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Public Finance Underpinnings for Infrastructure Financing in Developing Countries

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February 2014

[1] This paper was prepared for the G24, and draws on Ahmad (2014). Helpful comments from Amar Bhattacharya and Mattia Romani are gratefully acknowledged. A companion paper on Information and Incentive Structures can be found in Ahmad, Bhattacharya, Vinella and Xiao (2014).

Abstract

Given the enormity of investment needs in developing countries, sustainable development will involve the effective harnessing of private resources—both cross-border as well as national. However, this will entail a significant public finance agenda. This entails first the provision of adequate public infrastructure, in addition to the provision of Millennium Development Goals, increasingly at the local levels. This has implications for the needed revenue envelope. Effective risk management of cumulated liabilities will require the flows of information on cumulative liabilities of the state.

The recent economic crisis has shown that existing cross-border capital flows are short-term and volatile, and unsuited to financing longer-term investment needs. In order to encourage the right sort of private investment, a medium-term perspective on the public finances is needed to reflect the role of the state in taking responsibility for infrastructure and sustainable development. This involves decisions concerning debt and the trajectory of domestic resource mobilization, and management of risks to be shared with the private sector.

Consequently:

1. There is a need for **adequate domestic tax revenues**, generated in a non-distortionary manner, to finance the public component of infrastructure, avoid macroeconomic difficulties, and underwrite the public share of longer-term liabilities.
2. **Special provisions in the tax code,** such as exemptions and reduced rates for the corporate taxes and VAT, may do more to generate rent-seeking than sustainable development. Thus, the focus should be to create a level-playing field.
3. The available fiscal space also has to accommodate **basic public spending needs, especially for education and health care**, as well as operations and maintenance of existing infrastructure, as well as the costs of industrial restructuring and R&D.
4. A combination of **taxes and transfers are likely to be needed for political economy and distributional objective**s.
5. Increasingly, given that basic spending is being devolved to lower levels of government, **significant sub-national own-source revenues** are needed to generate incentives for sub-national accountability.
6. **Taxes are needed also to influence the composition of investment**, anchor access to credit, and also **generate incentives for environmental sustainability.**

In most countries, including in the OECD, **greater transparency and information is needed about spending and buildup of liabilities in the medium term**. A particularly important element includes the recognition and treatment of the "public" component of liabilities associated with public private partnerships.

Measures to ensure that both public and private agents respect contracts will require the generation of accurate information on costs and benefits, with a possible role for multilateral agencies.

Infrastructure gaps at the local level may require an appropriate design of performance-based transfers. Further, the overall design of transfers needs to reflect the role of sub-national governments in maintaining existing investments.

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I. Public Finance Underpinnings for Investment Finance

There is growing recognition on the need for a substantial ratcheting up of investment in developing countries—not just to meet the very significant gaps in infrastructure and new investment requirements (see G30, 2013), but also to ensure that there is sufficient financing for operations and maintenance and upkeep of past investments, and retooling of production techniques to meet the requirements of sustainable development (Bhattacharya, Romani and Stern, 2012). Despite the availability of investible resources, especially prior to the post-2008 economic crisis, as the G30 report points out, the heavy reliance on bank finance for cross-border transactions is inadequate. This is, however, understandable given the risks involved and the paucity of reliable information, even in the developed countries. It is also the case that the gap cannot be filled by domestic public resource mobilization alone, as stressed by Bhattacharya, Romani and Stern, (2012).

In this paper, we examine the public finance underpinnings for the enhanced focus on different types of long-term investment (with a distinction between real estate, physical infrastructure, equipment and software, education and R&D), as well as operations and maintenance of existing investments. Even with the public – private partnerships recommended by the G30, there is a need for public resources. There are significant difficulties with PPPs with incomplete information, especially in multi-level countries, and incentives to use the PPPs to kick the fiscal can down the road or renege on contracts (see the companion paper by Ahmad, Bhattacharya, Vinella and Xiao, forthcoming). There is a strong case for multilateral third party involvement in providing assurance that contracts will be respected, and also in helping to ensure the generation of reliable and standardized information.

It is of course not reasonable to expect that all the additional investment requirements should be met from public resources. This is partly due to the fact that investments represent long-term improvements in living standards, and it is appropriate that the costs of provision should be shared with future generations. Moreover, it takes time for tax reforms to be implemented. Thus, there is a strong case for concessional multilateral support, as argued by Bhattacharya, Romani, Stern 2012. But this should not come at the expense of, or substitute for, a serious domestic resource mobilization effort.

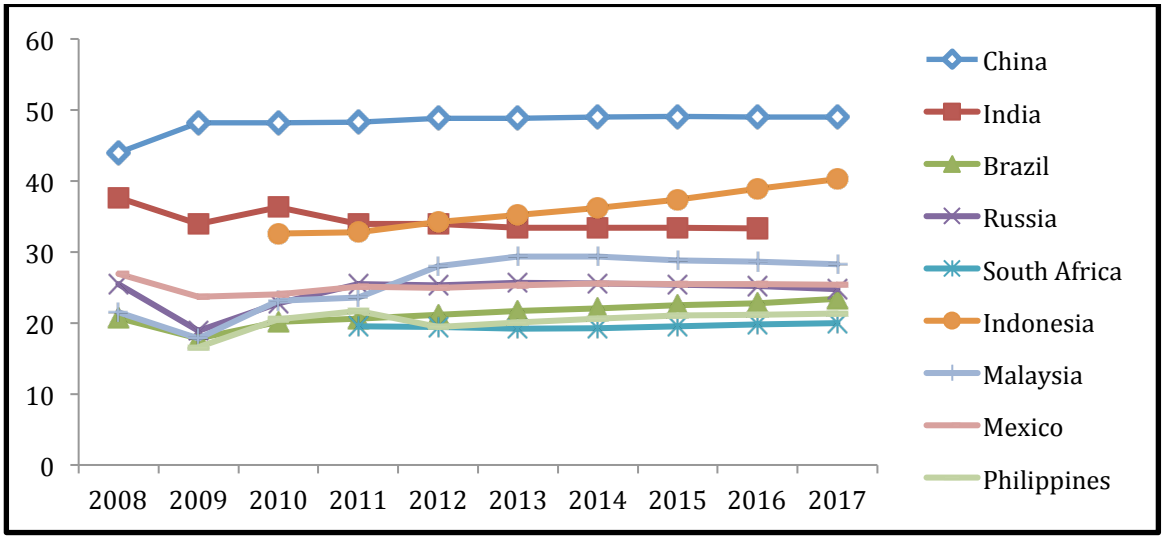
Investment needs

Given the difficulty in putting together standardized and consistent estimates on the net acquisition of non-financial assets for general government (including for sub-national governments and state owned entities), including for many developed countries (including in Europe and Canada, for example), it is **something of a challenge to pronounce on infrastructure gaps, and relative needs across continents** (see companion paper Ahmad, Bhattacharya, Vinella and

Xiao, 2013), hence the relative longer -term financing requirements. As pointed out below, and in the companion paper, the paucity of verified and standardized information makes it difficult for markets and investors to judge the relative sustainability of the fiscal positions of countries, or more importantly subnational governments where much of the capital accumulation takes place.

Even if the baselines are a bit murky, it is clear that there is considerable scope for additional investment, including in the BRIC countries. Figure 1 presents projections for gross investment made by IMF Article IV Staff reports for the BRICS, Mexico, Malaysia, Indonesia and the Philippines.

Figure 1. Projections for Gross Investments for BRICS and other Middle-Income countries



Source: Ahmad, Bhattacharya, Vinella and Xiao (2013) based on various IMF Staff Reports.

It is important to keep in mind that the investment on infrastructure tends to be a relatively small proportion of total gross investment. For example in Figure 1, gross investment in Brazil is bunched together with a set of other BRICS (except China and India) and other large developing countries between 20 and 25% of GDP. However, investment in infrastructure is just 1.5% of GDP (both public and private), against a global average of 3.8% of GDP. The value of total infrastructure in Brazil is estimated at 16% of GDP, against 52% of GDP in India and 75% of GDP in China (McKinsey Global Institute). Often the infrastructure is badly designed—roads left unpaved, ports unable to handle volumes of traffic and cargo—and are generally believed to be badly maintained.

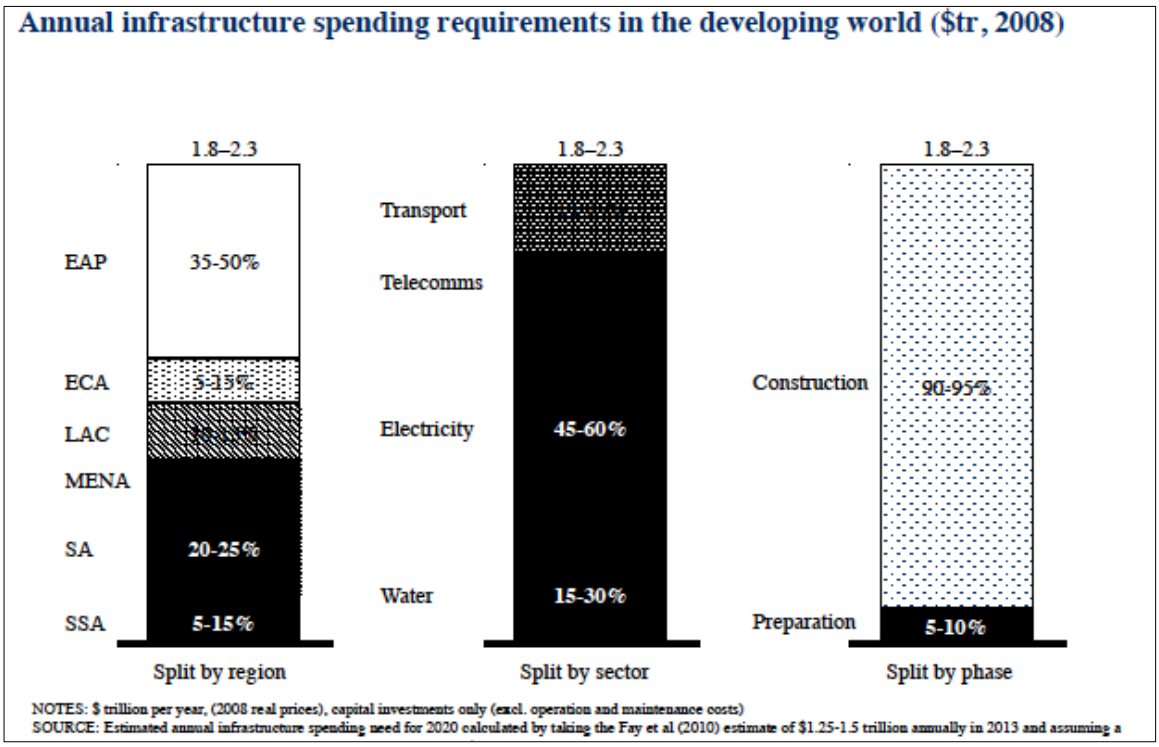
The Brazilian case is of great interest and a question remains as to why there is inadequate spending on infrastructure when the Brazilian tax/GDP ratio is one of the highest among the BRICS, indeed among developing countries in general. The answers lie in the fact that the taxes assigned to different levels of government are inefficient and distortive—especially the origin-based state-level VAT. Most taxes are heavily earmarked. The result is an overly encumbered tax system that generates revenues in a very ineffective manner. CAF estimates that Latin America will need to achieve investments of around 6% of GDP, even without considering maintenance costs (Enrique García, 2013). This suggests that there needs to be a combination of tax and spending reforms in Brazil, given that it will not be desirable to raise the high tax/GDP ratio much beyond 35%, as well as actively coopting the private sector.

Further, infrastructure development managed by the state has been poorly implemented. Attempts have been made to bring in the private sector through an ambitious concession program worth 180 bn reais ($79 bn) under the *Programa de Investimentos em Logística (PIL),* to mainly address deficiencies in the transport infrastructure—roads, railways, ports and airports. Recognizing incentive problems with PPPs in general (see sections below), the Brazilians introduced a guarantee agency (Agencia Brazileira de Gestão de Fondos e Garantias) with 11 bn reais in hand. Yet, an auction in mid-September 2013 for a road concession, purported to be among the most attractive on offer, did not receive a single bid. **This suggests that the financing model, as well as sharing of risks between the public and private sectors may require a sector-specific approach** (as argued in Ahmad, Bhattacharya, Vinella and Xiao, forthcoming).

Bhattacharya, Romani and Stern (2012) also project investment needs at around 6% of GDP—more or less a doubling of current levels (significantly more for Brazil)—see Figure 2. This includes the requirements for addressing the effects of climate change. However, operations and maintenance spending is not included, and this could double the required spending. Figure 2 also provides indicative requirements for the transport, information technology (IT), energy, and water sectors. While the IT sector is relatively straightforward as far as private sector participation is concerned[2], as are certain elements of the energy sector, private participation in the transport and water sectors is problematic, including in developed countries (see Ahmad, Bhattacharya, Vinella and Xiao, 2013). While this may be partly related to industry structure, it is likely also linked to relative perceptions of likely risks. Returns demanded by investors may far exceed levels (hence costs) for projects than what governments are willing to accept, as seen even in the Brazilian road examples above.

[2] There are still issues of access by the poor that may make it important for the public sector to maintain a foothold in the ICR sector.

Figure 2



Source: Bhattacharya, Romani and Stern, 2012.

Bhattacharya, Romani and Stern (2012) correctly highlight macroeconomic risks to investment. However, these are exacerbated by inadequate flows of information, especially between levels of government, and between governments and supranational and multi-lateral bodies generating complex game-play. This has been highlighted in the recent crisis in Europe, and is extremely damaging to investments by the private sector.

Reliance on Fiscal Rules or Bank-Fund Debt Sustainability Assessments (DSAs) can be misleading. These constructs mean little unless the full extent of public liabilities is captured for general government, and then linked to ability to pay (see Section IV below. Quite often, the adherence to the Bank-Fund limits does not signify ability to pay—for instance, Argentina in the early 2000s had a debt stock well below the limit, but ran into trouble. More recently, the Bank-Fund DSA for Pakistan in 2012 suggested that liabilities were below the "critical" limit and falling. While the IMF qualified its comments by arguing that the deficits could not be financed, the government was lulled into avoiding tax reforms to redress a tax/GDP

ratio of around 9%, that was inadequate for meeting debt service and security spending, let alone meeting the MDGs or needed infrastructure spending. [3]

Required public finance envelope

While it is not expected that all of the infrastructure requirements will be financed by the public sector, there has to be sufficient generation of unencumbered resources to take of the provisioning required with meeting the buildup of public liabilities over time. **In other words, the tax/GDP ratios of countries will need to be raised sufficiently to cover the provision of basic needs (e.g., the MDGs), operations and maintenance spending, as well as the public component of the needed accretions in infrastructure spendin**g.

Evidence suggests that, on average, a third of the needed investment spending has to be met out of public funds. However, there are significant sectoral variations in different regions reflecting both the risk profiles and the characteristics of the sectors (see Section II).

In general it is expected that the general government tax-revenue envelope should be at least in the region of around 20%. Meeting the MDGs typically requires a tax/GDP ratio of around 18%, and more is likely to be needed for a more aggressive investment program. Implementing tax reforms takes time, but as investment also tends to be long-term, this is not necessarily a problem provided that the reforms are properly sequenced and given due priority.

India and China both benefitted from tax reforms that raised general government revenues in the 1990s towards 20% of GDP. In the Indian case, this level is considered inadequate in relation to the spending needs (see Figure 3 below, and IMF 2013). The Chart suggests that the appropriate revenue envelope for India should be around 25% of GDP. However, there are structural and political constraints in India that make this goal difficult to achieve, as discussed below.

The Chinese tax/GDP ratio also increased to around 20%, albeit from a much lower level (around 12% in 1992). Given anticipated structural change, and need to raise spending on education and R&D, the Chinese tax/GDP ratio also needs to increase to around 25% (see Table 1). This may be easier to achieve than in India, given the structural reforms carried out in 1994.

Countries with tax/GDP ratios that are inadequate to meet MDGs (especially those that with ratios of 10% or less) **will likely have inadequate resources for**

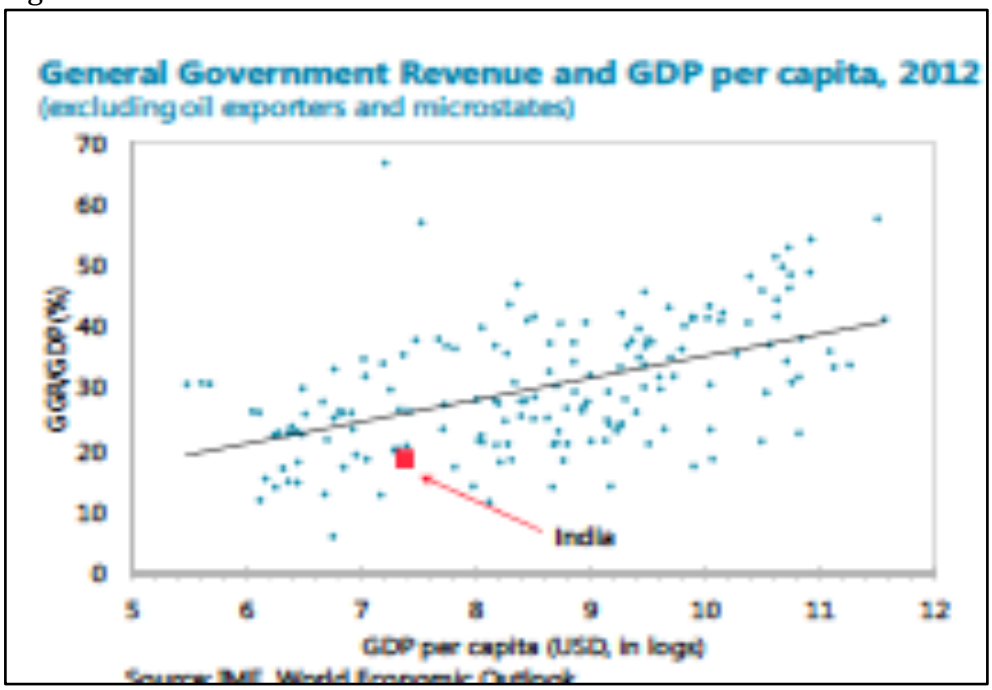
[3] On the other hand, there are countries like Japan, that have exceeded the mechanical debt limit, and also put in place counter-cyclical polices—albeit together with adjustments to the VAT to meet the medium term sustainability issues..

the minimum public investment for infrastructure or its components, including education and R&D, as well as operations and maintenance.

Often the poor revenue performance is due to "holes" in tax instruments, especially the VAT or Corporate Income Tax, designed to provide preferences and "support" to specific groups, including "favored" sectors to encourage growth. This is short-sighted, as the growing "gap" in educational attainment and public provision of infrastructure relative to the faster growing emerging markets (like China, other East Asian countries, and India) will be difficult to offset by the "incentives" provided to firms or individuals.

The special provisions in major taxes create handles for "rent seeking." They also weaken incentives to operate efficiently (perpetuating "65-year old infant industries that refuse to grow up"—to quote the former head of the Pakistan Planning Commission), and can only reduce growth potential. These "holes" should be avoided as far as possible. The 2013 Mexican Fiscal Package, sought to close such "holes" and create a level playing field.

Figure 3



Source: IMF 2013.

In the following sections, we outline first the components of long term investment needed in the developing countries, including the BRICS, as well as the characteristics of fiscal policies and institutions that might be needed in

recipient countries to use additional resources effectively and transparently. The risk-mitigating intermediation of a multilateral bank managed by emerging market countries (e.g., a BRIC bank) is highlighted. We end with a discussion of earmarked transfers to encourage investments—this might be useful for both higher-level governments as well as multilateral agencies.

Table 1

Tax revenue and Expenditure for selected countries/regions (percentage of GDP)

	Germany 2010	Australia 2010	China 2009[1]	Brazil 2010[2]	OECD average (excl. US) 2010	EU-27 average 2010
Revenue	43.3	32.5	27.6	36.7	41.4[3]	44.1
Tax Revenue	22.2	25.7	18.9	25.4	34.0	25.8
Income Taxes	10.6	14.4	4.6	6.9	11.3	11.5
Goods and services	10.8	7.1	12.1	15.7	11.2	11.2
Property Tax	0.8	2.5	1.7	1.3	1.7	1.3
Social Contributions	16.8	-	3.6	6.6	10.6[4]	12.9
Expenditure	47.6	38.0	28.3	39.5	46.6[5]	50.6
Social Benefits	25.4	10.6	-	8.2	26.1[5]	21.6
Functional Spending						
Health	7.2	6.8	1.3	4.1	6.8[6]	7.5
Education	4.3	6.1	3.8	5.5	5.7[6]	5.5

Notes:
[1] Data unavailable for 2010; 2009 data used.
[2] Data unavailable for 2010 for Functional Spending (Health and Education); 2009 data used.
[3] Data unavailable for New Zealand and Chile.
[4] Data unavailable for Australia, New Zealand and Chile.
[5] Data unavailable for New Zealand.
[6] Data unavailable for Canada, Chile, Mexico, New Zealand and Switzerland).

Sources: International Monetary Fund (IMF) Government Finance Statistics (December 2012 Edition); ESDS International, University of Manchester; World Bank Indicators; OECD Tax Statistics (database); and Eurostat.

Source: Ahmad, Rydge and Stern (2013).

II. Long-run Infrastructure Requirements and Instruments

Some stylized facts

Considerable investment in infrastructure is needed across the globe—in keeping overall growth at moderate levels to sustain more efficient generation of employment opportunities in the advanced countries, emerging markets and developing countries. This should also address the critical needs of climate change and sustainable growth (Bhattacharya, Romani and Stern, 2012).

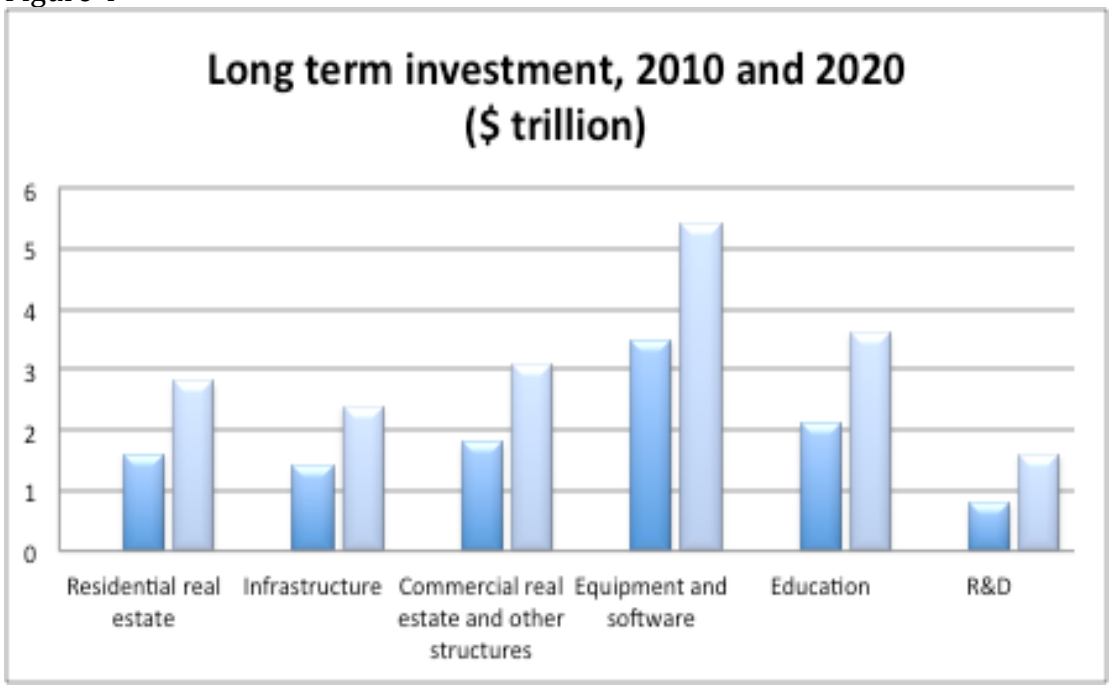
While a significant investment in needed in the major developing countries (the BRICS, especially China), substantial scaling up of investment is needed in other developing countries that have lagged behind, including in South Asia and Africa. In this paper we focus on the public finance underpinnings of the investment that is needed. While recognizing that much of the additional investment depends on better intermediation of excess resources in certain regions, and leveraging of the private sector, the public finance underpinnings need to be examined carefully in determining the role of the state in generating resources to meet critical enabling investment, managing long term liabilities and risks, as well as providing incentives for the efficient use of resources.

The recent G30 report focuses on four major developing countries (India, Brazil, China and Mexico) in addition to five mature economies (France, Germany, Japan, UK and the USA) that account for 60% of global investment. The report points to the need for significant increases in long-term investments in order to generate even moderate levels of economic growth. This involves raising the annual spending on long-term investment from $11.7 trillion in 2010 to $18.8 trillion (in real terms) by 2020. This corresponds to increasing the investment/GDP ratios in this group of countries from 30% to 34%.

Among the components of long-term investment, **spending on software and equipment already far exceeds the "brick and mortar" investment of the traditional type** (see Figure 4 for the 2010 figures for the sample of emerging and mature economies). By 2020, this investment is expected to rise significantly, followed by expenditure on education. Significant increases in R&D are also expected in countries such as China, as the physical infrastructure diminishes in relative importance. Yet such "traditional" infrastructure is an "enabling" factor for other types of investment to be made productively, even if it diminishes in relative importance. Thus, in countries that lack such infrastructure, or if it has been degraded due to lack of operations and maintenance, it is unlikely that a higher trajectory of growth will be feasible without a modicum of "bricks and mortar", or railway tracks, airports, ports and highways.

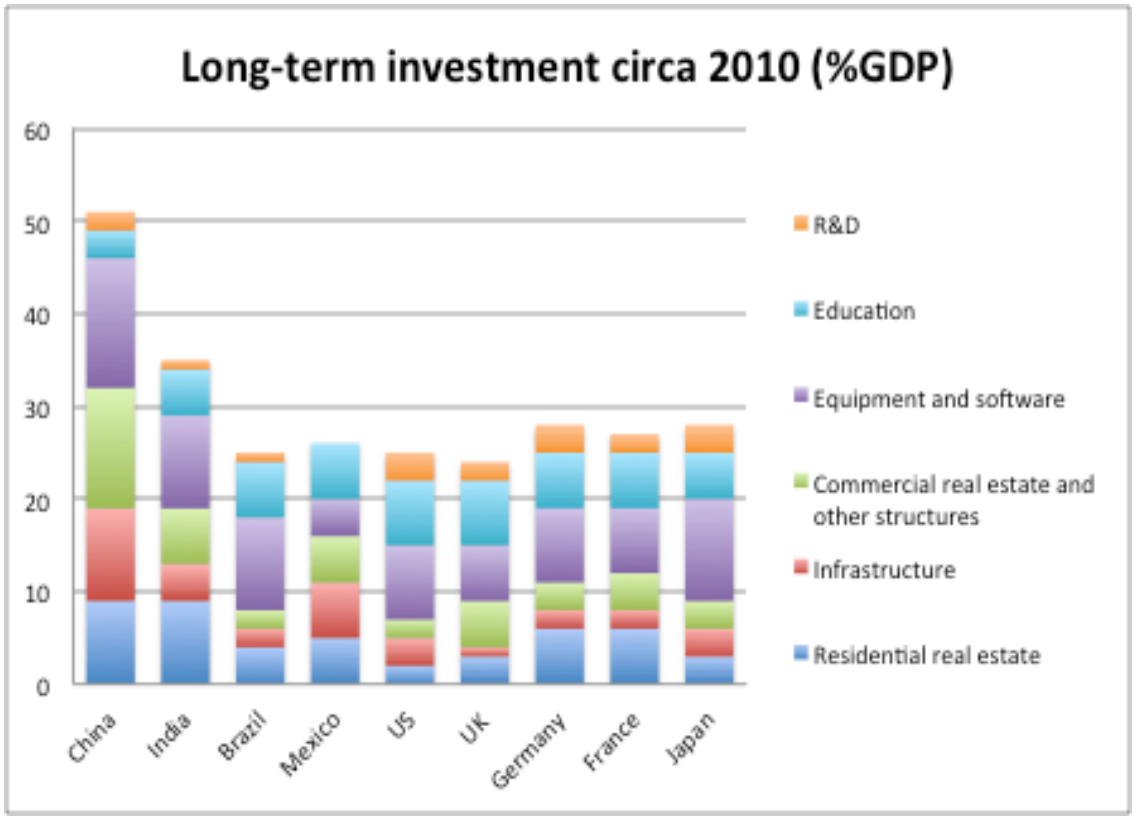
Among the high growth developing countries, relatively high investment ratios are common, with China and India benefitting from ratios in excess of 30% of GDP. The Latin American countries in the G30 sample had investment levels commensurate with those in the more mature OECD countries (see Figure 5).

Figure 4



Source: G30, 2013.

Figure 5



The case of China is interesting. Its sustained high investment ratio of 51% of GDP (well in excess of that in the other high investment developing countries) was facilitated by a major tax reform in 1994 that reversed the slide in its tax/GDP ratio—raising it from 12% in 1993 towards 20% at present—as well as a tighter system of budget allocations and tracking that facilitates greater efficiency in spending (see Ahmad 2012). The expectation is that the ratio will be increased to 52% to 2020, although the focus changes from investment in infrastructure and factories towards higher tech and environmentally sustainable investments—addressing critical climate change concerns—as well as services. This will involve a shift in spending towards education and R&D, both of which are low in relation to the levels of the more advanced economies, and will require another major effort involving tax reforms (see Ahmad, Rydge and Stern, 2013).

A significant effort is needed in China in order to reorient production from the congested and polluted cities of the coast to "greener" cities in the interior, albeit linked to the transportation grids. While the national grids will have to be largely financed by the central government, the within city investments will have to fall to local financing arrangements. This will require an overhaul of the public finances at the local level, including management of debts and liabilities in a transparent and sustainable manner (Ahmad and Wang, 2014). Thus, the composition of investment will need to change, although levels will have to be maintained at relatively high levels for some time.

The significant investment needs in the sample countries, implying at least a 70% increase in real terms to the end of the decade, should be kept in perspective of the needs for developing countries in general. Many in the latter group perform poorly in terms of overall investment levels. In a stark contrast to China, the investment level in Pakistan (a critical front-line state) has fallen from around 20% of GDP to around 10% in a period of five years. Not only is physical infrastructure inadequate but the absence of attention to operations and maintenance has meant that the existing stock of "bricks and mortar" has deteriorated alarmingly, with severe consequence for future growth and employment generation. As suggested in the preceding section, the failure of tax reforms, which has led to a reduction in the tax/GDP ratio, from around 14% in the early 1980s to around 9% in 2012, leaves very little room for basic investment needed for growth.

The G30 report also projects the rapidly growing stock of financial assets in emerging markets—rising from $41 trillion in 2010 to $141 trillion by 2020—increasing from around 21% of the global total to 36% during this period. The Chinese share in the Emerging Markets financial assets declines slightly from 52% to 46% in this period. SWFs and Central Banks of resource rich countries are expected to significantly increase their holdings. Some of these resources could be utilized for investments in developing countries, through appropriately designed

instruments and risk mitigating institutional arrangements (e.g., a multilateral development bank organized by the emerging countries, or a BRIC bank). These alternatives are discussed in Section II.

The fact that certain countries or regions have significant financial resources is not an argument against tax reforms to influence investment behavior, as well as objectives for efficiency, redistribution and accountability. Given a significant agenda for investment in China, the 12th Five Year Plan correctly puts additional tax reforms at the center of the attempt to redirect investment and influence sustainable structural change (see Ahmad Rydge and Stern, 2013; and below). Inappropriate design of tax system, that does not cover basic public functions for investment broadly defined (including public education and health care), as well as operations and maintenance of existing infrastructure, is even less acceptable in countries with low tax/GDP ratios (like Pakistan) than it is in China. The role of tax instruments is discussed in Section III.

In all cases, whether a country is fortunate enough to benefit from natural or financial resources or not, it is important to avoid inefficiency and waste, including inappropriate or environmentally unsustainable investments. Thus the issue of governance and accountability is critical, including information on what is spent and the results of the spending. Such information flows are essential if countries are to attract cross-border resources for long-term investment—and some of the key issues involved are outlined in Section IV.

Alternative Investment Instruments

Some of the significant resources accumulating in emerging markets could be made available for productive investments in developing countries. However, as pointed out in the G30 report, there is a dearth of instruments to provide for longer term cross-border financing. It is also not possible to ignore the overall resource envelopes and their distributions in recipient countries.

Much of the financing of the cross-border investment has been through bank lending (including in the major European economies). In emerging markets, commercial bank loan maturities have been around 2.8 years—and subject to considerable volatility, as seen during the financial crisis (Rajan, 2010). While the development of new and more appropriate instruments for long-term investment remains a matter of some priority, many of the options have significant fiscal implications. Some of the alternatives, which are not the focus of this paper, include the following:

- New and workable models for public private partnerships (PPPs) –G30 Option 4a, p.53;
- Credit/risk guarantees (provided by national governments, or multilateral banks) –G30 option 4b;

- Project specific risk mitigation—through guarantees and public sector subsidies –G30 option 4c.

Each of the alternative instruments mentioned above, to bring long-term financing to countries and regions that need it most, has fiscal implications, some of which we explore in Sections to follow. Underlying the proposals is the need for greater transparency and use of standardized recording and reporting of the sources and uses of the funds, and the effectiveness and results of the investment.

PPPs have long been abused in advanced as well as developing countries as a means of kicking public liabilities down the road—often with the expectation that the tab would be picked up during the tenure of subsequent administrations. By glossing over the P for Public, PPPs became vehicles for relaxing budget constraints, and bringing benefits in the short run in terms of building of infrastructure as well as providing employment. As there is little or no cost to an administration that enters into such agreements, there tends to be less care given to the PPPs, and consequently little accountability for the results. Given the difficulties that have been observed around the world, international standards have been tightened to ensure recognition of public liabilities as these are incurred, with the need for explicit provisioning in budgets. Thus, PPPs cannot be seen as a magical mechanism to facilitate investment without fiscal implications (see Ahmad, Bhattacharya, Vinella and Xiao, 2013).

Guarantees generate liabilities that have to be provisioned against, and public sector subsidies feature directly in budgets. Thus, there is no escaping the public finance implications of alternative mechanisms to finance infrastructure by innovative means—although the time profile of different options varies considerably. Unless the full implications of liabilities over time are recognized, it is possible to "play games" and avoid taking full responsibility for spending decisions (this is discussed in greater detail in Section IV).

Public spending accounts, on average, for roughly a third of the total investment. However, an examination of the spending patterns in the G30 sample of mature and emerging market economies suggests that the direct public provision varies by type of investment—averaging 75-85% of critical education spending; 60-65% of traditional infrastructure spending of the "bricks and mortar" type. Also, the public sector plays a significant role in R&D, accounting for 25-30% of the direct spending. However, it needs to be kept in mind that the public sector spending is typically needed to "facilitate" private sector investment—ensuring that the critical facilities are available providing linkages to markets—reliable power, rail, road and port facilities, and ensuring availability of an educated and capable workforce.

It is also important to keep in mind the fact that private liabilities, especially for investment projects that go sour, can become public liabilities, especially if they are of a sufficiently large magnitude affecting macroeconomic stability. This was the case with road building at the state level in Mexico in the 1990s (these

investments were not guaranteed by the Federal Government). These had to be assumed by the Federal Government, following the tequila crisis, in order to ensure the stability of the banking system. A similar situation was exposed, during the recent Euro crisis, due to the excessive private sector real estate development in Spain (in many cases due to the close interests between the regional governments and the c*ajas*). Again, the Central Government has had to assume the liabilities, with the result that the debt/GDP ratio and the associated annual fiscal deficit suddenly surged above the Maastricht levels (after years of being well within limits before the crisis). An analogous problem occurred in Ireland—with private sector liabilities being transformed into public sector debt. In addition to better prudential management, it is useful if there is a "fiscal cushion" in case of such potential surprises.

The solutions to the problems in Southern Europe and other parts of the "mature" world afflicted by fiscal consolidation are to ensure the continuation of growth, sustainable investment and employment generation. This involves to a large extent actions both in terms of tax reforms to provide a more efficient environment for investment, as well as a rebalancing of expenditures to eliminate waste and leakages while at the same time ensuring additional resources for sustainable investment purposes.

III. Meeting the Looming Revenue challenge

There has been a great deal of attention given by international agencies and governments to the level of general government revenues as a proportion of GDP—e.g., the target of 18% of GDP required to meet the 2015 MDG goals. This is clearly a very important element of the revenue challenge, and governs the extent to which some countries are in a position to take advantage of opportunities for investment and the ease with which they face challenges associated with economic shocks and cyclical downturns. As we have seen, this target needs to be amended to take into account the need for additional spending on infrastructure and climate change.

A framework to assess the combination of tax instruments can be derived from the theory of reform (see Ahmad and Stern 1991), in which the effects of changes in the effective taxes can be worked out for any tax not only in terms of revenues, but given the effective tax element in the price of goods, also on production incentives and distributional consequences.

Recent work has extended the tax reform models to incorporate the effects of tax measures on informality and incentives to cheat. Evidence from two countries struggling with tax/GDP ratios stuck around 10%, Mexico and Pakistan, suggests that gaps in taxes (often due to distributional or production-related considerations that typically degenerate into vested interests) create the

opportunities to cheat and evade taxes (Ahmad, Pöschl and Zanola, 2013). These incentives are important, and exacerbate the tendencies for informality due to the system of formal benefits and taxation of labour, especially in Latin America, stressed by Levy (2008). Even in countries with higher tax/GDP ratios, such as Brazil and Chile, both design of specific taxes and combination of taxes matter.

Whether a country is rebalancing taxes in a revenue-neutral manner, or raising additional revenues, the following considerations will be important:

1. **The effects of tax policies on the incentives to invest**—this is a critical element in driving structural change and generating sustainable growth;
2. **Effects on households in different circumstances—**the analysis of gainers and losers will require the assessment of tax and social policies simultaneously;
3. **Interactions among taxes, the generation of information on transactions and activity levels and incentives to evade**; and
4. **Revenue assignments among different levels of government** that affect the accountability of more junior levels to act responsibly and manage investments with the care that is needed to ensure sustainability. The political economy of reform in multi-level countries has to be taken into account in specific cases.

Thus, the overall revenue challenge involves levels of taxation, the composition and design of tax instruments, as well as the administrative and intergovernmental implications of efficient tax policy design. We address each of these issues in this section.

Design and instruments

Clearly a tax system should generate revenues. We have discussed the desired resource envelope, given spending and investment needs, as well as views about the relative role of the state in generating economic activity and growth. It should be noted that even laissez–faire Chile had a tax/GDP ratio of 20% in 2010 (see IMF 2011), and an overall revenue to GDP ratio of 24%. Both the level and composition of Chilean taxation were considered inadequate by former President Ricardo Lagos in meeting the challenges of the middle-income trap and the aspirations of the population for a higher quality of public education (Lagos, 2013).

As tax system also has to generate appropriate production incentives, influence investment and consumption patterns, and be easy to administer without affecting cheating and incentives for informality. In addition, tax measures directly affect income and consumption by households in different circumstances, and generate revenues for redistribution to the poor.

The key issue vis a vis investment (other than financing) is whether there should be special preferences to encourage particular sectors or regions. Investment decisions are typically governed by the ease of doing business as well as linkages with supply chains and proximity to markets. Tax breaks mattered more in regimes with punitive rates. Given mobility of capital, there has been an effective international convergence in corporate tax rates towards the 25-30% range. The VAT is neutral vis a vis investment[4] and trade. Consequently, with a modern structure of the tax system—relying on a VAT and a Corporate Income Tax (CIT) at reasonable levels[5]—**there is relatively little justification for special regimes to attract investment, especially if these imply running down the physical infrastructure of a country**, or stumbling from one macroeconomic crisis to another (as has been the case, for example, in Pakistan).

Within countries, special regimes provide ample opportunities for "rent seeking", and once favors are bestowed, vested interests coalesce and it becomes very hard to take away the preferences. Indeed, the interactions between "holes" in different types of taxes compound the "temptation" to cheat. This is facilitated when the administrations are relatively weak, and the information on transactions is incomplete. Rather than provide tax preferences that may become permanent and become sources for rent-seeking, it may be better for the government to invest directly in meeting the infrastructure deficits of depressed or remote areas, or provide targeted and time-bound subsidies if these are necessary. In many cases, facilitating labour mobility from disadvantaged areas may be the more efficient option (see Ahmad 2012 for a discussion of the Chinese case).

The holes in the VAT leading to a break in the information chain are particularly damaging. As shown by Ahmad, Best and Pöschl (2013) for Mexico, these "holes" exacerbate the tendencies to operate in an informal mode as highlighted by Antón, Hernández and Levy (2012), and Levy (2008)—due to the higher cost of operating in a formal environment due, for example, to the payroll tax.

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[4] This is true with a consumption-type VAT with crediting of VAT paid on investment and capital purchases against VAT due on sales. However, with an investment-type VAT (such as that in place in China during 1994-2008) investment credits are not allowed. This can theoretically have a dampening effect on investment and trade. However, revenue considerations may be more important, to finance infrastructure, as was the case in China in the mid-1990s, without an adverse impact on overall growth, although the move to a more neutral consumption-type VAT was eventually achieved. Removing the investment distortions has become important as real wage wages have risen and the exchange rate has appreciated. However, the extensions of the VAT to services on a sector by sector basis is proving difficult.

[5] Although there is no harmonization requirement for the CIT within the EU, the fact that multinational companies, such as Starbucks, could use the very low Irish CIT rate to avoid paying the still low UK rate of 25%, has caused a public outrage recently, forcing a tightening of administrative procedures.

This reduces profits for firms, and possibly also take-home wages for workers, relative to the case where the firm is able to hide some or all of its operations from the tax administration.

With holes in the tax system, the entire economy can degenerate into a "hard to tax" model[6] that penalizes honest taxpayers, reduces revenues and potential investment and might lock a country into a lower growth trajectory than might be feasible. This should be distinguished from the traditional "hard to tax" sectors that are typically found in developing countries—such as street vendors, small scale agricultural workers. Such tendencies are apparent in countries like Pakistan—involving both large and small-scale sectors.

Distributional objectives in the VAT should be minimized to items consumed by the poorest that do not enter into inter-industry transactions. This could include unprocessed food consumed mainly by the poorest groups of society—and would minimize the need for compensatory measures. In general, the desired differentiation of an indirect tax system, given the interest of policy makers in protecting the poor and ensuring equity, could be met by a combination of tax tools that would also include excises on items consumed by the rich—in addition to a VAT with a single rate with minimum exemptions (see Ahmad and Stern, 1991). With the VAT, the Vito Tanzi (2010) recommendation to keep it simple is supported in recent research that emphasizes the importance of closing handles to cheat (Ahmad, Best and Pöschl, 2013).

The VAT remains the one of main sources of revenues, not just in developing countries, but also in advanced countries undergoing fiscal consolidation. In the countries undergoing fiscal consolidation as a result of the economic crisis, there has been an attempt to change the composition of taxes—shifting from distortive payroll taxes that encourage capital intensity (and informality in developing countries) to the VAT—this is in the expectation that the burden on firms would be reduced, encouraging a growth in investment. This is similar to the argument made for developing countries to move from distortive trade taxes and import duties to the VAT. Countries like Pakistan reduced trade taxes but failed to implement the VAT effectively, leading to increased vulnerability as the tax/GDP ratio continued to decline.

The Personal Income Tax (PIT) tends to be one of the worst performing taxes in developing countries—given weaknesses in administration and information on value added. Addressing **the "information gaps"** in relation to balance sheets and income flows is critical to getting to grips with a relatively hard to tax base. The improvement of tax administrations associated with an integrated VAT would help in closing loopholes and bringing "hard to tax" groups into the tax net. There is also

[6] A contrasting view is that of Keen (2012) who argues that the more important issue relates to "hard to tax sectors" rather than incentives to "informality".

much scope for the use of third party information that is now very readily available in many countries, and is increasingly used for the allocation of social benefits. The differences in the operation of the PIT between OECD countries (excluding Mexico) and Latin American countries was highlighted by Ricardo Lagos (2013)—the former have a pre-tax Gini of 0.48, which drops to 0.29 after-tax; whereas in Latin America, the pre-tax Gini is 0.56, which only drops to 0.54 after tax.

The tax system can be used to discourage the consumption of "bads" that generate negative externalities—including carbon emissions. Ahmad and Stern (2010) extended the earlier models concerning the design of the tax system, including on externalities associated with tobacco consumption, to the case of reducing carbon emissions through a carbon tax. In this case, likely to be effects on poor households would require compensation mechanisms to be part of a package of measures (see Ahmad and Stern, 2010). It is thus important to consider the tax and transfer system as part of a comprehensive package of reforms, else there would be considerable resistance to otherwise desirable tax measures.

These principles were also adopted in the 2013 Mexican tax reforms that included a carbon tax above an average international price to also eliminate implicit subsidies. Fuel subsidies are estimated to be in the range of US$200 bn in 2011, and their elimination could reduce greenhouse gas emissions by 6% by 2050 (Keen, 2013). Depending on the base and level, it is easy to project revenues from a carbon tax at between 1% to 1.5% of GDP. The resources generated could also be used to restructure industries and encourage investment in more environmentally friendly alternatives.

As emphasized above, carbon taxes should be considered in tandem with other measure to protect the poor losers, but care should be taken not to create permanent entitlements. "Conditional cash transfers" were used to facilitate the energy pricing reforms in Indonesia in 2008, but appear to be posing expectations and constraints as further adjustments are needed.

Enhanced subnational responsibility

Sub-national revenue generation is particularly important from the perspective of accountability for investment, given the increasing proportion of such spending at the subnational levels of government. This is critical if the local governments are to have a systematic access to credit for needed infrastructure. As argued by Ambrosiano and Bordignon (2006), own-source revenues are needed to assure credibility in terms of eventual local repayment of liabilities generated—if financed by shared revenues or central transfers, the responsibility passes to the central government. A key issue in getting accountability at the sub-national level is through the flexibility of the relevant junior level of government to have:

- **Control over the rates for a major tax base at the margin**—this could be bounded (e.g., in unitary states, the central legislature could set a band and the local government could choose); or be completely up to the local/state/provincial level of government (see Ambrosiano and Bordignon, 2006); and
- **The local government should have incentives to use the tax base assigned—**e.g., not have automatic financing of deficits incurred—in which case there is no incentive to use the tax base.

Note that the control over tax rates is not necessarily linked with administration. It is perfectly feasible to assign "own-source" revenue status to a local government if it can control rates at the margin—e.g., as is the case with subnational governments piggy-backing on the Federal income tax in the US—without setting up an elaborate machinery. The key element is thus, not the revenues, which accrue to a junior jurisdiction, but the control at the margin. Thus, a shared revenue source, which may be quite substantial, e.g., for Chinese local governments, is not considered to be own-source revenue in the strict sense, even if the funds are not earmarked.

Apart from Brazil and India, relatively few governments in developing countries have effective own-source revenues at the sub-national level—particularly at the **middle tier of government**. However, in both India and Brazil, the split base of the VAT creates significant problems. China and Australia decided to cut the Gordian knot and place the VAT under the administrative control of the central tax administration, with shared revenues in the Chinese case, and in Australia the entire VAT revenues generated form the basis for the equalization transfers managed by the Commonwealth Grants Commission (see Searle, 2010). Given the pressure on the VAT to generate revenues efficiently, there is a premium to examine either the Australian solution or that of China (which is still evolving, and the process is managed by the Ministry of Finance rather than an independent Grants or Finance Commission).

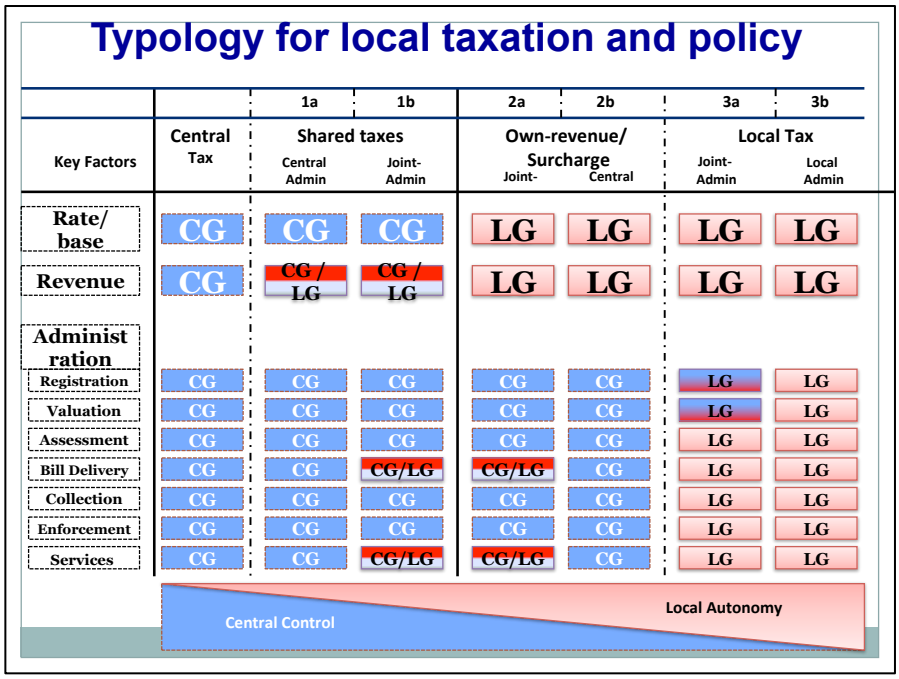
Financing is needed also at the municipal level, given the increasing importance of urbanization as a phenomenon and source for growth. The typical instrument used in most developed countries is the property tax. However, in developing countries, its potential has not been adequately explored. In many cases, the cadaster is not complete, or is out of date, with valuations based on historical records rather than current market prices. Moreover, the rates tend to be set by higher levels, with administration and "exemptions" at the local level. As there is often a "game" played by level of government, there are few incentives for the local governments (which in many Latin American countries are subject to single term limits) to implement a very visible tax when it is relatively easy to press for additional transfers or run arrears that will become some else's problem in the next electoral cycle—or will be cleared by the center in case of macroeconomic difficulties.

Again, a linkage between the property tax at the urban municipality level and the provision of services is shown to reduce incentives to evade (Ahmad, Brosio, Jiménez, 2013). It is possible to generate control over revenues at the margin at the local levels by rate-setting authority, without the need to replicate tax administrations at each level of government. Yet, political economy concerns suggest that this may only be possible if the concerned administration is seen to be arms' length, and not amenable to suasion. International options in this regard are summarized in Figure 6, along with possible solutions as China and other countries seek to establish greater accountability at the local or municipal levels.

In conclusion, the tax system should generate sufficient revenues over the medium-term. The rule of thumb would be to finance 30% of additional investment needs, or at least 1-2% of GDP above the 20015 MDG target level of18% of GDP), but also create conditions for:

- deepening structural change;
    - meeting environmental concerns
    - investment in education and basic services
- redistribution by generating resources for targeted transfers, together with redistributive income taxes; and
- deepen accountability—especially, although not exclusively, at the subnational level.

Figure 6



Source: Ahmad (2014).

IV. Governance and Accountability

In the context of limited resources, a critical element in ensuring sustainable investment is good governance and accountability on the spending side. The fundamental elements in this story include transparency in the spending process, as well as standardized and timely information on the sources and uses of funds.

The issue of risk management is critical in ensuring that the funds will be forthcoming for longer-term investments, as described in Section II. Particularly if investments are financed by other governments, or Sovereign Wealth Funds, the intermediation of a reliable third party or multilateral bank (such as the proposed BRIC Bank) becomes critical. This is because there needs to be assurance that neither firms implementing the projects or investments, nor contracting countries will renege on contracts when it suits them. The tax policy component of this story has been discussed above.

An increasingly important element in decisions to continue to allocate funds or tranches for investment relates to whether or not the expected results have been achieved. Again, the intermediation of an arms-length third party like a BRIC Bank (or even one of the other multilateral banks) would be very useful.

The sections that follow draw on Ahmad (2014).

Information flows and intertemporal management of risks

It is clear that poor information flows reduce local accountability, limit the operation of political constraints on non-performing jurisdictions, and also facilitate game-play vis a vis the central or supranational/ international agencies. The game-play has been clearly highlighted in the case of the EU and incentives for autonomous agencies as well as regional and local governments to "hide" information or "kick the can down the road." Limited information flows also facilitate rent-seeking and diversion of resources.

Relatively few developing countries utilize the full format of the IMF's Government Financial Statistics Manual 2001 (GFSM2001), for both the central as well as the subnational governments. The format is designed to ensure conformity of the financial information with the System of National Accounts.[7]

[7] A number of countries use transition matrices for the reporting of central or general government information to the IMF in the GFSM2001 format. Pakistan, for example, reported data only for the budgetary central government in the latest issue of the GFS Manual. This is inadequate, as much of the social spending takes place at the subnational level. As seen in Ahmad, Bhattacharya, Vinella and Xiao (2013), even

Multiple formats in Mexico at the Federal level and across the states make it difficult to generate standardized information for general government. This makes it problematic to ensure comparability across subnational entities or engender accountable competition across states. Brazilian states, while not conforming to the GFSM2001, perform better than Mexico in that the Federation requires a standardized format to receive, report and report on Federal resources as well as their own resources. Mexico has now legislated standardized reporting and a common Chart of Accounts for sub-national operations, but this is not due to take effect until 2014. Canada has no plans or ability to require provinces to conform to national or international standards.

The likelihood of "game-play" by various levels of government or government agencies cannot be ruled out without a complete a complete and standardized format to categorize the cycle of revenues and expenses; in conjunction with a tracking of the cash flows; A typical problem is the inconsistent treatment of budget coverage—with the frequent exclusion of spending of government agencies or liabilities parked in public enterprises.

In the very simple example of Figure 7, the cash transactions of a government are shown as set C. This is a subset of F, which also includes financial assets and liabilities. In turn, F can be denoted as a sub-set of R, which also includes all currently assets and liabilities. It is relatively simple for governments to reduce deficits in cash (C) or financial assets (F), without affecting all recognized liabilities (R) or extended net worth based on future flows (E). For instance, (sub-national or national) governments could engage in game-play, by

- Selling non-financial assets in R, for cash in F;
- Assuming future pension liabilities in E, for cash and financial assets in F;
- Securitization C of future revenue streams F (common in Latin American local governments;
- Treating borrowing F as revenue C (several US States).

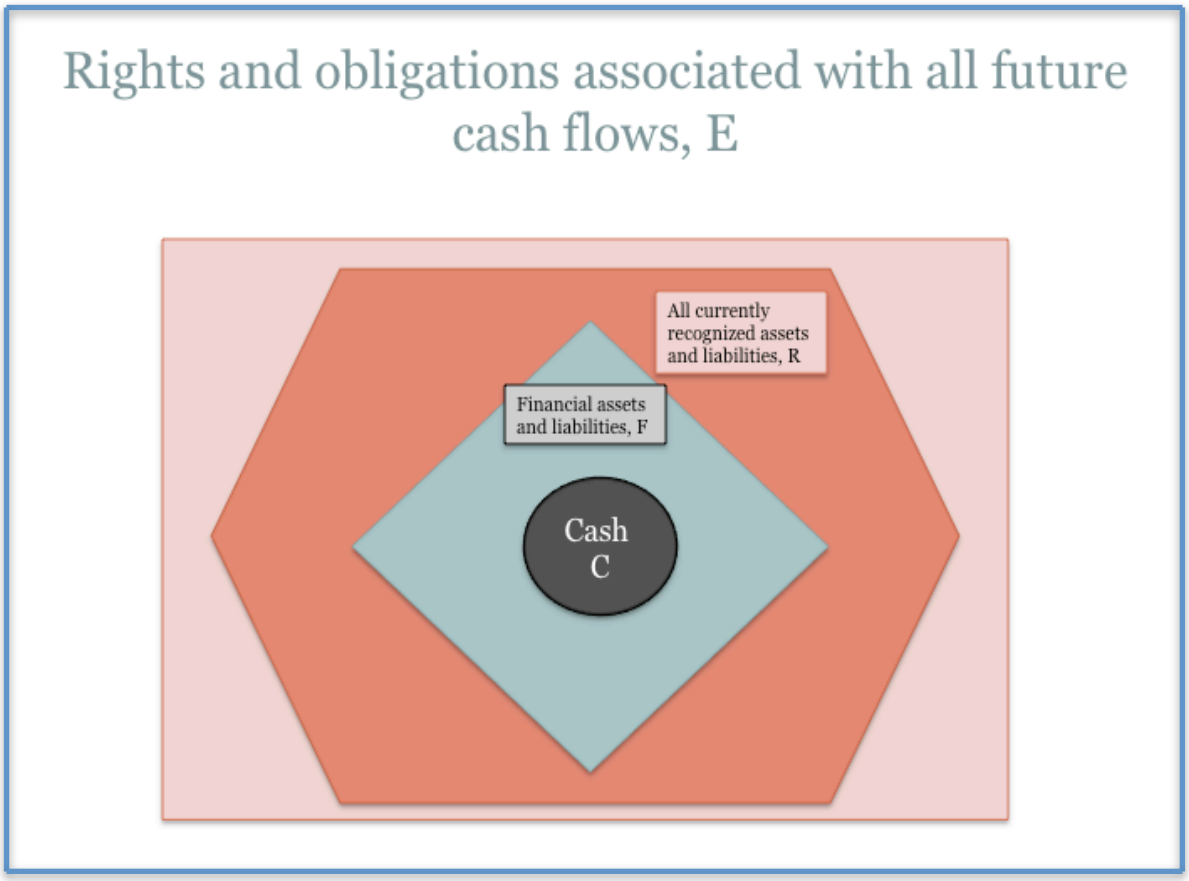
The sets C, F and R are consistent with the IMF GFSM2001. These represent nested sets of information, and if presented in parallel with E, virtually removes the scope for game-play by governments at any level.

Standardized information is critical for any serious implementation of fiscal rules in multi-level countries/currency unions. This should be based on the consistent and systematic generation of information in the overlapping manner described above.

OECD countries do not conform to the standards—and this may be a factor in the current crisis.

There is a growing popularity of performance budgeting at the center (in both Latin American and Asian countries, including Mexico and Pakistan), as well as participatory budgeting at the local levels. Often bilateral donors, seeking to improve budgetary outcomes, drive this tendency. It is clear that focusing on outcomes is a useful addition to a regular budget process, but does not eliminate the need for a consistent, standardized and timely flow of information, so that electorates and policy makers are able to judge the true costs of their policy choices.

Figure 7



The importance of the GFSM2001 cannot be over-stressed, not for reporting to the IMF, but for the efficient management of finances in multi-level countries and in common markets/currency unions. This has implications for the assistance that could be provided by the international agencies to member countries—stressing the importance of a consistent chart-of-accounts for each subnational government consistent with GFSM2001. The more complete agenda for the generation of accurate, complete and standardized information will have consequences for developing countries, and also for countries in the EU (such as Portugal and Spain)

as they struggle to get to grips with the discovery of liabilities in the extended public sector as well as at the regional and subnational levels.

PPPs—kicking the can down the road?

PPPs have been encouraged, including by international finance agencies, as a means of leveraging "private sector" expertise for public investment project, and also bypassing bureaucratic bottlenecks. This is believed to generate efficiencies, and improved value for money, especially at the subnational level. The expectation is that this will generate additional growth through the efficiencies and additional private finances that would be utilized.

The problem is that governments often see PPPs as a means of circumventing budget constraints, especially although not exclusively at the subnational level. This could generate legal obfuscations, and relevant official agencies or governments are either not fully aware of the liabilities, or the ability of the private partner to meet them. Sometimes, the issue of liability for full costs is avoided, often with respect to public infrastructure (highways and hospitals in Europe); and local governments only include the annual contractual cash payment on the budget, and generally only during the tenure of the concerned local government. Often, there is no provisioning for the eventual reversion of the assets to the public sector. Further, there is usually a continuation of public interventions with respect to prices or distribution.

There is also incomplete and asymmetric information, with costs and efforts for projects generally known only to the private partner, and significant incentives for either the private contractor or the government to renege (Danau and Vinella, 2012). An example of a growing recognition of limited commitment comes from the UK (which was in the forefront of the PPP revolution). In the 2002-3 upgrading of the London Underground, Metronet the contracting consortium could not borrow the full amount of funds needed for the project. Consequently, Transport for London, the decentralized agency responsible guaranteed 95% of Metronet's debt obligations. Metronet failed, and the UK Government (Department of Transport) had to pay Transport for London a sum of £ 1.7 billion to enable it to meet the guarantee (House of Lords, 2010). The direct cost to taxpayers was estimated to be as high as £410million. Other examples from the UK, e.g., for wind farm projects, show that in these cases the private contribution was financed by complex financial instruments that are tantamount to debt—that has eventually to be taken over by the state.

As a result of the difficulties above, the International Accounting Standards Board (2011) has issued a new set of guidelines (IPSAS 32) [8] that force an upfront accounting for PPPs, and would significantly affect deficits and recognition of liabilities for general government—i.e., for both central and sub-central governments and related agencies. This ensures that the operator is effectively compensated for services rendered during the period of the concession period. It requires the government or granting public agency to recognize assets and liabilities in their financial statements, when the following are met:

- The government or granting public agency controls or regulates the services to be provided, the target beneficiaries or the price; and
- If the grantor controls through ownership, beneficial entitlement or otherwise, a significant residual interest in the asset at the end of the arrangement.

In the schema of Figure 7, this would involve elements in the areas R and E. This avoids the situation where neither the public or private partner recognizes the asset/liability at the end of the period. Of course, as has been seen in Ireland and Spain recently (and with Mexican road in the early 1990s), even if there are no explicit guarantees by the federal or state governments and there is sufficient pressure on the banking system, it is likely that the state will assume a significant portion of the liabilities.

The implications are that:

(1) the annual budgets for each level of government must be cast in a medium-term framework;
(2) It is essential to undertake a full and careful evaluation of assets and liabilities and associated accounting and reporting of risks with a sufficiently long time horizon (using international standards, such as the GFSM2001);
(3) It is always important to be able to track the cash, and the design of national and subnational TSAs becomes critical; and
(4) In the context of possibility of reneging of contracts by the contractor, or the responsible government, that there be an impartial third party arbiter in case of dispute.

Consequently, if emerging market economies generates considerable cross-border investible funds, this provides a strong case for the establishment of a BRIC bank.

[8] See IASB (2011), IPSAS 32. This standard is also likely to affect the guidelines of Eurostat that are not so tightly defined.

Following the cash—TSAs and transparency

A treasury single account (TSA) is one the most important common features of budget systems across the world, whether of the "traditional" line item variety (as in most developing countries—and Germany), or of the more modern flexible systems, that rely on spending agency accountability (as in Scandinavia). This institutional feature has been recommended by the IMF in a large number of countries as part of its Technical Assistance and Capacity Development. Despite some successes, as in PR China, establishing a TSA has proved elusive in many developing countries from Mexico (the only OECD country without a TSA) to Pakistan and Egypt.

The difficulty in establishing a TSA lies primarily in vested interests, both political as well as bureaucratic (for details, see Ahmad and Jensen, forthcoming). Often at the national level, there is spending by security agencies, donors, and other political centers of power— and the key question is whether these can be included within the TSA?

The same issues arise with respect to donors or sub-national entities. Should local governments have their own TSAs? Should they use a central TSA? What are the problems posed by donors, both multilateral (such as the World Bank) or bilateral agencies that may not trust the local governments to use their funds efficiently or without significant leakages?

Some countries do not have sufficiently large subnational entities for it to be efficient to establish local TSAs.[9] While local governments may use the central TSA in principle, the practice can pose a severe problem, if suddenly, local governments face a closure of their bank accounts, and do not know where the money goes and their balances. And in order to issue payment orders, they may have to send emissaries to the central Ministry of Finance and petition the Treasury to release funds. This adds to the complexity of the local budget process and could endanger the decentralization process.

Some donors, also in particular countries, insist on keeping separate bank accounts for their spending. This may, in part, reflect a lack of confidence in local processes, but poses the risk of establishing parallel budget processes. This also makes it hard for either local or central governments to get a grip on total spending. Besides obfuscating the budget process, it could reduce the accountability for

[9] The Chinese provinces are larger than most countries and have their own TSAs, nested and linked with the Central TSA in Beijing. This is a very interesting model and could usefully be examined in the larger multi-level countries—e.g., other members of the BRICS and countries of similar size, such as Indonesia or Pakistan.

achieving results. Solutions for the monitoring of the cash flows at the national and sub-national level are developed in Ahmad (2014).

Linking investment transfers to results?

There is an expectation that results-based intergovernmental transfers could lead to positive infrastructure and service-delivery outcomes, with improved allocative efficiency, better implementation, and lower costs.[10] Such grants have been increasingly stressed by the international agencies, including the ADB and the World Bank.

Performance-based transfers have to be carefully designed and managed, especially if implemented in the sphere of subnational government competence. If inadequate attention is paid to the factors that could be attributed to local government actions, such transfers could lead to a diversion of own-resources to less productive activities, and also reduce accountability. The cycle from objectives to outcomes has to be carefully specified, and exogenous factors need to be taken into account (see Figure 8).

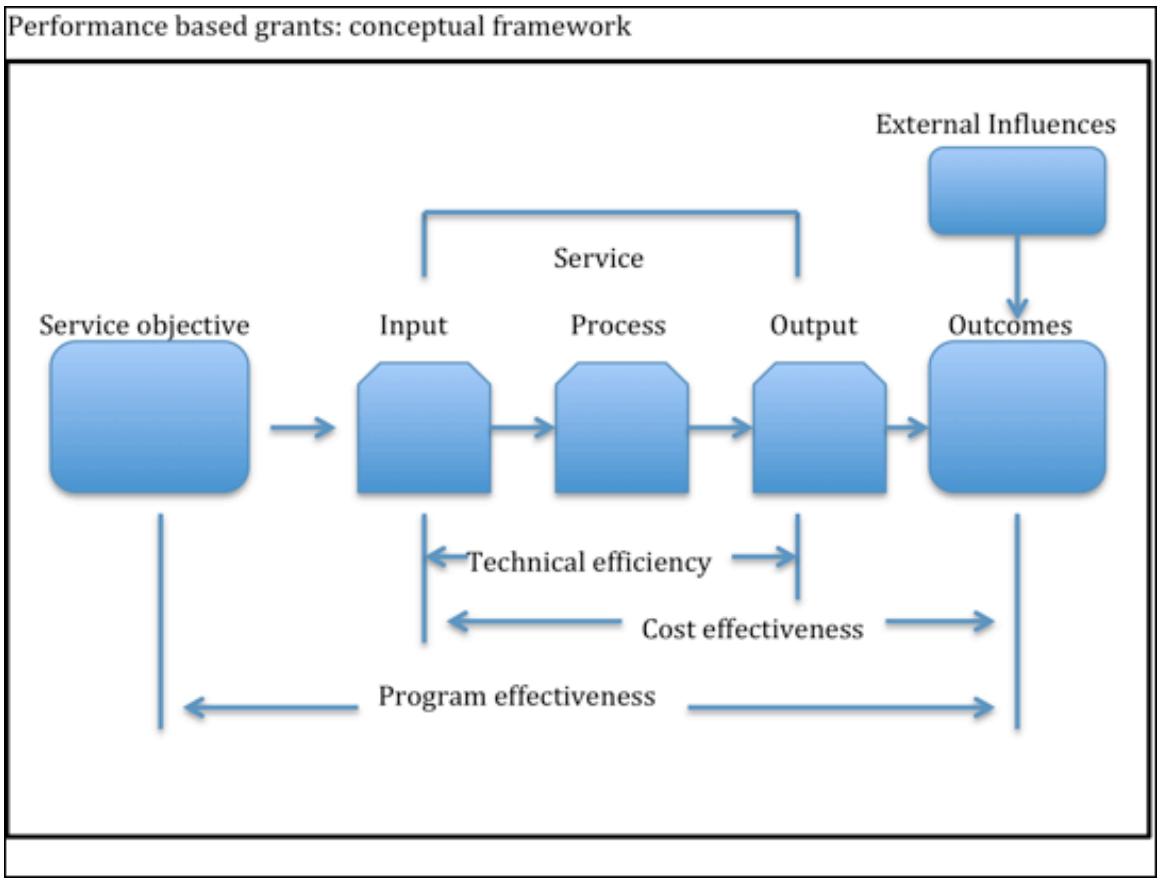
The technical efficiency component reflects the regular budget process that links the allocation of funds through to the funds actually spent, as well as outcomes. These would be normally tracked through with the help of a GFMIS, preferably on a standardized basis for all subnational and central/federal governments. International agencies have assisted a number of countries, including in South Asia and Latin America with subnational GFMISs, although with insufficient attention to a common Chart of Accounts that would generate information on a GFSM2001-compatible basis. In addition a linkage has to be made between the outcomes and the service objectives. There is a degree of subjectivity in determining the exogenous factors that might have played a part.

If the performance-based transfers are based on complex input criteria, or detailed standards that cannot be monitored or enforced, the conditionality becomes irrelevant. Similarly, a focus on outputs rather than outcomes may lead to unintended or perverse incentives. Nonetheless, even in situations where information on budget spending is partial or subject to delays, physical outcomes may be relatively simple to identify quickly and accurately—this could be particularly useful for infrastructure projects. These could be measured and additional funding in future rounds could be made conditional on these outcome indicators (Ahmad and Martinéz, 2010). Care has to be taken to ensure that the positive incentives from a performance–based system are not negated by other

[10] UNCDF, 2010. "Performance-based Grant Systems: Concept and International Experience."

badly designed transfers, for instance based on gap-filling or other distortive criteria.

Figure 8



A performance-based system should supplement local government actions and responsibility, such as through meeting infrastructure gaps that are hard for local governments to address, and which can be easily monitored. In the longer run, more effective and standardized PFM systems are essential for information flows to improve efficiency and accountability. Similarly, incentive structures depend on whether or not sub-national entities have access to own-source revenues and are subject to hard budget constraints. While, this mutual interdependency will take many years to work through, developing countries could introduce simple performance-based grants in specific sectors, or discrete areas that will improve outcomes.

V. Conclusions

A longer-term agenda for sustainable growth will require the judicious use of private resources, both national as well as cross-border. **However, this will require concomitant public actions,** especially in education and health care, as well as basic infrastructure that is unlikely to be provided by the private sector. Consequently, there is a need to focus on an overall envelope within a medium term perspective:

- Both the revenue envelope, including own-source revenues at the sub-national level, are needed for the use of public spending especially for infrastructure gaps;
- Both public and private decision making requires full Information on how monies and raised and spent, and the build-up of liabilities needs to be recognized, with accountability at the appropriate levels of government;
- Special provisions and preferences that create "holes" in the information flows and shelters for rent-seeking should be avoided as far as possible, in order to create a level playing field.
- Institutions have to be context specific, but
    - More work is needed in most developing countries (and several developed countries as well) on the generation of information on assets and liabilities;
    - Incentives for better governance (including sub-national own-source revenues) are critical.

While there is considerable promise in focusing on cities as hubs for sustainable growth, the design and implementation problems accentuated at the sub-national level. Political economy constraints involving the sharing of resources and accountability are heightened.

Given the domestic fiscal agenda, there is a clear case for additional risk-mitigation by third-party international agencies. Further sectoral detail is provided in Ahmad, Bhattacharya, Vinella and Xiao (2014), and includes a case for more active participation by the existing multilateral banks and a possible BRIC Bank,

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Annex 1. Structure of the GFSM2001 information system