.1	2.2	0.1	11.9	2.2
Saudi Arabia	33.4	10.2	7.9	0.3	4.5	10.5
Singapore	17.8	1.8	5.2	0.0	6.6	4.2
Slovak Republic	36.4	6.7	4.1	1.7	21.8	2.1
Slovenia	45.7	10.7	6.5	1.8	24.0	2.7
Spain	46.7	11.1	5.4	3.0	27.4	-0.1
St. Kitts and Nevis	30.7	11.3	5.9	4.0	6.3	3.2
Sweden	50.1	13.7	13.0	1.2	19.0	3.2
Switzerland	32.6	8.1	4.2	0.8	19.5	0.0
Trin and Tobago	37.7	4.8	5.0	2.1	15.1	10.8
United Arab Em	22.0	2.9	2.7	0.1	13.8	2.4
United Kingdom	43.8	11.2	12.6	3.1	16.6	0.2
United States	40.3	10.8	9.0	2.7	16.8	1.0
median	43.2	10.2	5.4	2.1	19.0	2.1

Table 4: List of countries with an outstanding IMF program

EUR	AFR	
Bosnia and Herz	Benin	Lesotho
Greece	Burkina Faso	Liberia
Ireland	Burundi	Malawi
Kosovo	Cent Afr Republic	Mali
Macedonia, FYR	Comoros	Niger
Moldova	Congo, Dem	São Tom and Prín
Portugal	Côte d'Ivoire	Seychelles
Romania	Gambia, The	Sierra Leone
Serbia	Guinea	South Africa
Ukraine	Guinea-Bissau	Tanzania
	Kenya	

MCD	WHD	APD
Afghanistan	Antigua and Barb	Maldives
Armenia	El Salvador	
Georgia	Grenada	
Iraq	Haiti	
Jordan	St. Kitts and Nev	
Kyrgyz Republic		
Mauritania		
Morocco		

Note: Colombia, Mexico, and Polonia are not included because although they have a Flexible Credit Line (FCL) agreement it does not entail automatic disbursements.

Table 5.1: Determinants of government's revenues (percent of GDP)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Total revenue									
(2) Taxes on inc., profits and cap. gains									
(3) Social contributions									
(4) Other taxes									
(5) Taxes on goods and services									
(6) Taxes on int. trade and transactions									
(7) Grants									
(8) Non-tax revenues									
(9) Modifiable (2) + (3) + (4) + (5)									
GNI per capita (thousands of usd)	0.16*** (0.04)	0.1*** (0.02)		0.06*** (0.01)	-0.08*** (0.02)		-0.03*** (0.01)	0.04** (0.02)	0.1*** (0.04)
Growth gap		0.2** (0.07)							0.3** (0.1)
Old-age dependency ratio (+65/15-64)	0.7*** (0.1)	0.04*** (0.01)	0.3*** (0.04)		0.2*** (0.05)		0.06*** (0.01)		0.5*** (0.1)
Annual population growth (2005-2010)		-0.5*** (0.1)		-0.08** (0.04)					-0.8*** (0.3)
Net oil and gas exports (% of GDP)	0.3*** (0.03)				-0.07*** (0.01)	-0.02** (0.006)		0.4*** (0.02)	-0.1*** (0.03)
Imports (% of GDP)						0.01** (0.002)			
Political particip. (Democracy index)		0.08*** (0.01)							
Constant	21.7*** (1.1)		-1.1*** (0.4)		7.6*** (0.9)	1.2*** (0.2)		5.2*** (0.4)	11.3*** (1.4)
Dummy for IMF Program							1.5*** (0.5)		
Number of Countries	157	144	156	150	157	164	157	164	156
Adjusted R-squared	0.65	0.61	0.79	0.30	0.58	0.80	0.57	0.90	0.80

***, **, *: statistically significant at 1, 5, or 10 percent.

Table 5.2: Determinants of government's revenues (dummies)

(1) Total revenue	(1)								
(2) Taxes on inc., profits and cap. gains		(2)							
(3) Social contributions			(3)						
(4) Other taxes				(4)					
(5) Taxes on goods and services					(5)				
(6) Taxes on int. trade and transactions						(6)			
(7) Grants							(7)		
(8) Non-tax revenues								(8)	
(9) Modifiable (2) + (3) + (4) + (5)									(9)
Dummy for MCD								5.6*** (0.9)	
Dummy for EUR			5.5*** (0.7)		3.6*** (0.8)				8.8*** (1.5)
Dummy for AFR						1.4*** (0.3)			
Dummy for Antilles						3.8*** (0.5)			
Dummy for Denmark		13.9*** (2.9)	-9.1*** (2.4)						
Dummy for Russia						7.1*** (1.6)		-9.5** (4.0)	
Dummy for Tuvalu								35.2*** (3.9)	
Dummy for Botswana						7.1*** (1.6)			
Dummy for Lesotho	41.6*** (7.2)					27.8*** (1.6)			
Dummy for Namibia						8.6*** (1.6)			
Dummy for Swazilandia						19.5*** (1.7)			
Dummy for Solomon Islands	33.5*** (7.2)						22.2*** (2.4)		
Dummy for Burundi							14.2*** (2.4)		
Dummy for Brunei								19.8*** (4.3)	
Dummy for Iraq	31.5*** (7.5)							34.9*** (4.2)	
Dummy for Saudi Arabia								18.7*** (4.1)	
Dummy for Kuwait								28.4*** (4.2)	
Number of Countries	157	144	156	150	157	164	157	164	156
Adjusted R-squared	0.65	0.61	0.79	0.30	0.58	0.80	0.57	0.90	0.80

***, **, *: statistically significant at 1, 5, or 10 percent.

Table 5.3: Determinants of government's revenues (outliers)

Denmark	Its social security system is financed with income taxes and not with payroll taxes
Russia	It charges taxes to the energy exporting companies instead of income taxes
Tuvalu	Receives large revenues from fishing licenses and from renting the domain .tv
Botswana Lesotho Namibia Swazilandia	Members of the South African Customs Union (SACU), with South Africa which results in high revenues for its member countries from taxes to international trade
Burundi Solomon Islands	About half of their revenues come from grants
Brunei Iraq Kuwait Saudi Arabia	Most of their revenues come from energy related sales.

Table 6.1: Determinants of government's expenditures (percent of GDP)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Total expenditures							
(2) Compensation of employees							
(3) Purchase of goods and services							
(4) Interest payments							
(5) Social benefits + other expense							
(6) Net acq. nonfinancial assets							
(7) Modifiable (2) + (3) + (5)							
GNI per capita (thousands of usd)					0.05** (0.02)		0.1*** (0.03)
Expected years of schooling (children)		0.3*** (0.1)					0.8** (0.2)
GDP growth (annual)						0.4*** (0.1)	
Old-age dependency ratio (+65/15-64)	0.4*** (0.1)				0.5*** (0.1)		0.3*** (0.1)
Pop. density (1,000 persons per sq-km)			-0.003** (0.001)				-0.002** (0.001)
Gross debt (% of GDP)	0.05*** (0.02)			0.04*** (0.00)			
Grants (% of GDP)						0.5*** (0.1)	
Net oil and gas exports (% of GDP)	0.15*** (0.03)				0.05*** (0.02)	0.1*** (0.01)	
Gross min. annual wage (thousands of usd)		0.1*** (0.05)					
Instrumented wage bill (% of GDP)			0.7*** (0.03)				
Doing business (ranking)						0.03*** (0.00)	
Constant	23.4*** (1.2)	4.3*** (1.1)			2.6*** (0.7)		7.8*** (2.3)
Number of Countries	151	153	153	156	157	161	157
Adjusted R-squared	0.66	0.52	0.37	0.54	0.75	0.62	0.74

***, **, *: statistically significant at 1, 5, or 10 percent.

Table 6.2: Determinants of government's expenditures (dummies)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Total expenditures							
(2) Compensation of employees							
(3) Purchase of goods and services							
(4) Interest payments							
(5) Social benefits + other expense							
(6) Net acq. nonfinancial assets							
(7) Modifiable (2) + (3) + (5)							
Dummy for MCD			-1.4*** (0.6)		3.6*** (0.9)		
Dummy for EUR	10.1*** (1.9)				6.5*** (1.2)		8.7*** (1.7)
Dummy for Iraq	33.7*** (6.6)	12.2*** (2.8)					31.3*** (5.7)
Dummy for Lesotho	35.8*** (6.3)	13.5*** (2.8)					28.0*** (5.7)
Dummy for Maldives	21.8*** (6.3)	7.4*** (2.8)					15.7*** (5.7)
Dummy for Libya		7.9*** (2.8)					
Dummy for Swazilandia		7.6*** (2.8)					
Dummy for Tuvalu		25.2*** (2.8)					
Dummy for Japan				-6.6*** (1.1)			
Dummy for Jamaica				5.2*** (1.1)			
Dummy for Congo Rep.						16.1*** (3.2)	
Dummy for Afghanistan						-13.9*** (3.3)	
Number of Countries	151	153	153	156	157	161	157
Adjusted R-squared	0.66	0.52	0.37	0.54	0.75	0.62	0.74

***, **, *: statistically significant at 1, 5, or 10 percent.

Table 6.3: Determinants of government's expenditures (outliers)

Tuvalu	Receives large revenues from fishing licenses and from renting the domain .tv
Lesotho Swazilandia	Members of the South African Customs Union (SACU), which results in high revenues from taxes to international trade for its members
Iraq Libya	Large revenues from energy related sales
Maldives	Large fiscal probles because due to high expenditures
Japan	Low interest payments given its gross debt to GDP ratio
Jamaica	High interest payments given its gross debt ratio
Congo Rep.	Large oil revenues that are spent in housing and public works
Afghanistan	A sizable part of the grants are spent in security and not in public investment

Table 7.1: Revenue gaps low income countries (percent of GDP)

	modifiable						non-modifiable		
	aggregate	parts	income taxes	payroll taxes	other taxes	taxes goods & services	taxes int. trade	grants	non-tax revenues
Afghanistan	-6.6		-2.5	-0.4		-2.8	1.3	9.1	-8.1
Benin	-6.8	-7.4	-3.7	-0.5	1.0	-4.2	5.2	-3.7	4.6
Burkina Faso	1.1	1.1	0.0	-0.4	0.0	1.5	-0.5	1.9	-2.2
Burundi	0.5	0.3	-0.3	-0.5	-0.8	1.9	-1.4		-2.8
Cambodia	-6.3	-3.5	-2.0	-0.6	-0.6	-0.4	0.6	1.6	0.5
Cent Afr Republic	-6.8	-3.9	-1.6	-0.5	-0.5	-1.3	0.0	-0.1	-2.3
Chad	-4.2	-3.8	-2.0	-0.5	0.3	-1.6	-0.5	-2.2	-0.1
Comoros	-5.7	-6.9	-2.7	-0.5	-0.2	-3.5	2.0	5.7	3.4
Congo, Dem	1.6	1.4	0.6	-0.5	-0.6	1.9	0.7	2.1	-0.4
Eritrea	-3.2	-2.2	4.1	-0.4	-0.9	-5.0	-1.8	-1.4	3.2
Gambia, The	-0.4	-0.1	1.2	-0.4	-0.5	-0.5	-0.1	7.4	0.5
Guinea	-2.3	-1.0	-1.2	-0.6	-0.9	1.7	0.5	-1.5	2.1
Guinea-Bissau	-7.5	-5.7	-2.1	-0.6	-0.5	-2.5	-0.9	-1.7	0.4
Haiti	-6.5	-3.6	-1.6	-0.8	0.9	-2.2	-1.2	7.1	-2.6
Kenya	5.9	5.2	4.4	-0.5	-0.5	1.8	-1.3	-3.2	1.0
Kyrgyz Republic	7.5	8.5	0.8	4.3	0.1	3.2	1.1	0.3	-0.9
Liberia	2.0	-0.3	3.7	-0.5	-0.1	-3.4	-0.3	-2.5	4.0
Madagascar	-6.4	-8.4	-3.5	-0.6	-0.4	-4.0	1.7	-1.9	-2.8
Malawi	7.5	4.5	2.6	-0.6	-0.1	2.6	-0.4	6.8	-0.1
Mali	4.1	2.2	-1.3	2.3	-0.3	1.5	-0.9	-5.4	-4.3
Mozambique	6.1	3.3	1.3	-0.6	0.1	2.5	-1.2	1.9	-0.8
Nepal	-4.1	-3.0	-2.3	-0.6	0.3	-0.4	1.9	0.9	-1.6
Niger	-0.2	-1.3	-1.3	-0.4	0.5	-0.1	1.0	-0.3	-2.7
Rwanda	0.6	1.3	1.8	-0.5	-0.6	0.6	-1.8	7.7	-2.9
Sierra Leone	-3.1	-2.5	0.1	-0.3	0.0	-2.3	-1.2	-2.9	-1.9
Tajikistan	1.8	5.4	-0.5	2.1	-0.1	3.8	-0.5	0.0	1.4
Tanzania	2.2	-0.7	-1.3	-0.6	1.4	-0.2	-1.7	-1.1	-1.4
Togo	-6.9	-6.0	-2.8	-0.6	0.9	-3.6	6.1	1.0	2.9
Uganda	-0.4	-2.5	-2.5	-0.5	-0.8	1.3	-1.9	-2.2	-3.1
Zimbabwe	14.3		8.4	-0.8		7.7	0.6	-2.8	-0.9

Table 7.2: Revenue gaps low-middle income countries (percent of GDP)

	modifiable					non-modifiable			
	aggregate	parts	income taxes	payroll taxes	other taxes	taxes goods & services	taxes int. trade	grants	non-tax revenues
Albania	-6.2	-4.4	-2.8	-3.4	1.6	0.2	-1.3	-0.4	-1.3
Armenia	-2.2	1.2	0.5	0.2	0.7	-0.2	-0.8	-1.3	-4.7
Belize	1.1			-0.6	-0.6	0.7	0.4	-0.2	3.6
Bolivia	2.7	0.4	-1.9	-0.8	-0.5	3.6	4.7	-0.8	4.6
Cameroon	-0.4	0.6	0.3	-0.6	-0.4	1.4	-0.2	-2.6	-3.7
Cape Verde	-3.1	-5.3	-2.5	-1.1	-0.8	-0.9	0.5	1.2	-1.1
Congo, Rep	0.6	-1.2	-1.7	-0.7	0.0	1.1	-0.3	-2.0	8.2
Côte d'Ivoire	-2.3	-2.1	-2.2	1.1	1.6	-2.6	3.5	-4.2	-2.9
Djibouti	1.9	4.3	5.6	-0.5	0.7	-1.4	-0.2	4.6	9.5
Egypt	0.6	0.8	0.7	1.4	-0.7	-0.5	-0.3	-0.5	-5.2
El Salvador	-3.5	-2.2	-1.2	0.2	-0.9	-0.4	-1.7	-2.0	0.9
Georgia	1.4	4.1	3.9	-4.5	-0.3	5.1	-1.4	-0.6	-6.0
Ghana	0.6	-0.5	2.0	-0.5	-0.5	-1.5	-0.1	-0.1	-1.5
Guatemala	-4.0	-3.3	-2.0	-0.9	0.8	-1.3	-1.0	-2.5	-2.8
Guyana	3.0	2.3	0.1	1.3	0.1	0.9	-3.5	1.5	2.8
Honduras	1.7	2.0	-0.1	1.6	-0.5	0.9	-1.0	-0.7	3.4
Indonesia	-3.7	-2.3	-0.3	-0.9	-0.1	-1.0	-0.9	-0.9	1.4
Lao P.D.R.	0.9	4.2	1.2	-0.6	0.7	2.9	0.2	0.4	-2.9
Moldova	-0.8	1.4	-2.3	2.0	-0.6	2.2	-0.6	0.2	5.1
Mongolia	13.0		2.9	3.7		3.6	0.6	-0.9	3.1
Morocco	6.4	10.0	4.8	-0.9	1.0	5.0	0.0	-1.9	-4.8
Nicaragua	1.4	2.5	0.5	3.7	1.2	-2.8	1.7	0.5	5.6
Nigeria	6.8	5.7	4.2	-0.6	1.9	0.3	-1.3	-3.5	-5.5
Papua New Guin	7.3		1.8	6.9		-2.4	0.4	2.0	-3.2
Paraguay	-1.3	-0.5	-3.6	0.8	-0.2	2.5	-0.1	-1.4	6.3
Philippines	0.9	1.4	-0.2	1.3	0.8	-0.6	-1.1	-1.6	-0.8
São Tom and Prín	-8.0			-0.7	1.1	-6.1	3.4	4.2	1.7
Senegal	4.4	3.0	-1.0	-0.4	-0.3	4.7	-0.3	-0.2	-1.0
Sri Lanka	-6.6		-3.3	-1.7		-1.8	0.0	-0.5	-2.0
Sudan	-7.9	-7.9	-4.4	-0.6	-1.1	-1.8	0.4	-2.3	-8.6
Swaziland	0.5	1.5	4.3	-0.6	-0.4	-1.9		-2.5	-3.7
Tonga	-3.0			-1.3		1.6	-0.1	7.5	0.6
Ukraine	5.6	6.6	2.6	2.2	1.7	0.1	-0.9	-1.7	3.5
Vanuatu	-0.6			-0.6		3.5	2.4	1.2	-1.7
Yemen	-2.3	-4.3	-2.7	-0.5	-0.3	-0.9	-0.1	2.8	-4.2
Zambia	3.2	1.3	2.9	-0.6	-0.3	-0.7	-1.0	-2.9	-2.0

Table 7.3: Revenue gaps high-middle income countries (percent of GDP)

	modifiable						non-modifiable		
	aggregate	parts	income taxes	payroll taxes	other taxes	taxes goods & services	taxes int. trade	grants	non-tax revenues
Algeria	-0.2	-0.2	0.8	-0.7	0.0	-0.4	-0.4	-0.8	3.3
Argentina	14.0	14.0	-1.0	5.2	-0.8	10.6	2.3	-1.0	-6.3
Belarus	-1.4	0.8	2.7	1.4	0.9	-4.3	2.7	-0.7	6.4
Bosnia and Herz	6.2	8.3	-1.3	5.7	-1.1	4.9	-1.2	0.7	3.3
Botswana	-4.5	-5.1	-1.2	-0.6	-0.5	-2.9		-1.7	4.8
Brazil	11.9	12.9	0.2	4.8	0.4	7.6	-0.7	-0.8	-0.1
Bulgaria	-9.0	-9.1	-2.9	-6.4	0.2	0.0	-2.8	2.5	3.3
Chile	1.1	4.1	2.7	-0.7	0.0	2.1	-0.4	-0.4	-2.2
Colombia	6.7	7.4	2.1	1.0	1.9	2.3	-0.6	-2.0	-1.4
Costa Rica	4.2	3.9	-3.3	6.3	-0.6	1.5	-1.2	-0.7	-3.7
Dom Republic	-2.5	-0.2	-0.7	-1.1	0.0	1.6	-0.4	-1.0	-7.8
Gabon	-3.4	-3.8	-2.0	-0.7	0.0	-1.1	1.9	-1.9	-1.7
Grenada	-5.9			-1.4	-0.8	1.3	-0.6	-1.1	-1.3
Iran	-8.7	-5.7	-0.5	-0.8	-0.4	-4.0	-0.3	-0.6	-5.7
Jamaica	-4.9	-3.8	1.5	-1.8	-1.3	-2.3	1.9	-0.7	4.4
Jordan	-1.0	-1.8	-2.5	-0.7	-0.2	1.5	-0.7	1.1	1.0
Kazakhstan	-7.0	-4.2	-0.9	0.0	0.1	-3.3	1.3	-0.9	4.9
Latvia	-10.4	-10.7	-1.2	-5.1	-0.5	-3.9	-1.4	5.2	2.8
Lebanon	-5.0	-5.4	-4.2	-1.4	0.8	-0.6	1.9	-0.7	-2.0
Lithuania	-7.1	-7.3	-2.8	-0.2	-1.2	-3.2	-1.1	2.4	-1.0
Macedonia, FYR	-5.2	-4.9	-4.1	-0.6	0.0	-0.2	-1.1	-0.9	-0.6
Malaysia	1.4	0.9	4.9	-0.8	-0.9	-2.2	-1.4	-1.0	1.6
Mauritius	1.0	3.2	-1.2	-0.9	0.4	4.8	-2.7	0.3	-1.5
Mexico	-3.4	-3.5	-2.3	1.7	-1.1	-1.8	1.6	-2.0	0.3
Montenegro, Rep	4.5	4.3	-2.3	1.6	0.9	4.1	0.1	-0.7	-5.5
Namibia	5.6	3.8	4.2	-0.6	-0.4	0.6		-1.9	-1.1
Panama	0.1	-0.1	-1.8	4.6	-0.2	-2.8	-0.6	-0.9	3.8
Peru	1.6	1.9	0.0	0.9	0.6	0.5	-1.2	-1.1	-2.0
Romania	-4.0	-3.5	-0.7	-1.8	0.9	-1.8	-1.5	-0.2	-1.6
Russia	-1.5	-0.7	0.8	-3.5	1.1	0.9		-0.7	
Serbia	5.0	4.1	-0.7	1.0	0.1	3.8	-0.6	-1.6	1.4
South Africa	8.8	7.8	6.2	-0.7	-0.1	2.5	-2.9	-3.0	-0.8
St. Lucia	-2.2			-1.2	-1.2	0.4	1.2	0.6	-1.0
St. Vin and Gren	-4.0			-1.3	-0.8	-1.5	3.5	0.5	-3.6
Suriname	0.1	1.9	4.8	-0.5	-0.9	-1.6	-1.0	-0.6	1.4
Thailand	-1.5	-0.9	0.5	-0.9	0.1	-0.6	-0.9	-0.7	0.3
Tunisia	3.8	3.5	0.9	3.4	2.0	-2.7	3.3	0.2	-6.4
Turkey	0.0	2.3	0.0	1.7	0.4	0.1	-0.1	-0.7	3.0
Uruguay	4.4	5.1	-1.8	4.5	0.2	2.1	-0.6	-1.0	-1.4

Table 7.4: Revenue gaps high income countries (percent of GDP)

	modifiable						non-modifiable		
	aggregate	parts	income taxes	payroll taxes	other taxes	taxes goods & services	taxes int. trade	grants	non-tax revenues
Austria	4.2	3.3	0.1	3.6	0.4	-0.9	-0.2	-0.7	-1.8
Bahamas, The	-11.9			-1.2	3.5	-4.2	3.5	-0.6	0.9
Bahrain	-0.8	-2.1	-0.2	-0.3	-0.3	-1.3	0.2	-0.1	-6.7
Barbados	8.5			2.9	0.6	5.4	-3.1	-0.4	-1.6
Belgium	5.8	6.1	4.9	3.7	1.8	-4.4	-0.1	-0.8	-1.6
Brunei Dar	-2.5			-0.5	-1.0	-0.2	0.2	-0.6	
Canada	2.8	3.0	1.7	0.1	1.6	-0.4	0.6	-0.6	-0.9
Croatia	-1.9	-3.2	-3.0	-0.9	-0.9	1.6	-1.1	-0.3	-0.9
Cyprus	6.7	8.6	1.8	1.6	-2.1	7.3	-1.7	-0.5	-1.6
Czech Republic	1.6	4.0	1.8	5.2	-1.0	-2.0	-1.1	0.3	-0.3
Denmark	9.7				0.5	5.2	-0.3	-0.8	-6.0
Equ Guinea	3.7	1.0	2.5	-0.5	-0.5	-0.5	-1.4	-2.7	-5.5
Estonia	-3.1	-3.3	-1.1	-0.3	-0.5	-1.3	-1.3	6.6	-0.3
Finland	4.0	3.8	2.5	0.2	-0.8	1.8	-0.2	-0.6	3.1
France	5.6	5.0	-1.0	5.0	2.6	-1.5	-0.1	-0.8	1.0
Germany	-1.6	-2.8	-1.2	2.2	-1.3	-2.6	-0.8	-0.5	-1.7
Greece	-2.5	-4.9	-3.1	-1.0	1.1	-1.9	-0.5	-1.7	3.6
Hungary	0.1	0.4	0.0	1.9	-1.0	-0.5	2.3	0.7	2.8
Iceland	3.8	1.6	4.6	-5.0	0.9	1.2	-1.2	-0.5	1.2
Ireland	-5.4	-5.7	0.2	-3.0	-1.2	-1.7	-0.7	-1.6	0.5
Israel	1.0	-0.9	3.4	-2.0	-1.9	-0.4	1.4	-0.1	-1.1
Italy	2.3	-0.3	4.4	-1.1	1.3	-5.0	1.3	-0.6	-2.0
Japan	-5.1	-7.1	-3.6	1.9	0.1	-5.5	-0.8	-0.8	-4.9
Korea	-3.4	-2.5	-2.3	1.1	0.3	-1.6	-0.9	-0.5	0.2
Kuwait	-4.3	-6.9	-7.8	1.9	-0.8	-0.2	-0.6	-0.6	
Luxembourg	-3.2	0.6	-1.1	1.8	-1.2	1.1	1.5	-0.6	-3.5
Malta	2.8	3.4	6.4	-2.4	-1.3	0.7	-1.8	-0.5	1.4
Netherlands	2.2	0.8	-4.2	4.8	-0.4	0.6	-1.9	-0.7	0.2
New Zealand	3.8	1.9	4.9	-4.1	-1.6	2.6	0.3	-0.7	-0.2
Norway	4.8	6.2	1.7	-1.3	0.1	5.7	-0.4	-0.7	-3.0
Oman	-4.5	-6.0	-4.7	1.2	-0.4	-2.1	-0.3	-0.7	12.6
Poland	1.5	1.4	-0.7	2.7	1.2	-1.8	-1.5	-1.4	2.4
Portugal	-1.3	-3.1	0.2	-1.3	-2.2	0.3	-1.6	-1.7	1.1
Qatar	4.0	3.7	4.1	-0.2	-0.1	-0.2	-0.6	-0.2	10.2
Saudi Arabia	-7.5	-6.5	-3.3	-0.4	-0.8	-1.9	-0.2	-0.9	
Singapore	-7.3	-1.9	0.3	-1.7	1.4	-1.8	-1.7	-0.4	5.6
Slovak Republic	-2.7	-1.4	-2.4	3.8	-1.1	-1.8	-0.9	0.6	-3.0
Slovenia	0.5	-0.6	-2.4	3.3	-1.1	-0.3	-0.7	1.9	-1.6
Spain	-3.3	-4.2	0.0	0.7	0.2	-5.1	-0.6	-0.1	-2.3
Sweden	3.7	2.0	4.0	-6.3	-1.9	6.2	-0.7	-0.8	-1.2
Switzerland	-13.3	-10.3	-3.3	-5.0	0.2	-2.2	-0.4	-0.6	-3.3
Trin and Tobago	-2.1	-2.7	-5.7	-1.1	2.6	1.6	-3.2	-0.4	0.8
United Arab Em	-1.1	-0.5	-0.3	-0.2	1.5	-1.5	-0.6	-0.3	12.8
United Kingdom	-2.1	-3.0	2.0	-5.8	2.3	-1.6	-0.4	-0.8	-6.7
United States	-1.1	-0.1	-1.2	2.0	0.1	-1.0	-1.3	-0.8	0.1

Table 8.1: Expenditure gaps low income countries (percent of GDP)

	modifiable					non-modifiable	
	aggregate	parts	compens. employees	goods & services	social benefits	interest payments	net acqu. non-financ. assets
Afghanistan	7.0	4.9	6.5	0.7	-2.4		
Benin	-2.3	-1.0	0.5	-1.4	-0.1	-0.4	-0.1
Burkina Faso	-0.8	-0.9	-0.1	-1.7	0.9	-0.5	1.0
Burundi	3.1	5.3	0.8	-1.0	5.6	-0.2	-6.0
Cambodia	-7.3	-5.8	-2.3	-0.9	-2.5	-0.7	1.3
Cent Afr Republic	-6.2	-6.8	-1.5	-1.2	-4.1	-0.5	-2.5
Chad	-1.8	-3.7	-1.3	-1.5	-0.8	0.0	5.4
Comoros	-0.2	1.3	0.9	0.4	0.1	-1.1	-3.9
Congo, Dem	1.4	1.8	1.0	1.0	-0.2	1.2	-1.9
Eritrea	7.2	6.4	2.7	4.4	-0.6	-1.6	3.6
Gambia, The	-2.0	-0.7	-0.4	1.6	-2.0	1.6	1.2
Guinea	-2.9				-1.8	-1.0	-1.4
Guinea-Bissau	-4.3	-3.3	-1.3	-1.7	-0.3	-1.5	-6.0
Haiti	-4.3	-4.1	-1.3	0.5	-3.3	-0.2	4.2
Kenya	-0.5	1.4	-0.2	-2.3	3.9	1.1	5.8
Kyrgyz Republic	11.0	10.9	1.2	5.8	4.0	-0.9	4.4
Liberia	6.5	8.4	3.5	4.6	0.2	-0.7	-3.0
Madagascar	-7.3	-6.1	-1.8	-1.6	-2.7	-1.3	-4.9
Malawi	13.7	14.8	1.6	7.6	5.6	0.3	-5.2
Mali	0.1	0.1	-0.6	0.0	0.7	-0.4	-4.3
Mozambique	1.8	1.9	3.0	0.0	-1.1	-0.4	1.3
Nepal	-2.5	-2.4	-3.5	-2.4	3.5	0.0	-2.2
Niger	-1.3	-2.2	-1.6	-0.4	-0.1	-0.4	3.2
Rwanda	-3.6	-1.6	-3.5	-0.3	2.2	-0.5	2.4
Sierra Leone	-4.6	-3.7	-0.6	-1.0	-2.1	0.5	-1.8
Tajikistan	-2.5	-2.0	-1.7	2.7	-3.1	-0.6	2.2
Tanzania	-0.7	-0.2	-0.3	5.6	-5.6	-0.5	-0.2
Togo	0.6	2.2	-1.0	1.2	2.1	-0.8	2.1
Uganda	-8.7	-6.9	-3.3	1.2	-4.8	0.2	1.8
Zimbabwe	13.1	13.6	10.4	-0.3	3.5	-1.1	-1.9

Table 8.2: Expenditure gaps low-middle income countries (percent of GDP)

	modifiable					non-modifiable	
	aggregate	parts	compens. employees	goods & services	social benefits	interest payments	net acqu. non-financ. assets
Albania	-11.0	-9.5	-2.7	-2.4	-4.4	0.8	2.9
Armenia	-3.7	-6.0	-5.3	0.8	-1.4	-0.1	0.5
Belize	0.2	1.6	1.4	0.2	0.0	1.4	0.0
Bolivia	0.6	1.1	1.3	-2.4	2.1	0.0	4.5
Cameroon	-5.7	-5.0	-1.5	-0.2	-3.3	-0.3	-0.8
Cape Verde	-1.3	-0.1	2.4	-1.4	-1.1	-1.6	0.8
Congo, Rep	-5.6	-7.6	-3.7	4.2	-8.0	-0.6	
Côte d'Ivoire	2.1	1.2	1.3	0.3	-0.4	-0.4	-2.9
Djibouti	9.2				-5.4	-1.3	1.9
Egypt	4.6	2.3	-0.2	-2.0	4.6	3.3	-4.3
El Salvador	-3.9	-3.1	1.0	-0.3	-3.8	0.4	0.2
Georgia	-3.2	-6.4	-3.2	1.4	-4.6	-0.2	3.3
Ghana	0.4	2.0	4.4	-2.6	0.2	1.6	2.1
Guatemala	-10.0	-9.4	-3.5	-2.4	-3.4	0.6	1.3
Guyana	1.9	3.1	-1.2	1.4	2.9	-1.0	3.1
Honduras	0.4	0.5	3.6	-1.7	-1.4	0.4	3.7
Indonesia	-6.9	-5.6	-2.5	-3.3	0.2	0.5	-3.0
Lao P.D.R.	-5.9	-5.2	-2.0	-1.1	-2.1	-1.0	-0.8
Moldova	1.9	4.3	2.1	4.3	-2.1	0.0	2.4
Mongolia	9.0	11.7	0.7	0.4	10.6		4.4
Morocco	7.9	6.1	5.1	-0.4	1.4	0.3	-1.6
Nicaragua	4.3	5.4	-1.4	-0.2	7.0	-0.6	-0.7
Nigeria	1.2	0.1	-2.3	-2.5	4.9	1.1	0.4
Papua New Guin	3.2	1.6	0.8	2.8	-1.9		4.0
Paraguay	0.2	0.4	3.3	-2.4	-0.5	0.2	0.6
Philippines	-5.7	-3.9	-2.1	-1.7	0.0	1.5	-3.2
São Tom and Prín	-2.1	-0.4	1.1	-0.3	-1.2	-2.4	-1.8
Senegal	0.0	0.6	-0.3	1.0	-0.1	0.0	4.2
Sri Lanka	-11.9	-11.1	-5.2	-3.0	-2.9		0.1
Sudan	-2.1	-6.1	-0.6	-1.1	-4.4	-1.9	-6.0
Swaziland	10.4			-3.5	2.8	0.2	5.3
Tonga	0.0				-5.6		-3.3
Ukraine	6.7	8.3	2.7	2.0	3.6	0.9	1.7
Vanuatu	2.1	2.5	3.8	0.7	-1.9		-4.5
Yemen	10.2	7.0	4.1	0.1	2.8	4.0	-10.5
Zambia	1.1	1.4	2.4	-0.6	-0.4	0.8	0.9

Table 8.3: Expenditure gaps high-middle income countries (percent of GDP)

	modifiable					non-modifiable	
	aggregate	parts	compens. employees	goods & services	social benefits	interest payments	net acqu. non-financ. assets
Algeria	7.8	5.2	3.8	-3.0	4.4	-0.1	3.4
Argentina	8.7	8.1	3.9	-3.0	7.2	1.6	-1.2
Belarus	-2.7	0.0	0.6	-0.4	-0.1	0.4	2.4
Bosnia and Herz	8.0	8.9	4.7	5.3	-1.1	-0.6	1.6
Botswana	0.6	2.2	0.7	2.5	-1.1	0.6	3.1
Brazil	6.3	7.8	0.9	8.3	-1.5	2.6	-2.7
Bulgaria	-7.1	-6.6	-2.9	0.8	-4.5	0.2	0.9
Chile	-7.1	-6.1	-2.8	-3.4	0.0	0.4	0.2
Colombia	-4.8	-3.8	-3.3	-2.8	2.2	1.6	3.1
Costa Rica	-1.7	-0.3	1.4	-3.1	1.3	1.3	-2.3
Dom Republic	-9.3	-8.5	-3.8	-2.5	-2.2	1.3	0.7
Gabon	-7.4	-7.4	-2.6	-1.9	-2.9	0.3	4.8
Grenada	-7.7	-5.9	0.7	-1.4	-5.3	-2.3	0.4
Iran	-6.1	-7.6	-4.2	-2.5	-0.8	-0.4	-1.4
Jamaica	-5.6	-4.3	2.6	-0.3	-6.7		0.7
Jordan	4.8	4.9	-2.7	-2.3	10.0	-0.1	-5.1
Kazakhstan	-6.5	-6.4	-5.3	2.5	-3.6	-0.1	-1.0
Latvia	-5.2	-5.0	-1.7	-1.3	-2.1	0.3	-1.2
Lebanon	-0.9	-1.8	1.7	-2.4	-1.1	3.7	-3.0
Lithuania	-7.1	-5.8	0.4	-0.4	-5.8	0.5	-0.8
Macedonia, FYR	-6.1	-4.4	-3.6	-2.1	1.3	-0.2	1.3
Malaysia	0.2	1.2	-1.9	-1.3	4.5	0.4	2.4
Mauritius	-3.9	-1.3	-2.5	-1.2	2.3	1.2	-1.0
Mexico	-5.0	-3.3	-2.1	-1.9	0.8	1.1	1.1
Montenegro, Rep	0.2	2.6	3.2	0.7	-1.4	-0.1	2.2
Namibia	11.0				6.3	0.9	2.0
Panama	-5.9	-5.1	-2.5	-1.2	-1.4	0.7	4.2
Peru	-9.5	-9.0	-3.6	-0.1	-5.3	0.3	1.7
Romania	-5.8	-4.4	-1.4	0.0	-3.1	0.5	0.7
Russia	-4.9	-4.0	-1.1	-0.7	-2.2	0.3	-0.6
Serbia	10.2	10.9	3.1	3.6	4.3	-0.1	1.5
South Africa	6.1	8.1	3.7	0.3	4.1	1.2	0.2
St. Lucia	-0.1	1.8	3.1	0.6	-2.0	0.7	6.9
St. Vin and Gren	1.1	2.0	4.4	-0.9	-1.5	0.2	-4.1
Suriname	1.6	2.4	0.3	1.9	0.1	0.2	-2.5
Thailand	-2.7	-2.7	0.5	0.1	-3.3	-0.8	-0.6
Tunisia	7.1	6.3	3.9	-2.5	4.9	0.2	-4.0
Turkey	-2.2	0.8	-0.3	-1.3	2.5	2.3	-0.8
Uruguay	0.1	0.0	-1.6	-2.1	3.7	0.9	-1.1

Table 8.4: Expenditure gaps high income countries (percent of GDP)

	modifiable					non-modifiable	
	aggregate	parts	compens. employees	goods & services	social benefits	interest payments	net acqu. non-financ. assets
Austria	6.4	7.1	-0.9	-2.2	10.2	0.0	-1.5
Bahamas, The	-7.2	-6.3	-1.7	-1.4	-3.3	0.5	2.3
Bahrain	6.0				-1.6	0.0	-4.4
Barbados	4.6	5.5	0.0	0.5	5.1	3.1	0.4
Belgium	4.6	4.8	1.4	-2.8	6.2	-0.3	-0.7
Brunei Dar	3.9				0.7	0.0	-7.1
Canada	3.8	2.2	2.0	3.2	-3.0	0.2	-0.7
Croatia	0.4	-0.2	1.6	-1.2	-0.5	0.5	-1.1
Cyprus	2.9	5.3	6.7	-1.1	-0.4	0.5	-0.1
Czech Republic	2.4	4.2	-1.7	0.8	5.2	-0.1	-0.1
Denmark	6.2	6.0	7.2	2.8	-4.0	0.3	0.7
Equ Guinea	-4.4	-7.5	-5.8	-1.7	0.1	-0.1	13.3
Estonia	2.3	3.2	1.9	1.2	0.1	-0.1	-4.9
Finland	8.6	9.0	2.5	3.4	3.1	-0.6	-1.7
France	10.2	10.1	1.9	-1.5	9.6	-0.6	-2.0
Germany	-2.0	-8.3	-6.5	-3.8	2.0	-0.7	-1.3
Greece	-0.1	0.4	2.5	-1.6	-0.4	-1.1	-0.3
Hungary	6.1	6.4	0.9	1.2	4.3	1.5	-2.4
Iceland	-1.2	0.0	2.2	3.6	-5.8	2.0	-2.9
Ireland	-5.6	-3.6	-0.4	-2.4	-0.8	-0.3	0.0
Israel	2.0	4.0	1.4	7.0	-4.4	1.7	-2.4
Italy	2.4	-0.9	-1.3	-1.6	2.0	1.0	-4.1
Japan	1.9	1.4	-2.3	-0.8	4.4		0.1
Korea	-9.5	-8.8	-3.3	-1.8	-3.8	0.1	-0.6
Kuwait	7.0	5.7	0.4	1.4	4.0	-0.2	-5.1
Luxembourg	-2.8	-0.6	-2.7	-2.8	4.9	-0.3	-3.7
Malta	2.0	3.6	3.0	4.3	-3.7	0.8	-2.6
Netherlands	3.3	3.5	-2.4	1.2	4.8	-0.6	-0.2
New Zealand	1.2	1.0	-3.2	4.3	0.0	0.1	-0.3
Norway	-7.3	-6.6	0.4	-1.8	-5.1	-0.8	-3.6
Oman	3.9	2.1	-1.9	-1.7	5.7	0.0	2.4
Poland	-1.5	-0.1	0.3	0.0	-0.4	0.9	3.8
Portugal	1.3	1.5	0.2	-1.3	2.6	-0.1	-4.1
Qatar	-3.0				-3.6	0.2	-0.4
Saudi Arabia	-0.8	-2.7	1.1	3.3	-7.1	0.1	3.0
Singapore	0.4				-4.3	-3.8	2.6
Slovak Republic	-3.1	-0.6	-2.3	-1.5	3.2	0.0	-0.8
Slovenia	0.6	2.3	0.7	0.3	1.2	-0.1	-2.7
Spain	2.3	3.3	0.8	-1.0	3.5	-0.3	-2.6
Sweden	0.7				-7.7	-0.2	0.9
Switzerland	-14.4	-11.5	-2.6	-2.2	-6.6	-0.9	-1.6
Trin and Tobago	2.7	2.4	-3.1	0.6	4.9	0.9	5.4
United Arab Em	-3.5	-1.5	-4.9	-0.8	4.2	-0.5	-3.8
United Kingdom	-1.6	-2.1	-0.2	6.0	-7.9	-0.1	-1.2
United States	2.8	3.2	-0.1	1.9	1.4	-1.1	-0.7

Table 9.1: Adjustment needs low income countries (percent of GDP)

	necessary adjustment	observed primary balance	required primary balance	nominal potential growth	implicit nominal int. rate	gross debt (% of GDP)	interest payments (% of GDP)
Benin	-0.9	-0.2	-1.1	7.5	2.4	24	0.6
Burkina Faso	1.0	-2.6	-1.6	8.9	1.4	24	0.4
Burundi	-1.4	-0.7	-2.1	14.2	2.7	21	0.6
Cambodia	0.7	-2.9	-2.2	10.9	1.2	26	0.3
Cent Afr Republic	-1.5	0.7	-0.8	7.8	2.3	17	0.4
Chad	2.4	-2.6	-0.3	3.7	2.7	29	0.8
Comoros	-4.3	3.0	-1.3	7.4	1.1	23	0.2
Congo, Dem	-3.0	0.0	-3.0	13.8	3.8	37	1.4
Eritrea	1.4	-10.6	-9.2	10.1	2.4	136	3.3
Gambia, The	-2.7	-0.2	-2.9	11.0	4.5	54	2.4
Guinea	-7.3	-3.1	-10.4	23.5	1.3	59	0.7
Guinea-Bissau	-0.8	-0.7	-1.5	6.8	1.2	29	0.4
Haiti	3.7	-5.5	-1.9	8.5	1.7	30	0.5
Kenya	0.5	-2.5	-2.0	11.0	5.4	45	2.4
Kyrgyz Republic	1.2	-5.0	-3.9	11.0	1.6	47	0.7
Liberia	-3.0	0.7	-2.3	6.9	1.8	49	0.9
Madagascar	-1.0	-2.3	-3.3	10.6	2.1	44	0.9
Malawi	0.6	-2.4	-1.9	10.5	3.7	32	1.2
Mali	-1.0	-0.2	-1.2	7.4	2.5	27	0.7
Mozambique	-2.7	-1.8	-4.5	13.8	2.9	49	1.4
Nepal	-1.9	0.4	-1.6	10.5	3.5	26	0.9
Niger	0.7	-3.2	-2.5	8.6	0.9	35	0.3
Rwanda	-0.7	-1.3	-2.0	12.8	1.0	19	0.2
Sierra Leone	0.0	-1.1	-1.1	8.9	5.0	34	1.7
Tajikistan	-2.0	-1.7	-3.7	13.4	1.8	37	0.7
Tanzania	0.5	-3.8	-3.3	10.6	2.9	49	1.5
Togo	4.2	-5.9	-1.6	7.0	2.7	42	1.1
Uganda	-1.7	-2.1	-3.8	13.1	3.0	44	1.3
Zimbabwe	-3.9	0.9	-3.1	11.3	3.6	47	1.7

Table 9.2: Adjustment needs low-middle income countries (percent of GDP)

	necessary adjustment	observed primary balance	required primary balance	nominal potential growth	implicit nominal int. rate	gross debt (% of GDP)	interest payments (% of GDP)
Albania	0.6	0.3	1.0	5.5	6.5	70	4.6
Armenia	0.3	-0.9	-0.6	8.5	5.2	25	1.3
Belize	0.0	1.7	1.7	4.2	6.3	75	4.7
Bolivia	-4.6	3.1	-1.5	8.8	2.9	29	0.8
Cameroon	-1.1	-0.5	-1.6	7.9	2.3	32	0.8
Cape Verde	1.3	-6.0	-4.7	8.2	2.1	87	1.9
Congo, Rep	-5.8	4.1	-1.7	15.8	1.0	13	0.1
Côte d'Ivoire	0.3	-2.4	-2.1	9.8	4.5	49	2.2
Djibouti	-4.3	0.5	-3.8	8.5	0.0	49	0.0
Egypt	1.9	-4.6	-2.8	14.7	8.5	64	5.4
El Salvador	2.1	-1.5	0.6	4.6	5.5	48	2.6
Georgia	-2.0	0.2	-1.8	12.1	4.0	27	1.1
Ghana	4.0	-6.6	-2.6	15.2	6.0	36	2.2
Guatemala	0.7	-0.8	-0.1	7.7	6.7	26	1.7
Guyana	0.8	-3.4	-2.6	7.2	2.1	57	1.2
Honduras	2.1	-2.8	-0.6	7.3	4.7	30	1.4
Indonesia	-0.4	-0.4	-0.7	12.1	6.8	18	1.2
Lao P.D.R.	-2.8	-1.7	-4.6	12.5	1.2	46	0.6
Moldova	0.3	-1.3	-1.0	10.3	3.0	16	0.5
Morocco	1.8	-3.7	-1.9	8.5	4.3	55	2.4
Nicaragua	-3.5	0.7	-2.8	11.3	3.9	45	1.8
Nigeria	-2.6	2.4	-0.2	11.1	8.4	14	1.1
Paraguay	0.3	-1.0	-0.7	11.1	2.6	10	0.2
Philippines	-1.9	1.5	-0.4	8.9	7.1	34	2.4
São Tom and Prín	2.3	-5.6	-3.2	13.0	0.7	30	0.2
Senegal	2.4	-4.3	-1.9	7.6	3.2	48	1.5
Sudan	-10.0	-3.6	-13.6	16.6	1.5	107	1.6
Swaziland	-2.1	1.5	-0.6	5.4	4.1	60	2.4
Ukraine	1.1	-1.2	-0.2	11.6	9.9	35	3.4
Yemen	-2.7	0.1	-2.6	12.1	5.8	52	3.0
Zambia	1.5	-2.7	-1.3	12.5	6.8	29	2.0

Table 9.3: Adjustment needs high-middle income countries (percent of GDP)

	necessary adjustment	observed primary balance	required primary balance	nominal potential growth	implicit nominal int. rate	gross debt (% of GDP)	interest payments (% of GDP)
Algeria	3.0	-3.2	-0.3	7.5	3.1	7	0.2
Argentina	-4.9	-0.5	-5.4	22.0	4.4	40	1.8
Belarus	-5.3	2.2	-3.1	21.8	5.8	25	1.5
Bosnia and Herz	1.0	-2.1	-1.1	6.8	2.8	32	0.9
Botswana	-1.7	1.4	-0.3	10.3	6.1	8	0.5
Brazil	-1.9	2.1	0.2	9.3	9.0	54	4.8
Bulgaria	0.5	-0.5	0.1	6.6	6.8	11	0.8
Chile	-1.1	1.1	0.0	7.7	7.2	13	1.0
Colombia	-1.8	2.3	0.5	7.4	8.6	27	2.4
Costa Rica	1.8	-2.3	-0.5	10.0	8.0	47	3.7
Dom Republic	5.0	-4.6	0.4	9.2	9.4	37	3.5
Gabon	-0.4	0.7	0.3	7.0	8.5	13	1.1
Grenada	0.9	-2.1	-1.2	5.9	4.4	106	4.7
Iran	0.7	-4.4	-3.7	20.6	0.0	22	0.0
Jamaica	-6.5	5.2	-1.2	10.7	8.8	147	13.0
Jordan	2.0	-4.0	-2.0	7.1	4.0	75	3.0
Kazakhstan	-5.6	5.1	-0.5	10.8	4.0	9	0.4
Latvia	-1.2	0.9	-0.2	6.5	5.5	33	1.8
Lebanon	1.2	-0.4	0.9	6.1	6.4	137	8.7
Lithuania	0.7	-1.3	-0.6	6.8	4.9	40	2.0
Macedonia, FYR	2.3	-2.9	-0.6	6.0	3.8	30	1.1
Malaysia	0.5	-2.1	-1.6	7.5	4.2	56	2.3
Mauritius	-2.7	0.6	-2.1	9.7	4.6	50	2.3
Mexico	0.4	0.0	0.3	6.4	6.8	43	2.9
Montenegro, Rep	3.9	-3.0	0.9	4.0	5.8	48	2.8
Namibia	2.5	-2.2	0.3	9.1	9.6	27	2.6
Panama	0.2	-0.7	-0.5	8.3	5.9	27	1.6
Peru	-3.3	2.8	-0.5	8.1	4.3	16	0.7
Romania	0.6	-0.7	-0.1	6.4	5.6	31	1.8
Russia	-1.3	1.1	-0.3	10.1	7.1	13	0.9
Serbia	4.8	-5.1	-0.2	6.9	6.1	78	4.8
South Africa	1.0	-2.2	-1.2	9.9	6.2	42	2.6
St. Lucia	8.0	-8.1	-0.1	5.1	4.8	96	4.6
St. Vin and Gren	-1.1	0.0	-1.1	5.7	3.6	61	2.2
Suriname	0.2	-1.0	-0.8	9.1	3.2	15	0.5
Thailand	-0.2	-1.9	-2.1	6.8	2.2	51	1.1
Tunisia	0.8	-3.1	-2.3	9.5	3.8	47	1.8
Turkey	-1.1	1.4	0.3	9.2	9.2	36	3.3
Uruguay	-0.5	0.2	-0.3	9.6	8.0	36	2.9

Table 9.4: Adjustment needs high income countries (percent of GDP)

	necessary adjustment	observed primary balance	required primary balance	nominal potential growth	implicit nominal int. rate	gross debt (% of GDP)	interest payments (% of GDP)
Austria	0.9	-0.6	0.3	3.3	3.6	70	2.5
Bahamas, The	3.8	-3.4	0.4	4.7	5.1	54	2.8
Bahrain	2.0	-1.4	0.6	4.2	5.1	61	3.1
Barbados	4.3	-0.5	3.8	5.2	11.9	54	6.5
Belgium	-0.8	0.2	-0.7	2.7	1.9	91	1.7
Canada	0.0	0.1	0.1	4.6	4.6	78	3.6
Croatia	1.4	-1.5	-0.1	5.6	5.2	64	3.3
Cyprus	5.0	-2.3	2.7	2.0	4.6	106	4.8
Czech Republic	3.2	-3.5	-0.4	4.7	3.7	46	1.7
Denmark	2.0	-2.0	0.0	3.3	3.2	46	1.5
Equ Guinea	1.7	-1.7	0.0	3.7	5.1	3	0.1
Estonia	-0.1	0.0	-0.1	5.9	4.5	8	0.3
Finland	-0.1	-0.3	-0.5	4.1	3.0	52	1.6
France	1.3	-1.8	-0.4	3.6	3.0	86	2.6
Germany	-2.4	2.3	-0.2	2.7	2.4	74	1.8
Greece	0.5	-1.5	-1.0	4.9	4.0	153	6.1
Hungary	-0.3	1.7	1.5	4.5	6.2	77	4.7
Iceland	-1.5	2.8	1.3	5.1	6.5	77	5.0
Ireland	4.7	-3.9	0.7	4.4	4.9	108	5.3
Israel	1.3	-0.7	0.6	5.4	6.0	67	4.0
Italy	-0.1	2.7	2.5	2.9	4.9	121	6.0
Japan	5.5	-8.1	-2.6	2.4	1.4	250	3.4
Korea	-3.6	3.2	-0.3	6.6	4.7	23	1.1
Kuwait	-30.5	30.5	0.0	3.9	3.2	6	0.2
Luxembourg	0.6	-1.4	-0.8	4.0	1.6	37	0.6
Malta	0.7	0.3	0.9	4.2	5.5	63	3.5
Netherlands	2.0	-2.2	-0.2	3.3	2.9	75	2.2
New Zealand	1.6	-1.1	0.5	4.1	5.3	35	1.8
Norway	-15.5	14.0	-1.6	5.0	1.6	50	0.8
Oman	-8.2	8.1	-0.1	4.1	3.3	14	0.4
Poland	0.1	-0.5	-0.3	6.1	5.2	53	2.7
Portugal	1.9	-0.8	1.2	3.5	4.4	115	5.1
Qatar	-10.0	9.5	-0.5	7.3	4.9	27	1.3
Saudi Arabia	-15.4	15.5	0.1	4.8	6.0	5	0.3
Singapore	-10.2	5.0	-5.2	5.9	0.0	94	0.0
Slovak Republic	2.6	-3.3	-0.7	5.5	3.8	49	1.8
Slovenia	1.8	-1.9	-0.1	3.9	3.6	59	2.1
Spain	9.5	-7.3	2.2	2.9	5.0	101	5.0
Sweden	-1.2	0.7	-0.5	5.1	2.9	24	0.7
Switzerland	-1.5	1.3	-0.2	2.9	2.3	42	1.0
Trin and Tobago	2.4	-2.3	0.2	5.2	5.3	42	2.3
United Arab Em	-14.9	14.7	-0.2	4.4	2.9	18	0.5
United Kingdom	4.7	-5.2	-0.4	4.4	3.7	94	3.5
United States	3.9	-5.9	-2.0	5.6	3.5	114	4.0

Table 10.1: Fiscal gap and adjustment needs low income countries (percent of GDP)

	difference	fiscal gap	revenue gap	expenditure gap	necessary adjustment
Benin	7.1	7.1	7.1	0.0	0.0
Burkina Faso	-1.0	0.0	0.0	0.0	1.0
Burundi	4.2	4.2	0.0	4.2	0.0
Cambodia	4.2	4.9	4.9	0.0	0.7
Cent Afr Republic	5.3	5.3	5.3	0.0	0.0
Chad	1.6	4.0	4.0	0.0	2.4
Comoros	6.8	6.8	6.3	0.5	0.0
Congo, Dem	1.6	1.6	0.0	1.6	0.0
Eritrea	8.1	9.5	2.7	6.8	1.4
Gambia, The	0.3	0.3	0.3	0.0	0.0
Guinea	1.7	1.7	1.7	0.0	0.0
Guinea-Bissau	6.6	6.6	6.6	0.0	0.0
Haiti	1.4	5.0	5.0	0.0	3.7
Kenya	0.0	0.4	0.0	0.4	0.5
Kyrgyz Republic	9.8	10.9	0.0	10.9	1.2
Liberia	7.4	7.4	0.0	7.4	0.0
Madagascar	7.4	7.4	7.4	0.0	0.0
Malawi	13.7	14.3	0.0	14.3	0.6
Mali	0.1	0.1	0.0	0.1	0.0
Mozambique	1.9	1.9	0.0	1.9	0.0
Nepal	3.5	3.5	3.5	0.0	0.0
Niger	0.0	0.7	0.7	0.0	0.7
Rwanda	0.0	0.0	0.0	0.0	0.0
Sierra Leone	2.8	2.8	2.8	0.0	0.0
Tajikistan	0.0	0.0	0.0	0.0	0.0
Tanzania	-0.5	0.0	0.0	0.0	0.5
Togo	3.7	7.9	6.5	1.4	4.2
Uganda	1.5	1.5	1.5	0.0	0.0
Zimbabwe	13.4	13.4	0.0	13.4	0.0

Table 10.2: Fiscal gap and adjustment needs low-middle income countries (percent of GDP)

	difference	fiscal gap	revenue gap	expenditure gap	necessary adjustment
Albania	4.6	5.3	5.3	0.0	0.6
Armenia	0.2	0.5	0.5	0.0	0.3
Belize	0.9	0.9	0.0	0.9	0.0
Bolivia	0.8	0.8	0.0	0.8	0.0
Cameroon	0.0	0.0	0.0	0.0	0.0
Cape Verde	2.9	4.2	4.2	0.0	1.3
Congo, Rep	0.3	0.3	0.3	0.0	0.0
Côte d'Ivoire	3.6	3.9	2.2	1.7	0.3
Djibouti	9.2	9.2	0.0	9.2	0.0
Egypt	1.6	3.4	0.0	3.4	1.9
El Salvador	0.8	2.9	2.9	0.0	2.1
Georgia	0.0	0.0	0.0	0.0	0.0
Ghana	-2.8	1.2	0.0	1.2	4.0
Guatemala	2.9	3.6	3.6	0.0	0.7
Guyana	1.7	2.5	0.0	2.5	0.8
Honduras	-1.7	0.4	0.0	0.4	2.1
Indonesia	3.0	3.0	3.0	0.0	0.0
Lao P.D.R.	0.0	0.0	0.0	0.0	0.0
Moldova	2.8	3.1	0.0	3.1	0.3
Morocco	5.2	7.0	0.0	7.0	1.8
Nicaragua	4.8	4.8	0.0	4.8	0.0
Nigeria	0.7	0.7	0.0	0.7	0.0
Paraguay	1.0	1.3	0.9	0.3	0.3
Philippines	0.0	0.0	0.0	0.0	0.0
São Tom and Prín	5.6	8.0	8.0	0.0	2.3
Senegal	-2.1	0.3	0.0	0.3	2.4
Sudan	7.9	7.9	7.9	0.0	0.0
Swaziland	10.4	10.4	0.0	10.4	0.0
Ukraine	6.5	7.5	0.0	7.5	1.1
Yemen	11.9	11.9	3.3	8.6	0.0
Zambia	-0.2	1.2	0.0	1.2	1.5

Table 10.3: Fiscal gap and adjustment needs high-middle income countries (percent of GDP)

	difference	fiscal gap	revenue gap	expenditure gap	necessary adjustment
Algeria	3.7	6.7	0.2	6.5	3.0
Argentina	8.4	8.4	0.0	8.4	0.0
Belarus	0.3	0.3	0.3	0.0	0.0
Bosnia and Herz	7.4	8.5	0.0	8.5	1.0
Botswana	6.2	6.2	4.8	1.4	0.0
Brazil	7.0	7.0	0.0	7.0	0.0
Bulgaria	8.6	9.1	9.1	0.0	0.5
Chile	0.0	0.0	0.0	0.0	0.0
Colombia	0.0	0.0	0.0	0.0	0.0
Costa Rica	-1.8	0.0	0.0	0.0	1.8
Dom Republic	-3.6	1.4	1.4	0.0	5.0
Gabon	3.6	3.6	3.6	0.0	0.0
Grenada	5.0	5.9	5.9	0.0	0.9
Iran	6.5	7.2	7.2	0.0	0.7
Jamaica	4.4	4.4	4.4	0.0	0.0
Jordan	4.3	6.3	1.4	4.9	2.0
Kazakhstan	5.6	5.6	5.6	0.0	0.0
Latvia	10.6	10.6	10.6	0.0	0.0
Lebanon	3.9	5.2	5.2	0.0	1.2
Lithuania	6.6	7.2	7.2	0.0	0.7
Macedonia, FYR	2.7	5.1	5.1	0.0	2.3
Malaysia	0.2	0.7	0.0	0.7	0.5
Mauritius	0.0	0.0	0.0	0.0	0.0
Mexico	3.1	3.4	3.4	0.0	0.4
Montenegro, Rep	-2.5	1.4	0.0	1.4	3.9
Namibia	8.5	11.0	0.0	11.0	2.5
Panama	-0.2	0.0	0.0	0.0	0.2
Peru	0.0	0.0	0.0	0.0	0.0
Romania	3.2	3.7	3.7	0.0	0.6
Russia	1.1	1.1	1.1	0.0	0.0
Serbia	5.7	10.5	0.0	10.5	4.8
South Africa	6.1	7.1	0.0	7.1	1.0
St. Lucia	-5.0	3.1	2.2	0.9	8.0
St. Vin and Gren	5.6	5.6	4.0	1.6	0.0
Suriname	1.8	2.0	0.0	2.0	0.2
Thailand	1.2	1.2	1.2	0.0	0.0
Tunisia	6.0	6.7	0.0	6.7	0.8
Turkey	0.0	0.0	0.0	0.0	0.0
Uruguay	0.1	0.1	0.0	0.1	0.0

Table 10.4: Fiscal gap and adjustment needs high income countries (percent of GDP)

	difference	fiscal gap	revenue gap	expenditure gap	necessary adjustment
Austria	5.9	6.7	0.0	6.7	0.9
Bahamas, The	8.1	11.9	11.9	0.0	3.8
Bahrain	5.4	7.5	1.4	6.0	2.0
Barbados	0.7	5.1	0.0	5.1	4.3
Belgium	4.7	4.7	0.0	4.7	0.0
Canada	3.0	3.0	0.0	3.0	0.0
Croatia	1.3	2.7	2.6	0.1	1.4
Cyprus	-0.9	4.1	0.0	4.1	5.0
Czech Republic	0.1	3.3	0.0	3.3	3.2
Denmark	4.1	6.1	0.0	6.1	2.0
Equ Guinea	-1.7	0.0	0.0	0.0	1.7
Estonia	5.9	5.9	3.2	2.7	0.0
Finland	8.8	8.8	0.0	8.8	0.0
France	8.8	10.1	0.0	10.1	1.3
Germany	2.2	2.2	2.2	0.0	0.0
Greece	3.4	3.9	3.7	0.2	0.5
Hungary	6.3	6.3	0.0	6.3	0.0
Iceland	0.0	0.0	0.0	0.0	0.0
Ireland	0.9	5.6	5.6	0.0	4.7
Israel	1.7	3.0	0.0	3.0	1.3
Italy	0.7	0.7	0.0	0.7	0.0
Japan	2.3	7.7	6.1	1.7	5.5
Korea	2.9	2.9	2.9	0.0	0.0
Kuwait	11.9	11.9	5.6	6.4	0.0
Luxembourg	0.7	1.3	1.3	0.0	0.6
Malta	2.1	2.8	0.0	2.8	0.7
Netherlands	1.4	3.4	0.0	3.4	2.0
New Zealand	-0.4	1.1	0.0	1.1	1.6
Norway	0.0	0.0	0.0	0.0	0.0
Oman	8.3	8.3	5.3	3.0	0.0
Poland	-0.1	0.0	0.0	0.0	0.1
Portugal	1.6	3.6	2.2	1.4	1.9
Qatar	0.0	0.0	0.0	0.0	0.0
Saudi Arabia	7.0	7.0	7.0	0.0	0.0
Singapore	5.0	5.0	4.6	0.4	0.0
Slovak Republic	-0.5	2.0	2.0	0.0	2.6
Slovenia	-0.3	1.5	0.1	1.4	1.8
Spain	-2.9	6.6	3.7	2.8	9.5
Sweden	0.7	0.7	0.0	0.7	0.0
Switzerland	11.8	11.8	11.8	0.0	0.0
Trin and Tobago	2.5	4.9	2.4	2.6	2.4
United Arab Em	0.8	0.8	0.8	0.0	0.0
United Kingdom	-2.2	2.5	2.5	0.0	4.7
United States	-0.3	3.6	0.6	3.0	3.9

Table 11: List of countries by group

Low income countries			Low-middle income countries		
Group 1	Group 2	Group 3	Group 1	Group 2	Group 3
Benin	Afghanistan	Burkina Faso	Armenia	Albania*	Ghana
Burundi	Cambodia*	Tanzania	Belize	Cape Verde	Honduras
Cent Afr Republic	Chad*		Bolivia	Egypt	Senegal
Comoros	Eritrea		Cameroon	El Salvador*	
Congo, Dem	Haiti*		Congo, Rep	Guatemala*	
Gambia, The	Kenya*		Côte d'Ivoire	Guyana*	
Guinea	Kyrgyz Republic		Djibouti	Morocco*	
Guinea-Bissau	Malawi		Georgia	São Tom and Prín	
Liberia	Niger*		Indonesia	Ukraine	
Madagascar	Togo		Lao P.D.R.	Zambia*	
Mali			Moldova		
Mozambique			Nicaragua		
Nepal			Nigeria		
Rwanda			Paraguay		
Sierra Leone			Philippines		
Tajikistan			Sudan		
Uganda			Swaziland		
Zimbabwe			Yemen		
High-middle income countries			High income countries		
Group 1	Group 2	Group 3	Group 1	Group 2	Group 3
Argentina	Algeria	Costa Rica	Belgium	Austria	Cyprus
Belarus	Bosnia and Herz	Dom Republic	Canada	Bahamas, The	Equ Guinea
Botswana	Bulgaria	Montenegro, Rep	Estonia	Bahrain	New Zealand
Brazil	Grenada*	St. Lucia	Finland	Barbados*	Slovak Republic
Chile	Iran*		Germany	Croatia	Slovenia
Colombia	Jordan		Hungary	Czech Republic*	Spain
Gabon	Lebanon		Iceland	Denmark*	United Kingdom
Jamaica	Lithuania		Italy	France	
Kazakhstan	Macedonia, FYR*		Korea	Greece	
Latvia	Malaysia*		Kuwait	Ireland*	
Mauritius	Mexico*		Norway	Israel	
Panama	Namibia		Oman	Japan	
Peru	Romania*		Poland	Luxembourg*	
Russia	Serbia		Qatar	Malta*	
St. Vin and Gren	South Africa*		Saudi Arabia	Netherlands	
Suriname	Tunisia		Singapore	Portugal	
Thailand			Sweden	Trin and Tobago	
Turkey			Switzerland	United States	
Uruguay			United Arab Em		

Table 12.1.1: Size fiscal consolidation low income countries (percent of GDP)

	revenues	income taxes	payroll taxes	other taxes	taxes goods & services	expenditures	compens. employees	goods & services	social benefits
Cambodia	4.9	2.6	0.8	0.8	0.8				
Chad	4.0	3.2	0.9						
Eritrea	2.7		0.5	1.1	1.1	6.8	2.6	4.3	
Haiti	5.0	3.4	1.7						
Kenya						0.4			0.4
Kyrgyz Republic						10.9	1.2	5.8	4.0
Malawi						14.3	1.6	7.3	5.4
Niger	0.7	0.6	0.2						
Sierra Leone	2.8		2.7	0.0	0.0				
Togo	6.5	5.4	1.1			1.4		0.5	0.9
Uganda	1.5	0.8	0.2	0.3	0.3				

Table 12.1.2: Composition fiscal consolidation low income countries

	revenues	income taxes	other taxes	payroll taxes	taxes goods & services	expenditures	compens. employees	goods & services	social benefits
Cambodia	100	53	16	16	16				
Chad	100	79	21						
Eritrea	28		5	11	11	72	27	45	
Haiti	100	67	33						
Kenya						100			100
Kyrgyz Republic						100	11	53	36
Malawi						100	11	51	38
Niger	100	75	25						
Sierra Leone	100		97	2	2				
Togo	82	68	14			18		7	11
Uganda	100	54	10	18	18				

Table 12.2.1: Size fiscal consolidation low-middle income countries (percent of GDP)

	revenues	income taxes	payroll taxes	other taxes	taxes goods & services	expenditures	compens. employees	goods & services	social benefits
Albania	5.3	2.4	2.9						
Armenia	0.5				0.5				
Belize						0.9	0.8	0.1	
Cape Verde	4.2	2.0	0.9	0.6	0.7				
Egypt						3.4			3.4
El Salvador	2.9	1.4		1.0	0.5				
Ghana						1.2	1.2		0.1
Guatemala	3.6	1.8	0.8		1.1				
Guyana						2.5		0.8	1.7
Honduras						0.4	0.4		
Moldova						3.1	1.0	2.1	
Morocco						7.0	5.5		1.5
Paraguay	0.9	0.9		0.1		0.3	0.3		
Senegal						0.3		0.3	
Sudan	7.9	4.4	0.6	1.1	1.8				
Ukraine						7.5	2.5	1.8	3.2
Yemen	3.3	2.1	0.3	0.2	0.6	8.6	5.0	0.1	3.5
Zambia						1.2	1.2		

Table 12.2.2: Composition fiscal consolidation low-middle income countries

	revenues	income taxes	other taxes	payroll taxes	taxes goods & services	expenditures	compens. employees	goods & services	social benefits
Albania	100	46	54						
Armenia	100				100				
Belize						100	88	12	
Cape Verde	100	47	21	15	18				
Egypt						100			100
El Salvador	100	49		35	16				
Ghana						100	96		4
Guatemala	100	49	21		30				
Guyana						100		33	67
Honduras						100	100		
Moldova						100	33	67	
Morocco						100	79		21
Paraguay	75	70		5		25	25		
Senegal						100		100	
Sudan	100	56	8	14	22				
Ukraine						100	33	24	43
Yemen	28	17	3	2	5	72	42	1	29
Zambia						100	100		

Table 12.3.1: Size fiscal consolidation high-middle income countries (percent of GDP)

	revenues	income taxes	payroll taxes	other taxes	taxes goods & services	expenditures	compens. employees	goods & services	social benefits
Algeria	0.2		0.1		0.1	6.5	3.0		3.5
Argentina						8.4	3.0		5.4
Bosnia and Herz						8.5	4.0	4.5	
Bulgaria	9.1	2.8	6.3		0.0				
Dom Republic	1.4	0.5	0.8	0.0					
Grenada	5.9		3.8	2.2					
Iran	7.2	0.7	0.9	0.5	5.1				
Jamaica	4.4		1.5	1.0	1.9				
Jordan	1.4	1.1	0.3	0.1		4.9			4.9
Lebanon	5.2	3.5	1.2		0.5				
Lithuania	7.2	2.8	0.2	1.2	3.1				
Macedonia, FYR	5.1	4.2	0.6		0.2				
Malaysia						0.7			0.7
Mexico	3.4	1.5		0.7	1.2				
Montenegro, Rep						1.4	1.1	0.3	
Namibia						11.0			11.0
Panama	0.0	0.0		0.0	0.0				
Romania	3.7	0.6	1.6		1.5				
Serbia						10.5	3.0	3.4	4.1
South Africa						7.1	3.2	0.3	3.6
St. Lucia	2.2		1.1	1.1		0.9	0.7	0.1	
St. Vin and Gren	4.0		1.4	0.9	1.7	1.6	1.6		
Suriname						2.0	0.3	1.6	0.1
Thailand	1.2		0.7		0.5				
Tunisia						6.7	3.0		3.7
Uruguay						0.1			0.1

Table 12.3.2: Composition fiscal consolidation high-middle income countries

	revenues	income taxes	other taxes	payroll taxes	taxes goods & services	expenditures	compens. employees	goods & services	social benefits
Algeria	3		2		1	97	45		52
Argentina						100	35		65
Bosnia and Herz						100	47	53	
Bulgaria	100	31	69		0				
Dom Republic	100	38	61	1					
Grenada	100		63	37					
Iran	100	9	13	7	70				
Jamaica	100		33	24	43				
Jordan	22	17	5	1		78			78
Lebanon	100	68	22		9				
Lithuania	100	39	2	16	43				
Macedonia, FYR	100	83	13		4				
Malaysia						100			100
Mexico	100	44		21	35				
Montenegro, Rep						100	82	18	
Namibia						100			100
Panama	100	37		4	59				
Romania	100	16	42		41				
Serbia						100	28	33	39
South Africa						100	45	4	51
St. Lucia	72		37	35		28	23	5	
St. Vin and Gren	72		25	16	31	28	28		
Suriname						100	14	80	6
Thailand	100		62		38				
Tunisia						100	45		55
Uruguay						100			100

Table 12.4.1: Size fiscal consolidation high income countries (percent of GDP)

	revenues	income taxes	payroll taxes	other taxes	taxes goods & services	expenditures	compens. employees	goods & services	social benefits
Austria						6.7			6.7
Bahamas, The	11.9		2.6		9.3				
Barbados						5.1		0.5	4.6
Belgium						4.7	0.8		3.9
Canada						3.0	1.2	1.9	
Croatia	2.6	1.6	0.5	0.5		0.1	0.1		
Cyprus						4.1	4.1		
Czech Republic						3.3		0.4	2.9
Denmark						6.1	4.4	1.7	
Finland						8.8	2.5	3.3	3.0
France						10.1	1.7		8.5
Greece	3.7	1.9	0.6		1.2	0.2	0.2		
Hungary						6.3	0.9	1.2	4.2
Ireland	5.6		2.8	1.1	1.6				
Israel						3.0	0.5	2.5	
Italy						0.7			0.7
Japan	6.1	2.4			3.7	1.7			1.7
Luxembourg	1.3	0.6		0.7					
Malta						2.8	1.1	1.6	
Netherlands						3.4		0.7	2.7
Oman	5.3	3.5		0.3	1.5	3.0			3.0
Portugal	2.2		0.8	1.4		1.4	0.1		1.3
Slovak Republic	2.0	0.9		0.4	0.7				
Slovenia	0.1	0.0		0.0	0.0	1.4	0.5	0.2	0.8
Spain	3.7				3.7	2.8	0.6		2.3
Trin and Tobago	2.4	2.0	0.4			2.6		0.3	2.3
United Kingdom	2.5		2.0		0.5				
United States	0.6	0.3			0.3	3.0		1.7	1.2

Table 12.4.2: Composition fiscal consolidation high income countries

	revenues	income taxes	payroll taxes	other taxes	taxes goods & services	expenditures	compens. employees	goods & services	social benefits
Austria						100			100
Bahamas, The	100		22		78				
Barbados						100		9	91
Belgium						100	18		82
Canada						100	39	61	
Croatia	96	59	18	19		4	4		
Cyprus						100	100		
Czech Republic						100		13	87
Denmark						100	72	28	
Finland						100	28	38	34
France						100	17		83
Greece	96	49	16		30	4	4		
Hungary						100	14	19	67
Ireland	100		51	20	30				
Israel						100	17	83	
Italy						100			100
Japan	79	31			47	21			21
Luxembourg	100	49		51					
Malta						100	42	58	
Netherlands						100		20	80
Oman	64	42		3	19	36			36
Portugal	61		22	38		39	3		36
Slovak Republic	100	46		20	34				
Slovenia	4	3		1	0	96	32	13	52
Spain	57				57	43	8		35
Trin and Tobago	48	40	8			52		6	46
United Kingdom	100		79		21				
United States	17	9			8	83		48	35

Table 13.1: Determinants of government's revenues (percent of GDP)**Restricted sample: only high- middle and high income countries**

	(1)	(2)	(3)	(4)	(5)	(6)	(8)	(9)
(1) Total revenue								
(2) Taxes on inc., profits and cap. gains								
(3) Social contributions								
(4) Other taxes								
(5) Taxes on goods and services								
(6) Taxes on int. trade and transactions								
(7) Grants								
(8) Non-tax revenues								
(9) Modifiable (2) + (3) + (4) + (5)								
GNI per capita (thousands of usd)	0.15*** (0.04)	0.1*** (0.02)		0.06*** (0.02)	-0.07*** (0.02)			0.1* (0.03)
Old-age dependency ratio (+65/15-64)	0.7*** (0.1)		0.4*** (0.05)		0.2** (0.07)			0.8*** (0.1)
Annual population growth (2005-2010)		-0.3*** (0.1)						
Net oil and gas exports (% of GDP)	0.3*** (0.04)				-0.06*** (0.02)		0.4*** (0.02)	-0.1*** (0.03)
Imports (% of GDP)						0.01** (0.005)		
Political particip. (Democracy index)		1.1*** (0.1)						
Constant	20.0*** (1.1)		-1.7** (0.7)		6.2*** (0.9)	1.0*** (0.3)	6.0*** (0.5)	8.1*** (1.5)
Number of Countries	87	80	87	92	87	92	93	87
Adjusted R-squared	0.58	0.68	0.76	0.26	0.61	0.64	0.91	0.82

***, **, *: statistically significant at 1, 5, or 10 percent.

Table 13.2: Determinants of government's revenues (dummies)**Restricted sample: only high- middle and high income countries**

	(1)	(2)	(3)	(4)	(5)	(6)	(8)	(9)
(1) Total revenue	(1)							
(2) Taxes on inc., profits and cap. gains		(2)						
(3) Social contributions			(3)					
(4) Other taxes				(4)				
(5) Taxes on goods and services					(5)			
(6) Taxes on int. trade and transactions						(6)		
(7) Grants								
(8) Non-tax revenues							(8)	
(9) Modifiable (2) + (3) + (4) + (5)								(9)
Dummy for MCD							8.4*** (1.5)	
Dummy for EUR			4.9*** (0.9)		4.1*** (1.0)			8.5*** (1.8)
Dummy for Antilles						4.3*** (0.5)		
Dummy for Denmark		13.5*** (3.0)	-10.1*** (2.8)					
Dummy for Russia						7.1*** (1.5)	-9.8** (4.1)	
Dummy for Tuvalu							34.6*** (4.1)	
Dummy for Botswana						8.6*** (1.5)		
Dummy for Namibia						10.1*** (1.5)		
Dummy for Brunei							20.9*** (4.6)	
Dummy for Saudi Arabia							16.2*** (4.3)	
Dummy for Kuwait							27.3*** (4.4)	
Number of Countries	87	80	87	92	87	92	93	87
Adjusted R-squared	0.58	0.68	0.76	0.26	0.61	0.64	0.91	0.82

***, **, *: statistically significant at 1, 5, or 10 percent.

Table 14.1: Determinants of government's expenditures (percent of GDP)**Restricted sample: only high-middle and high income countries**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Total expenditures							
(2) Compensation of employees							
(3) Purchase of goods and services							
(4) Interest payments							
(5) Social benefits + other expense							
(6) Net acq. nonfinancial assets							
(7) Modifiable (2) + (3) + (5)							
GNI per capita (thousands of usd)					0.05** (0.02)		0.1*** (0.03)
Expected years of schooling (children)		0.1** (0.05)					1.4** (0.1)
GDP growth (annual)						0.4*** (0.1)	
Old-age dependency ratio (+65/15-64)	0.4*** (0.1)				0.5*** (0.1)		0.3*** (0.1)
Pop. density (1,000 persons per sq-km)			-0.003** (0.001)				-0.002** (0.001)
Gross debt (% of GDP)	0.05*** (0.02)			0.04*** (0.00)			
Grants (% of GDP)						0.5*** (0.2)	
Net oil and gas exports (% of GDP)	0.16*** (0.03)				0.06*** (0.02)	0.1*** (0.02)	
Gross min. annual wage (thousands of usd)		0.6*** (0.0)					
Instrumented wage bill (% of GDP)			0.7*** (0.04)				
Doing business (ranking)						0.04*** (0.01)	
Constant	23.1*** (1.7)						
Number of Countries	87	87	87	92	87	90	87
Adjusted R-squared	0.63	0.56	0.41	0.64	0.67	0.47	0.71

***, **, *: statistically significant at 1, 5, or 10 percent.

Table 14.2: Determinants of government's expenditures (dummies)**Restricted sample: only high- middle and high income countries**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Total expenditures							
(2) Compensation of employees							
(3) Purchase of goods and services							
(4) Interest payments							
(5) Social benefits + other expense							
(6) Net acq. nonfinancial assets							
(7) Modifiable (2) + (3) + (5)							
Dummy for MCD			-2.2*** (0.8)				
Dummy for EUR	9.9*** (2.0)				6.0*** (1.5)		8.3*** (1.9)
Dummy for Maldives	22.2*** (5.9)	8.0*** (2.8)					16.4*** (5.7)
Dummy for Libya		7.3*** (2.8)					
Dummy for Tuvalu		26.3*** (2.7)					
Dummy for Japan				-6.8*** (1.1)			
Dummy for Jamaica				5.1*** (1.1)			
Number of Countries	87	87	87	92	87	90	87
Adjusted R-squared	0.63	0.56	0.41	0.64	0.67	0.47	0.71

***, **, *: statistically significant at 1, 5, or 10 percent.

Table 15: Fiscal gap full and restricted samples**Restricted sample: only high- middle and high income countries**

high-middle income countries			high income countries		
	all	restrict		all	restrict
Algeria	6.7	7.8	Austria	6.7	7.3
Argentina	8.4	6.5	Bahamas, The	11.9	9.7
Bosnia and Herz	8.5	8.5	Bahrain	7.5	10.5
Bulgaria	9.1	10.1	Barbados	5.1	3.1
Dom Republic	1.4	1.1	Belgium	4.7	4.8
Grenada	5.9	4.9	Canada	3.0	3.2
Iran	7.2	7.0	Croatia	2.7	3.2
Jamaica	4.4	4.0	Cyprus	4.1	4.2
Jordan	6.3	7.9	Czech Republic	3.3	2.7
Lebanon	5.2	5.8	Denmark	6.1	6.7
Lithuania	7.2	7.4	Finland	8.8	8.7
Macedonia, FYR	5.1	5.5	France	10.1	10.2
Malaysia	0.7	0.6	Greece	3.9	4.8
Mexico	3.4	3.4	Hungary	6.3	5.8
Montenegro, Rep	1.4	0.5	Ireland	5.6	5.0
Namibia	11.0	12.5	Israel	3.0	2.9
Panama	0.0	0.0	Italy	0.7	0.7
Romania	3.7	3.9	Japan	7.7	7.9
Serbia	10.5	10.5	Luxembourg	1.3	1.0
South Africa	7.1	7.4	Malta	2.8	2.1
St. Lucia	3.1	2.3	Netherlands	3.4	3.3
St. Vin and Gren	5.6	4.0	Oman	8.3	9.5
Suriname	2.0	2.2	Portugal	3.6	3.6
Thailand	1.2	1.2	Slovak Republic	2.0	1.7
Tunisia	6.7	7.7	Slovenia	1.5	0.6
Uruguay	0.1	0.0	Spain	6.6	6.4
			Trin and Tobago	4.9	5.1
			United Kingdom	2.5	2.1
			United States	3.6	2.4

Table 16.1: Composition fiscal consolidation high-middle income countries**Restricted sample: only high- middle and high income countries**

	revenues	income taxes	payroll taxes	other taxes	taxes goods & services	expenditures	compens. employees	goods & services	social benefits
Algeria						100	41		59
Argentina						100	39		61
Bosnia and Herz						100	48	52	
Bulgaria	100	29	67		4				
Dom Republic	100		100						
Grenada	100		68	32					
Iran	100		15	3	82				
Jamaica	100		35	25	40				
Jordan	12	7	4	2		88			88
Lebanon	96	58	20		17	4	3		2
Lithuania	100	39	2	15	43				
Macedonia, FYR	100	83	10		6				
Malaysia						100			100
Mexico	100	40		17	43				
Montenegro, Rep						100	86	14	
Namibia						100			100
Romania	100	7	54		39				
Serbia						100	33	36	31
South Africa						100	49	6	45
St. Lucia	71		41	30		29	24	5	
St. Vin and Gren	72		37	24	11	28	28		
Suriname						100	29	71	
Thailand	100		99	1					
Tunisia						100	37		63

Table 16.2: Composition fiscal consolidation high income countries**Restricted sample: only high- middle and high income countries**

	revenues	income taxes	payroll taxes	other taxes	taxes goods & services	expenditures	compens. employees	goods & services	social benefits
Austria						100			100
Bahamas, The	100		22		78				
Barbados						100			100
Belgium						100	16		84
Canada						100	41	59	
Croatia	95	56	19	20	5	5			
Cyprus						100	100		
Czech Republic						100		10	90
Denmark						100	73	27	
Finland						100	25	34	42
France						100	16		84
Greece	100	48	17		35				
Hungary	2			1	0	98	14	19	66
Ireland	100	1	48	20	32				
Israel	12		5	5	2	88	15	73	
Italy						100			100
Japan	85	31		4	50	15			15
Luxembourg						100			100
Malta						100	46	54	
Netherlands						100		14	86
Oman	49	32		4	13	51			51
Portugal	83		31	52		17			17
Slovak Republic	100	48		16	36				
Slovenia	63	44		16	2	37	5		32
Spain	66				66	34	4		29
Trin and Tobago	42	34	8			58		13	45
United Kingdom	100		85		15				
United States						100		50	50