INTERNATIONAL MONETARY FUND

IMF POLICY PAPER

MACROECONOMIC DEVELOPMENTS AND PROSPECTS IN LOW INCOME DEVELOPING COUNTRIES—2016

January 2017

IMF staff regularly produces papers proposing new IMF policies, exploring options for reform, or reviewing existing IMF policies and operations. The following documents have been released and are included in this package:

- A **Press Release** summarizing the views of the Executive Board as expressed during its December 19, 2016, consideration of the staff report.
- The **Staff Report**, prepared by IMF staff and completed on November 23, 2016, for the Executive Board's consideration on December 19, 2016.

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International Monetary Fund
Washington, D.C.

INTERNATIONAL MONETARY FUND
COMMUNICATIONS DEPARTMENT

Press Release No. 17/07
FOR IMMEDIATE RELEASE
January 12, 2017

International Monetary Fund
Washington, D.C. 20431 USA

IMF Executive Board Discusses Macroeconomic Prospects and Challenges in LIDCs

- The sharp realignment of global commodity prices has been a major setback for commodity-exporting LIDCs, while generally benefitting others. As a result, growth prospects have become increasingly divergent.

- In an era of subdued commodity prices, prospects for commodity exporters are heavily influenced by how successfully they can implement policies to confront high fiscal deficits, reduced foreign reserves, and elevated economic and financial stress.

- The quantity, quality and accessibility of infrastructure in LIDCs is considerably lower than in other economies and enhancing the role of the private sector in its delivery is a priority for many.

As many low-income developing countries (LIDCs) continue to struggle with low commodity prices, the International Monetary Fund (IMF) Executive Board discussed the unique policy issues these countries face, identified financial sector stress and infrastructure deficiencies as priorities to be addressed, and noted the importance of collaborative engagement with affected countries.

On December 19, 2016, the Board discussed a staff paper on macroeconomic developments in LIDCs. The paper examines economic and fiscal prospects and vulnerabilities in this group of countries, financial sector stress and challenges relating to public investment in infrastructure.

The sharp realignment of global commodity prices has been a major setback for commodity-exporting LIDCs, while generally benefitting others. As a result, growth prospects have become increasingly divergent. Commodity exporters have experienced a marked slowdown of economic activity, with some suffering a sharp contraction. In contrast, growth in diversified LIDCs that are less dependent on commodities, has been strong overall growth, although a number of countries have experienced weaker growth due to challenges induced by adverse external spillovers, weak domestic policies, stabilization programs, or natural disasters.

Prospects for commodity exporters continue to be heavily influenced by how successfully they can implement policies to confront severely-constrained fiscal revenues and increasing fiscal deficits, reduced foreign reserves, and exchange rate pressures. While the situation is less urgent in most diversified LIDCs, fiscal and external imbalances have also widened in many.

Many LIDCs need to strike a better balance between supporting development spending versus rebuilding policy buffers and strengthening economic resilience. Debt levels are being pushed up in both commodity and diversified exporters, from already elevated levels in some cases.

Vulnerabilities to a deterioration in macroeconomic performance remain high, particularly in commodity exporters, but also in some diversified exporters, where remittance shocks and poor policies have taken a toll. Furthermore, financial sector stress has emerged in about one-fifth of LIDCs, resulting in bank failures and supervisory interventions; and as many as three-fifths of commodity exporters are at risk of financial sector stress over the next one to two years.

Structural sources of vulnerabilities include a pattern of weaknesses in banking supervision common to many LIDCs: inadequate supervisory powers and independence, under-resourced and weak supervisory capacity, insufficient use of risk-based (rather than compliance-based) assessments, and poor enforcement of regulations and decisions. LIDCs also face substantial fiscal risks from a range of factors such as volatile commodity-related revenue and donor grant disbursements, as well as liabilities from state-owned enterprises and a rising stock of Public-Private Partnerships (PPPs).

Public investment, including in infrastructure, has broadly increased in LIDCs over the last 15 years. Despite this, the quantity, quality and accessibility of infrastructure in LIDCs remains considerably lower than in other economies. Outside the telecom sector, infrastructure services in LIDCs are primarily provided by the public sector. Private participation is largely channeled through PPPs, which are mostly concentrated in the energy sector and whose volume has declined recently after a sharp spike in the early 2010s.

Grants and concessional loans from development partners are an essential and stable source of infrastructure funding in LIDCs. International loans play an important complementary role in a few countries, but lending volume has fallen in the last two years. An IMF desk survey suggests that funding constraints are a common impediment to increased infrastructure investment.

Executive Board Assessment[1]

[1] At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summings up can be found here: http://www.imf.org/external/np/sec/misc/qualifiers.htm.

Executive Directors welcomed the comprehensive assessment of macroeconomic developments in low-income developing countries (LIDCs), many of which are encountering significant difficulties as a result of lower commodity prices. They appreciated the attention given in the paper to the diversity of situations and experiences across countries, and saw the more in-depth discussion of financial sector issues and public infrastructure provision as being timely and appropriate.

Directors observed that economic developments in most LIDCs continue to be heavily influenced by the marked decline in commodity prices that began in mid-2014. Countries reliant on commodity exports have suffered significant erosion of export earnings and budgetary revenues, contributing to a slowing in growth, widening fiscal imbalances, and erosion of foreign reserves. By contrast, LIDCs with a more diversified export base have, in most cases, continued to record strong growth, helped by lower oil import bills, although some have been adversely affected by a fall in remittances, domestic conflict, and natural disasters.

Against this background, Directors underscored the need for vigilance and decisive policy responses by country authorities, as needed. They also noted the importance of close Fund monitoring and tailored advice to affected countries, and working collaboratively with other multilateral institutions and donors to assist LIDCs. In this regard, many Directors called for further reflection on the avenues for strengthening collaboration between the Fund and the Bank in their work on LIDCs.

Directors agreed that many commodity exporters need to undertake further policy adjustments to restore sustainable fiscal and external positions. Fiscal consolidation is an imperative, and exchange rate adjustment where feasible, coupled with monetary tightening, is called for in some cases, together with efforts to rebuild foreign exchange buffers. Directors underscored the need to boost budgetary revenues, including by broadening the tax base, and cut expenditure while protecting growth-critical spending and shielding the most vulnerable groups. They also emphasized the need to diversify the economic base to improve resilience. Directors called on donors to boost their support for countries undertaking difficult adjustments, noting that the Fund should stand ready to provide appropriately-calibrated support for strong adjustment programs.

Directors welcomed the strong growth performance in LIDCs with a more diversified export base, while noting that some smaller and fragile countries are faring less well. They expressed concern at the upward drift in fiscal deficits and public debt levels in many fast-growing economies. While noting that higher levels of public investment have been an important contributory factor in many cases, Directors underscored the importance of getting the balance right between the objectives of raising spending for long-term development needs versus rebuilding policy buffers and avoiding an unsustainable debt build-up.

Directors expressed concern that financial sector stresses are increasing in a significant number of LIDCs, particularly commodity exporters. They called for pro-active oversight by the relevant regulatory authorities to ensure that these stresses are adequately contained. They noted the cross-cutting weaknesses in financial sector oversight highlighted in the

paper, and called on national authorities, supported by their development partners and the Fund, to design and implement reforms to substantially strengthen financial sector regulation and supervision. Directors noted that Fund assessments and technical assistance will be important in this area.

Directors welcomed the staff analysis of the main sources of medium-term fiscal risk in LIDCs. They called for prioritized efforts to strengthen risk management, taking into account countries' capacity constraints. They recommended bolstering resilience, including through export product and market diversification and through greater regional integration.

Directors agreed that infrastructure deficiencies continue to be a key constraint on growth in LIDCs. They stressed that financing the required levels of public investment while safeguarding debt sustainability would require action on several fronts. This includes boosting public saving through enhanced domestic revenue mobilization and containing non-priority outlays; ensuring efficient use of funds by strengthening public investment management; developing local capital markets; and tapping all available sources of concessional financing. Enhancing the role of the private sector in infrastructure delivery should be promoted where feasible. This would require concerted efforts to improve the regulatory and macroeconomic environment and enhance countries' capacity in negotiating and implementing public-private partnerships in order to effectively balance risk-sharing between the public and private partners. The multilateral development banks also have an important role to play in boosting private sector investment in infrastructure through technical support for governments seeking to attract funds, active engagement of their private sector arms in infrastructure projects, and the provision of effectively-designed risk-mitigation mechanisms. Directors highlighted the Fund's role in assessing the macroeconomic gains from infrastructure investment and providing advice and technical assistance on enhancing public investment efficiency and debt management, drawing on cross-country experiences.

Directors supported the practice of an annual formal Board discussion of macroeconomic and financial conditions in LIDCs to better understand the unique policy issues faced by these countries—including vulnerable countries and countries in fragile situations—and identify priorities for Fund engagement with them. Directors also noted that the paper will be an important input into the forthcoming Board discussions on the LIC Debt Sustainability Framework and the Fund's Facilities for Low Income Countries.

INTERNATIONAL MONETARY FUND

November 23, 2016

MACROECONOMIC DEVELOPMENTS AND PROSPECTS IN LOW-INCOME DEVELOPING COUNTRIES—2016

EXECUTIVE SUMMARY

This paper is the third in a series assessing macroeconomic developments and prospects in low-income developing countries (LIDCs). The first of these papers (IMF, 2014a) examined trends during 2000–2014, a period of sustained strong growth across most LIDCs. The second paper (IMF, 2015a) focused on the impact of the drop in global commodity prices since mid-2014 on LIDCs—a story with losers (countries dependent on commodity exports, notably fuel) and winners (countries with a more diverse export base, where growth remained robust).

The overarching theme in this paper's assessment of the macroeconomic conjuncture among LIDCs is that of incomplete adjustment to the new world of "lower for long" commodity prices, with many commodity exporters still far from a sustainable macroeconomic trajectory (Chapter 1). The analysis of risks and vulnerabilities focuses on financial sector stresses and medium-term fiscal risks, pointing to the actions, including capacity building, needed to manage and contain these challenges over time (Chapter 2). With 2016 the first year of the march towards the 2030 development goals, the paper also looks at how infrastructure investment can be accelerated in LIDCs, given that weaknesses in public infrastructure (such as energy, transportation systems) in LIDCs are widely seen as a key constraint on medium-term growth potential (Chapter 3).

With the sharp adjustment in commodity prices now into its third year, some of the key messages of the paper are familiar: a) many commodity exporters, notably fuel producers, remain under significant economic stress, with sluggish growth, large fiscal imbalances, and weakened foreign reserve positions; b) countries with a more diversified export base are generally doing well, although several have been hit by declines in remittances, conflict/natural disasters, and the contractionary impact of macroeconomic stabilization programs; c) widening fiscal imbalances, in both commodity and diversified exporters, have resulted in rising debt levels, with severe financing stress emerging in some cases; and d) financial sector stresses have emerged in many LIDCs, with expectations that these strains will increase in many commodity exporters over the next 12–18 months. Key messages on financial sector oversight, on medium-term fiscal risks, and on tackling infrastructure gaps are flagged below.

Macroeconomic Developments and Outlook

The broad narrative for LIDCs is a tale of three country groups: fuel exporters, non-fuel commodity exporters, and "diversified" (non-commodity dependent) exporters.

Fuel exporters are struggling to adapt to dramatic declines in export and budgetary revenues: average output growth has stalled or turned negative, with the group average falling sharply from 5.7 percent in 2014 to -1.6 percent by 2016; fiscal deficits have risen sharply, to unsustainable levels; and foreign reserves are being depleted, most markedly in countries with exchange rate pegs. Painful budgetary adjustments will be needed to restore macroeconomic stability, with borrowing room shrinking for many.

Non-fuel commodity exporters experienced a much milder terms of trade shock and a modest hit to budgetary revenues. Average growth slowed noticeably, from 5.3 percent in 2014 to 3.8 percent by 2016; fiscal deficits have risen moderately, from an average of 2.3 percent in 2014 to 3.5 percent in 2016; public debt levels have also eased upwards; and reserve levels have fallen below the traditional benchmark of three months of import coverage in over half of the countries. Policy adjustments are needed, but are manageable in most cases. In a few cases, policy mistakes resulted in large surges in public debt, with comprehensive adjustment programs now needed to restore stability.

Diversified exporters have in the main benefited from the realignment of commodity prices. Growth is running at 6 percent or above in many countries, both in Asia and Africa; countries hit by remittance shocks and non-economic shocks are faring less well. But fiscal deficits (averaging 4.6 percent of GDP in 2016) are drifting upward and public debt levels are rising steadily from already elevated levels. While investment scaling-up may warrant this approach in some cases, many countries need to raise public savings levels, contain debt accumulation, and rebuild policy buffers.

Persistent High Vulnerabilities

Econometric models point to high macroeconomic vulnerabilities among two-thirds of commodity exporters, but in less than one-quarter of diversified exporters. One-quarter of LIDCs are currently assessed to be at high risk of, or in, external debt distress.

Financial sector stresses have materialized in about one-fifth of LIDCs, with more than half of commodity exporters facing an elevated risk of financial sector stress over the next 18 months. Fiscal stress is an important contributory factor—with public sector arrears hitting corporates in some countries, and falling government deposits squeezing liquidity in others. Bank failures and supervisory interventions to prevent such failures have been on the rise since 2014, with one systemic financial crisis.

The IMF provides extensive technical assistance to LIDCs on banking sector regulation and supervision. Key weaknesses identified in regulation/supervision in LIDCs include a) lack of supervisory independence and powers; b) under-resourcing of supervision; c) insufficient oversight of banks' risk management and governance frameworks; and d) weak enforcement efforts. Development partners have an important role to play in supporting capacity building efforts in this area.

Key fiscal risks in LIDCs include a) high levels of revenue volatility that, absent appropriate fiscal rules, can produce strongly pro-cyclical fiscal policies, and b) poorly monitored contingent liabilities, including weak oversight of state-owned enterprises and of fiscal exposures in public-private partnerships (PPPs). Improving fiscal risk management capacity needs to focus on a) identifying/assessing risks; b) containing risks; and c) improving monitoring and reporting.

Promoting Infrastructure Investment—Progress and Policy Challenges

Improving infrastructure investment is a key pillar in most national development strategies and is seen as integral to the 2030 Development Agenda. Better infrastructure services can raise productivity, crowd in private investment, and facilitate integration of the rural population into the national economy.

Public investment, including in infrastructure, has generally increased in LIDCs over the last 15 years, but infrastructure deficiencies remain severe. Excepting telecoms, infrastructure services are primarily provided by the public sector. Private participation in infrastructure is largely channeled through PPPs, concentrated in the main in the energy sector. Grants and concessional loans from development partners are an essential and stable source of infrastructure funding for LIDCs; external syndicated loans have played an important complementary role in a few countries, but lending volume has fallen in recent years. An IMF country team survey flags that funding and absorptive capacity constraints are key impediments to scaling up infrastructure investment.

Improving LIDC infrastructure to support growth requires action on multiple fronts. Policy-makers must strike a balance between borrowing to finance investment and maintaining debt sustainability. Where fiscal risks limit room for debt financing, additional resources need to be mobilized through accelerated domestic resource mobilization and concessional external financing. Strengthening public investment management capacity is essential to improving the returns from investment outlays. Expanded engagement by private investors is important for scaling up, but requires concerted efforts to improve the regulatory and macroeconomic environment while delivering policy predictability over the medium term. Multilateral development banks and development finance institutions have work to do in better targeting their interventions to leverage private investment, including through well-designed and scalable risk mitigation measures.

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Acronyms and Abbreviations

AMs	Advanced Markets
AREAER	Annual Report on Exchange Arrangements and Exchange Restrictions
DFI	Development Finance Institutions
DSA	Debt Sustainability Analysis
DSF	Debt Sustainability Framework
EMs	Emerging Markets
EMBI	Emerging Market Bond Index
EM-DAT	Emergency Events Data Base
FDI	Foreign Direct Investment
FSAP	Financial Sector Assessment Program
FSI	Financial Soundness Indicators
FTE	Fiscal Transparent Evaluations
GDVI	Growth Decline Vulnerability Index
GFC	Global Financial Crisis
GIF	Global Infrastructure Facility
GTP	Growth and Transformation Plan
IDA	International Development Association
IFS	International Financial Statistics
IPPF	Infrastructure Project Preparation Facility
IPCC	Intergovernmental Panel on Climate Change
LIC	Low Income Countries
LIDCs	Low-Income Developing Countries
NCPI	Net Commodity Price Index
PEFA	Public Expenditure and Financial Accountability
PIM	Public Investment Management
PIMA	Public Investment Management Assessment
PPP	Purchasing Power Parity
PPPs	Public-Private Partnerships
PRGT	Poverty Reduction and Growth Trust
SBA	Stand-By Arrangement
SCF	Standby Credit Facility
SSA	Sub-Saharan Africa
TA	Technical Assistance
VIX	CBOE Volatility Index
WEO	World Economic Outlook

MACROECONOMIC DEVELOPMENTS: ADJUSTING TO "LOWER FOR LONG" COMMODITY PRICES

A. Introduction

1. The preponderance of low income developing countries (LIDCs) experienced strong and sustained economic growth through 2014, even in the face of the global financial crisis. The exceptions to this experience were, in the main, fragile and conflict-affected states (IMF, 2014a).

2. This positive trend across the LIDC universe hit a roadblock in 2014, with the sharp and sustained drop in global commodity prices. Commodity exporters experienced a marked drop in export revenues, soon reflected in budgetary difficulties and a fall-off in growth. LIDCs less dependent on commodity exports benefited from a sizeable drop in outlays on imports, often providing a positive stimulus to growth (IMF, 2015a). With commodity prices set to remain low for the foreseeable future, macroeconomic developments continue to be heavily influenced by how countries are responding to the new world of "lower for long" commodity prices. This theme resurfaces throughout this paper, although several other factors play a role in the narrative.

3. We use the term "LIDC" to refer to those countries that a) have a low per capita income and b) are not conventionally treated as emerging market economies (see Annex I).[1] There are 60 countries in this group, together accounting for about one-fifth of the world's population. While sharing characteristics common to all countries at low levels of economic development, the LIDC group is very diverse, with countries ranging in size from oil-rich Nigeria (175 million people) to fisheries-dependent Kiribati (0.1 million). The 10 largest economies in the group account for two-thirds of the total output of the group.

4. For analytical purposes, we divide the universe of LIDCs into sub-groups, drawing on the approach taken in previous reports (IMF, 2014a, 2015a). *Commodity exporters* are those countries where commodities account for at least one-half of export receipts from goods and services; all other countries are referred to as *diversified exporters*.[2] Commodity exporters are further divided into *fuel exporters* (where fuel exports comprise at least half of export earnings) and *non-fuel commodity exporters*. Separately, LIDCs are divided into (i) *frontier market economies* (FMs)—those with more developed financial systems and closer linkages to international financial markets; (ii) *fragile states*—countries, often post-conflict, with weak institutional capacity; and (iii) other developing economies (residual).

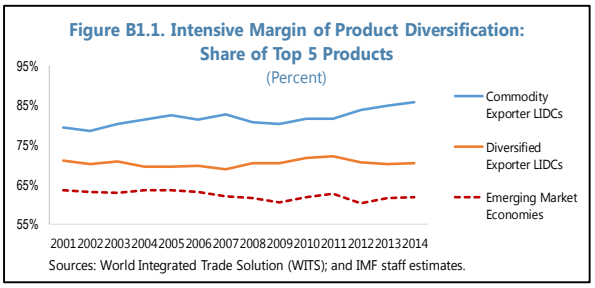
[1] The set of countries contained in the LIDC grouping remains unchanged from (IMF, 2014a) and (IMF, 2015a); the appropriateness of the current LIDC grouping will be reassessed in 2017.

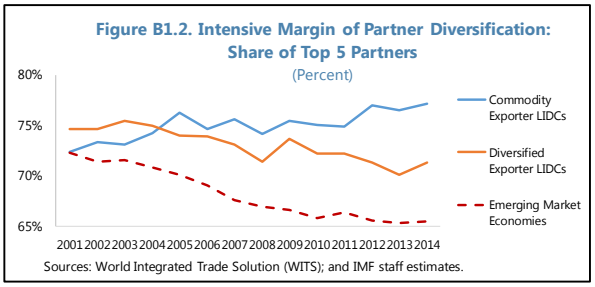
[2] Diversified exporters are diversified only in the sense that they are not heavily dependent on commodity exports: their non-commodity exports are, in many cases, concentrated in a narrow range of products (Box 1).

Box 1. Export Diversification in LIDCs: Progress and Challenges[1]

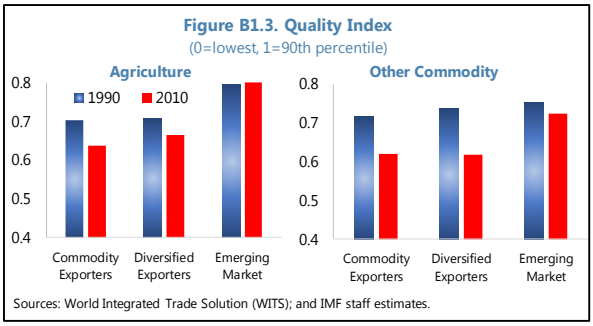
The deterioration in economic prospects for commodity exporters has underscored the need for LIDCs specialized in a narrow range of exports to develop a wider export base. This box examines progress in export diversification, looking at: 1) product variety; 2) variety in trading partners; and 3) quality upgrading.

Most LIDCs have concentrated export structures, whether focused on a handful of commodities or a narrow range of other products (such as garments). *Commodity exporters* (as defined here), unsurprisingly lag behind *diversified exporters* in terms of diversity of export products, but also of in terms of diversity of export partners.[2] Indeed, they have become more reliant on a handful of export products since 2000 (Figure B1.1) *and* more reliant on a narrow range of trading partners over the period (Figure B1.2). Diversified exporters, in aggregate, have made little progress in terms of reducing concentration within the existing product mix, but have expanded diversification of exports across trading partners.





Progress in quality upgrading has also been limited. As documented in Figure B1.3, the quality of agricultural products[3] was lower in in LIDCs in 2010 compared to 1990, for both commodity exporters and diversified LIDCs. The quality index for other commodities has declined ever more markedly during 1990–2010.



The slow progress in export diversification points to the need for policy recalibration. There is a substantial literature on policies for promoting diversification (such as IMF, 2014b; Henn et al., 2013; IMF, 2016a; Rodrik, 2008). Key measures include: (i) upgrading institutional quality to support private investment; (ii) education/training to improve labor-force skills; (iii) trade and agricultural reforms to reduce trade costs and promote intensive margin; (iv) financial inclusion, and greater gender equality that would support activity in more sectors; (v) investment in research, technology, and innovation to improve product quality; and (vi) avoiding exchange rate overvaluation to support export competitiveness.

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[1] Prepared by Ke Wang (RES).

[2] Export diversification levels are measured by the Herfindahl Index, higher values indicate less diversification. Diversification at the extensive margin entails exporting new products or trading with new partners; diversification at the intensive margin implies reducing the level of concentration (on products or markets) within the existing export product mix.

[3] The Quality Index is based on average export prices for each product category, accounting for differences in production costs, firms' pricing strategies, and shipping costs (Henn et al., 2013). To enable cross-product comparisons, all quality estimates are expressed relative to the world quality frontier, defined as the 90th percentile of quality in each product-year combination.

B. The External Environment Facing LIDCs

5. Global growth has eased further since 2014, with only a modest reversal anticipated for 2017 (Table 1; Figure 1, Panels A–B). Recovery in the advanced economies has disappointed, reflecting sluggish investment, low productivity growth, and high debt levels. Among emerging market economies (EMs), the gradual slowing of the Chinese economy is in line with expectations, but many commodity exporters are still adjusting to the impact of weaker commodity prices.[3]

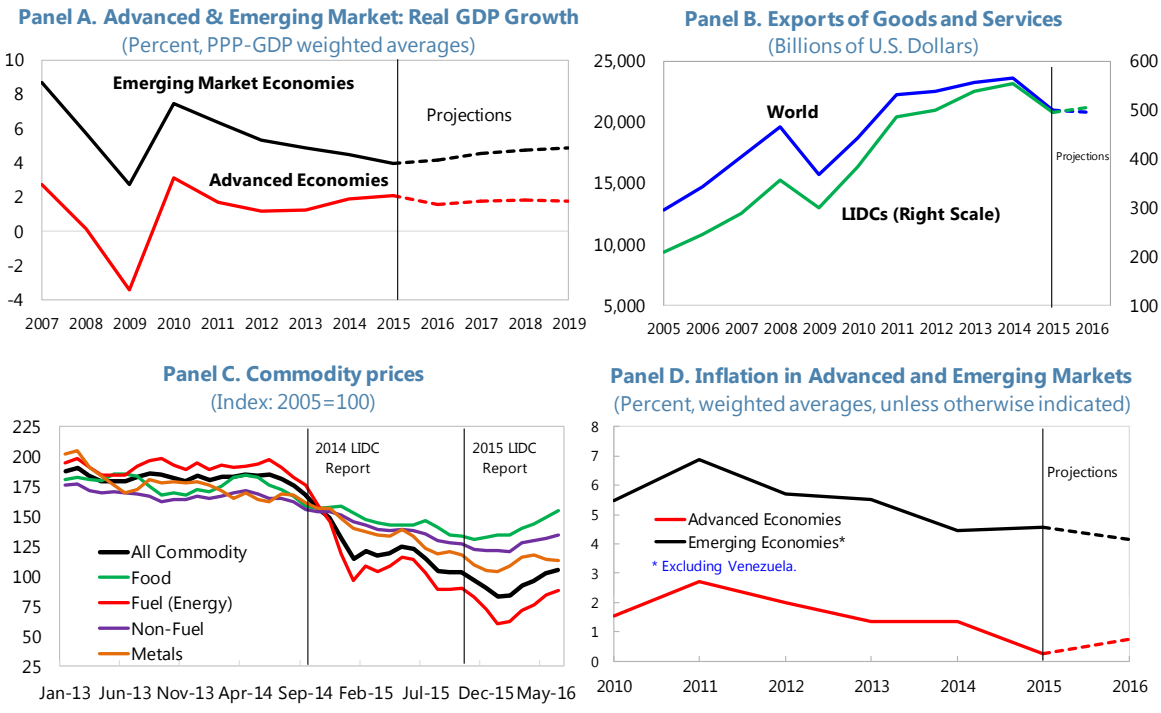
Table 1. Comparison of Projection Vintages

	2014	2015	2016 Projections	2017 Projections
Global Growth (Percent)				
October 2014	3.3	3.8	4.0	4.1
October 2015	3.4	3.1	3.6	3.8
October 2016	3.4	3.2	3.1	3.4
Petroleum Price (APSP; US$)				
October 2014	102.8	99.4	97.3	95.4
October 2015	96.2	51.6	50.4	55.4
October 2016	96.2	50.8	43.0	50.6
Nonfuel (Commodity) Price (Index, 2013=100)				
October 2014	97.0	93.0	92.3	91.5
October 2015	96.0	79.8	75.7	76.0
October 2016	96.0	79.2	77.1	77.7

Sources: World Economic Outlook (October 2014, October 2015, and October 2016).

6. Commodity prices remain well below 2014 levels, with only a modest recovery expected from current levels (Figure 1, Panel C). Oil prices have recovered somewhat from February 2016 lows, but are still down by more than one-half from the first semester of 2014. Non-fuel commodity prices have declined by smaller margins—more marked declines for metals, such as copper and iron, less so for agricultural products. Meanwhile, inflation remains subdued across advanced and most emerging market economies, implying minimal external pressure on price levels in LIDCs (Figure 1, Panel D).

Figure 1. External Economic Environment



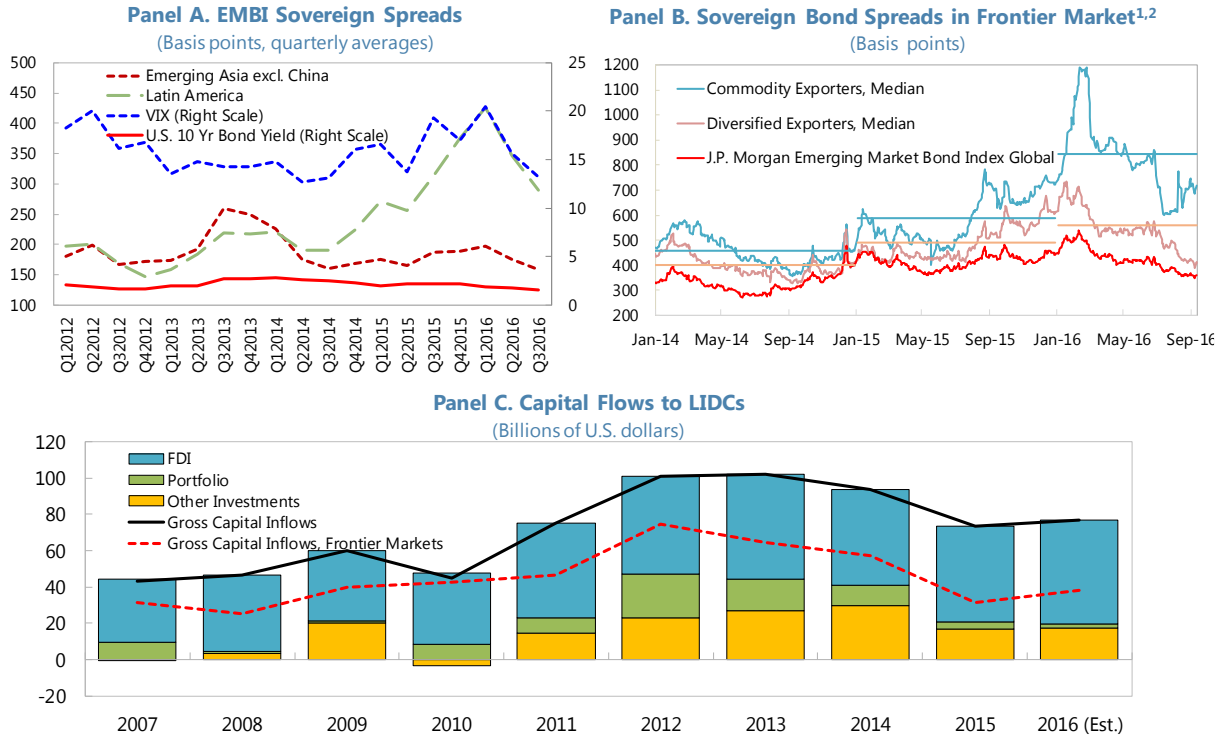
Sources: World Economic Outlook; and IMF staff estimates.

[3] See IMF, 2016b, for a comprehensive analysis of global economic developments.

7. Private capital flows to LIDCs declined significantly in 2015, with both portfolio inflows and other investments falling sharply: a small projected pick-up in 2016 reflects some recovery in inward direct investment, with other inflows remaining depressed (Figure 2).[4] For LIDC frontier economies:

- *Base funding costs,* proxied by the EMBI global bond market index, were higher by some 100 basis points (bps) in 2015 (from 2014), but eased significantly over the course of 2016.
- *Bond spreads* for LIDC commodity exporters widened sharply in 2015 and even further in early 2016—helped by a further dip in commodity prices—before narrowing over the course of 2016. That said, current spreads (averaging 700 bps) are up some 240 bps on 2014 levels.
- *Bond spreads* for LIDC diversified exporters increased more modestly from 2014 through early 2016—in line with rising EM bond spreads—but have since eased to 2014 levels.

Figure 2. Global Financial Conditions



Sources: Bloomberg; JP Morgan; Federal Reserve Economic Data (FRED); World Economic Outlook; OECD; and IMF staff estimates.
[1]The horizontal lines indicate the mean of the median spreads in each group for every year.
[2]The sample of frontier market LIDCs comprises Bolivia, Mongolia, Mozambique, Nigeria, and Zambia (commodity exporters), Cote d'Ivoire, Ghana, Kenya, Senegal, Tanzania, and Vietnam (diversified exporters). The classification of commodity exporters and diversified exporters is referred to LIDC reports (2015).

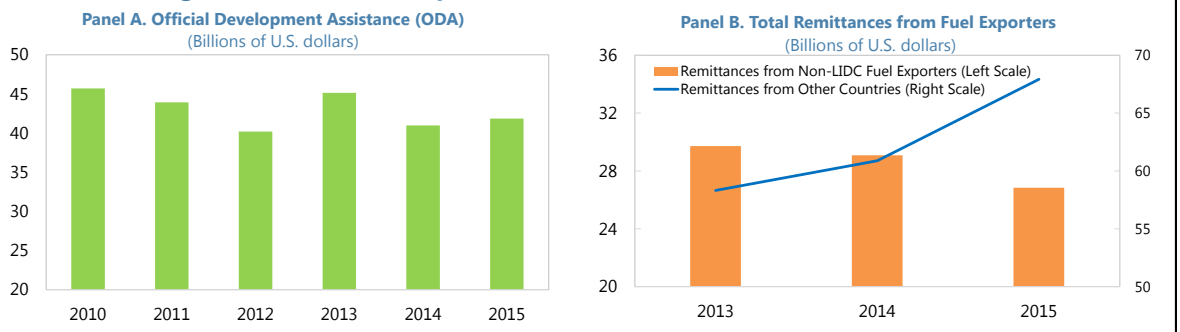
[4] The shifts over time reflect a mix of both push and pull factors (see IMF, 2015a, and IMF, 2016a).

8. Non-commercial flows to LIDCs are providing limited stimulus (Figure 3):

- *Aid flows*, in nominal dollars, have fluctuated annually over the past several years, with some downward drift from post-global crisis levels. A marked drop in aid flows in 2014 was only partly reversed in 2015, with flows to developing countries in 2016 being squeezed by diversion of resources to fund outlays on hosting refugees in many European countries.[5]

- *Remittance flows* to LIDCs increased in 2014 and 2015—a combination of continued strong growth in remittances from non-fuel exporting host countries and a significant decline, carried forward through 2016, in remittances from fuel-exporting host countries (notably the Gulf countries and Russia). The impact on individual LIDCs thus depended on geographical patterns of out-migration: those where the bulk of migrant workers worked in fuel exporters have seen remittances shrink (as in the case of Central Asian economies with close links to Russia).

Figure 3. Official Development Assistance and Remittance Flows in LIDCs



Sources: World Economic Outlook; OECD; and IMF staff estimates.

C. Developments in LIDCs

The Commodity Price Realignment Continues to Challenge Commodity Exporters

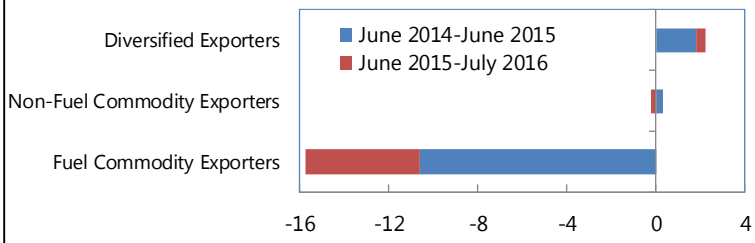
9. The substantial realignment of international commodity prices remains the main driver of macroeconomic developments across LIDCs in 2016. *Fuel exporters* are struggling to cope with an unusually large terms of trade shock, a shock that intensified in 2016: the first-round income loss from this price shock was dramatic (Figure 4).[6] *Non-fuel commodity exporters* have seen export prices decline markedly, while benefiting from the large drop in fuel prices: the first-round

[5] Funds spent on hosting refugees for their first year of residence are treated as official development assistance (ODA); outlays on refugees after the first year in the host country are not included in ODA (OECD DAC: http://www.oecd.org/dac/financing-sustainable-development/refugee-costs-oda.htm).

[6] It is useful to split the impact of commodity price changes into an income effect (the change in the value of exports less the change in the value of imports at unchanged volumes, expressed as a share of GDP) and supply-side effects on domestic output and investment levels (see IMF, 2015a, and Gruss, 2014, for discussion).

income loss from price changes has been limited, but output and investment levels in commodity sectors have been hit, as have budgetary revenues. Finally, *diversified exporters* have experienced a moderate income gain from falling prices, with little adverse effect on export volumes or associated investment levels. The impact of the commodity price realignment is the dominant factor in explaining developments at the country level, although factors such as spillovers from fuel exporters to other countries through demand effects and falling remittances, alongside natural shocks and civil conflict, also feature.

Figure 4. Country-Specific Net Export Commodity Price Index
(Percent of GDP, PPP-GDP weighted averages)



Sources: IMF staff estimates based on Gruss, 2014.

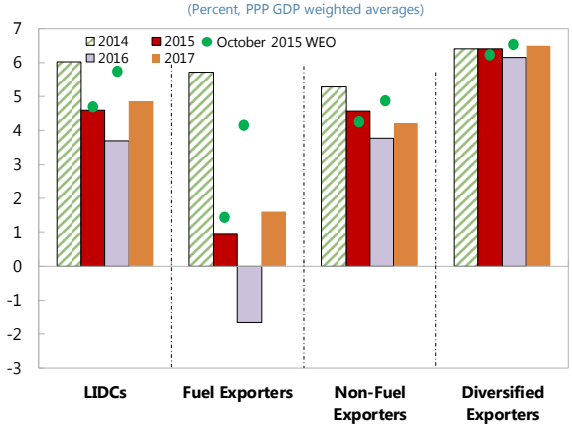
[1] As commodity terms of trade are weighted by the share of commodity net-exports in GDP, a one percent increase can be interpreted approximately as an income gain of one percent of GDP.

10. Commodity-exporting LIDCs have experienced a marked slowing of economic activity (Figures 5–6).

- **In fuel exporters,** average growth slowed dramatically in 2015 (to 0.9 percent, from 5.7 percent in 2014), and has declined further in 2016 (to -1.6 percent)—a marked contrast with the sizeable rebound anticipated a year ago. Some economies are set to record modest but positive growth in 2016 (*Bolivia*, *Republic of Congo*), while others have moved into recession (*Chad*, *Nigeria*). Civil conflict has disrupted economic activity in *South Sudan* and *Yemen* over the period; security problems have also hit oil output in *Nigeria*.

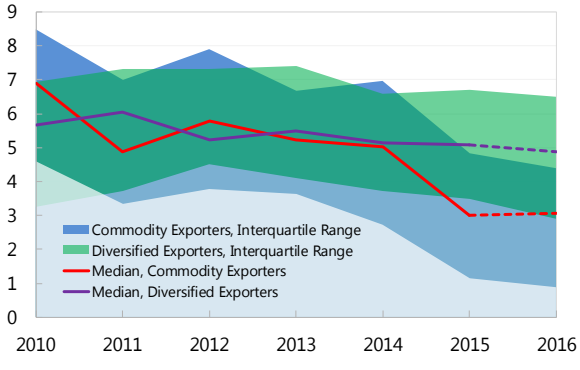
- **Among non-fuel commodity exporters,** growth slowed from 5.3 percent in 2014 to 4.6 percent in 2015, and is set to slow further to 3.8 percent in 2016. Domestic factors have had a significant growth impact in countries with: fragile political situations (*Afghanistan*, *Burundi, Central African Republic*); weak policies (*Mongolia, Zambia, Zimbabwe*), as well as those pursuing stabilization programs (*Malawi*) or hit by adverse natural shocks (*Malawi* and *Zambia* again; see Box 2).

Figure 5. Real GDP Growth in LIDCs
(Percent, PPP GDP weighted averages)



Sources: World Economic Outlook; and IMF staff estimates.

Figure 6. Variability in Growth Prospects Across LIDCs
(By Economy Type, Percent)



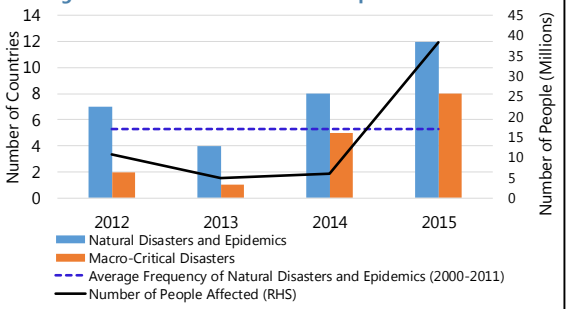
Sources: World Economic Outlook; and IMF staff estimates.

Box 2. Supply-Side Shocks and Macroeconomic Developments[1]

The incidence of adverse non-economic shocks (natural disasters, epidemics) has increased significantly in recent years compared to the historical average, with sizable macroeconomic effects in most cases.[2]

Natural disasters. The frequency of climatic events is up from five per year in 2000–2011 to eight in 2014 and 12 in 2015, with many having sizeable macroeconomic effects. A major drought *in east and southern Africa*, attributed to El Niño, led to drops in agricultural output and hydroelectric power generation and slowing growth in *Ethiopia, Malawi, Zambia,* and *Zimbabwe.*[3] *Nepal* was hit by a severe earthquake in April 2015, with damages and losses estimated at some 30 percent of GDP; realized growth in fiscal year 2014/15 was 1.6 percentage points lower than pre-earthquake projections. *Haiti* has recently been hit by a severe hurricane, with damages estimated to be around 23 percent of GDP. Vulnerability to repeated natural disasters has been shown to also impair medium-term growth potential (IMF, 2016c), as in the *Solomon Islands.*

Figure B2.1. Natural Disasters and Epidemics in LIDCs



Sources: EMDAT disaster database and staff estimates.

Epidemics. The *Ebola outbreak* in West Africa in 2014–15 had severe effects on economic activity in the worst-affected countries—*Guinea, Liberia and Sierra Leone* (see IMF, 2016a). Spillover effects from the epicenter of the Ebola outbreak were also felt in Côte d'Ivoire, Ethiopia, Mali, and The Gambia: for example, tourism receipts in the 2014/15 season were considerably lowered in Ethiopia and were halved in The Gambia (IMF, 2015b).

Conflict. While the prevalence of conflict has declined in LIDCs since the 1990s, civil conflict continues to have significant adverse economic effects in many countries.[4] Economic activity in *South Sudan* and *Yemen* has been severely affected by ongoing conflicts: countries in the Sahel (such as *Chad* and *Niger*) face security threats, with *Nigeria* affected by Boko Haram-led attacks in the north and disruptions to oil production in the Niger Delta region. Aside from direct damage and increased security outlays, conflict situations undermine business confidence, investment, and tourism.

IMF response. The Fund provides financial support to countries hit by disasters or dealing with conflict through augmentations of existing arrangements (as in *Malawi* and *Sierra Leone*), disbursements under the Rapid Credit Facility (as in *Haiti*, *Liberia* and *Nepal*), and new arrangements, where needed. Grants to fund debt relief were provided to the three Ebola-hit countries from the Catastrophe Containment and Relief Trust. The policy priorities to strengthen macroeconomic and risk-management frameworks in small developing countries vulnerable to natural disasters are examined in IMF, 2016d.

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[1] Prepared by Pranav Gupta (SPR) and Tim Willems (AFR).

[2] Macro-critical events are defined as events where either growth declines by more than 1 percentage point or the cost of addressing the shock is more than 1 percent of GDP. We only consider natural disasters where at least 5 percent of the population is affected.

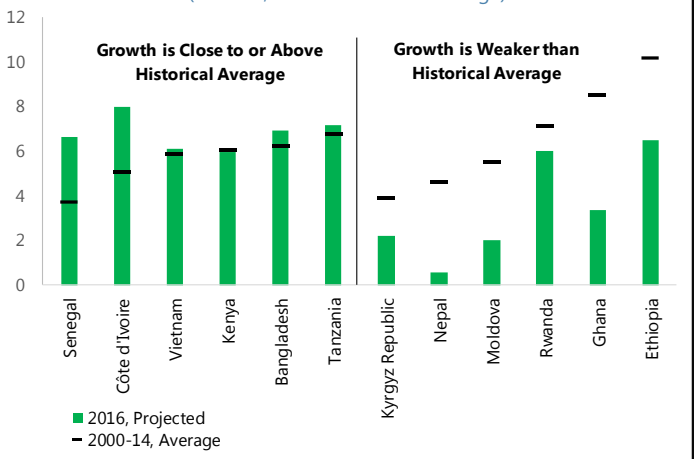
[3] Also see IMF, 2016a.

[4] According to the "Correlates of War" database, the incidence of inter- and intra-state wars halved between 1990 and 2015.

11. Average growth across diversified exporters remains high in 2016 (at 6.1 percent), down marginally from 2014–15, but is markedly slower in a minority of countries.[7]

- In more than half of the 32 countries in this group, growth in 2015–16 has remained impressive, at a pace at or above longer-term trends (Figure 7). In some cases, activity is being supported by scaled-up public investment, helping to offset slower export growth (*Bangladesh, Nicaragua*); in others, high growth in part reflects a catch-up after long periods of civil conflict (*Cote d'Ivoire*).

Figure 7. Real GDP Growth in Selected Diversified Exporter LIDCs
(Percent, 2016 vs. 2000-14 Average)



Sources: World Economic Outlook; and IMF staff estimates.

- In other cases, growth has slowed significantly, notwithstanding improved terms of trade. The factors at work vary: lagged effect of a fall in remittances (*Kyrgyz Republic),* coupled with a financial sector crisis (*Moldova*); natural disasters (*Nepal)*; efforts to tackle severe macroeconomic imbalances (*Ghana*). Growth remains robust in *Ethiopia*, notwithstanding the impact of drought on agriculture, but is down from the exceptionally high levels of previous years.

Fiscal Positions have Weakened across Most Countries

12. Budget deficits have risen across all LIDC groups (Figure 8, Panel A).

- **In fuel exporters,** the average fiscal deficit increased from 1.9 percent of GDP in 2014 to 5.1 percent of GDP in 2015, with a more modest rise to 5.5 percent in 2016. Large drops in budgetary revenues more than account for the widening deficits (Figure 8, Panel B): spending cuts in 2015–16 on the order (cumulative) of 1½ percent—focused on public investment in 2015, on current spending in 2016—were overwhelmed by the scale of revenue losses. Little has been achieved in terms of boosting non-fuel revenues.

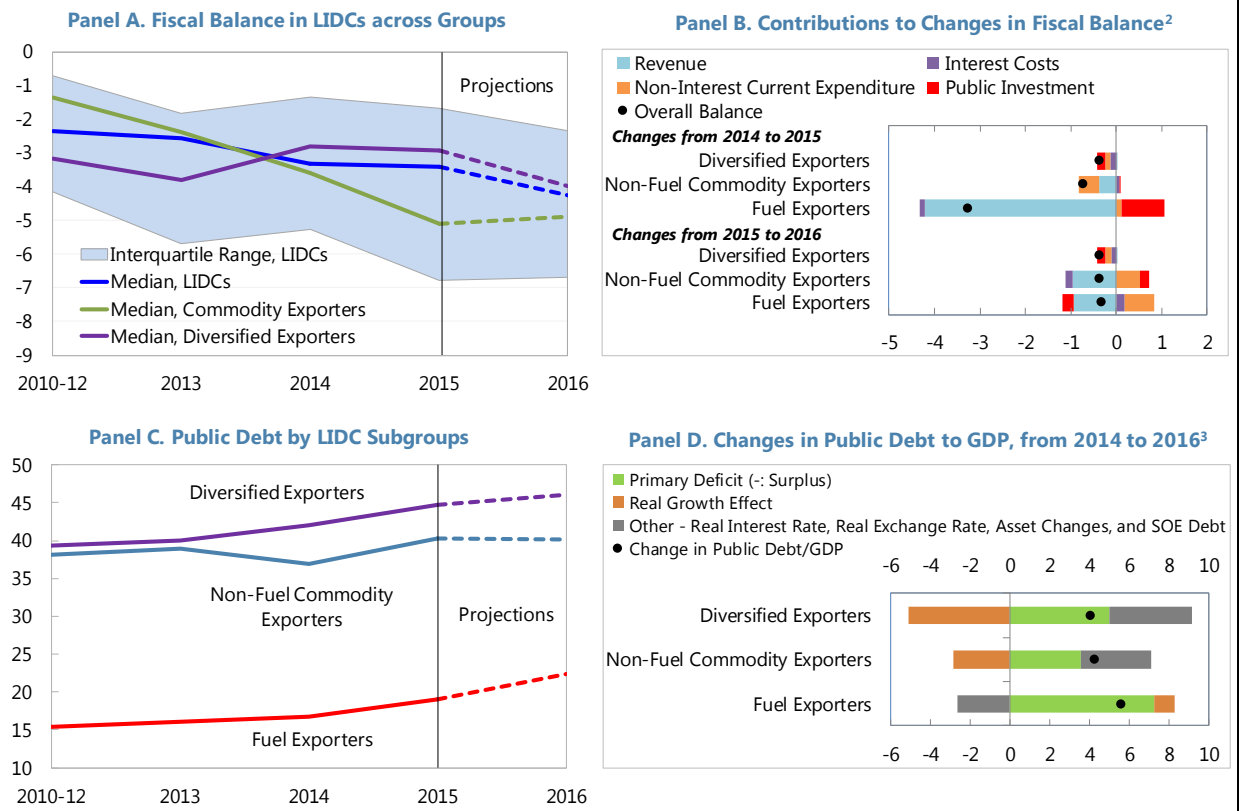
- **Among non-fuel commodity exporters,** deficits increased moderately—from 2.3 percent in 2014 to a projected 3.5 percent in 2016. The revenue-GDP ratio fell by some 1½ percent of GDP over this period—a modest decline relative to fuel producers, reflecting both less marked declines in world prices for non-fuel commodities (see above) and also what is typically a much more modest contribution to tax revenues from these sectors. Spending cuts were largely delayed to 2016, spread across current and investment outlays; these in large part merely reversed spending increases in 2015.

[7] There is a significant disparity between the rapid pace of growth among many large countries (such as Bangladesh, Myanmar, and Tanzania) and the slower pace among many smaller countries (such as Haiti, Lesotho, and Liberia)—reflected in weighted-average growth for the group of 6.1 percent in 2016, versus median growth of 4.9 percent.

- **Among diversified exporters, budget deficits have increased somewhat from already elevated levels:** the average fiscal deficit is expected to increase from 3.8 percent in 2014 to 4.2 percent in 2015 and 4.6 percent in 2016, driven by higher spending levels (Figure 8, Panel B). Spending increases reflect scaling up of investment in some cases, but more typically it has been outlays on current expenditure items that have risen.

Figure 8. Fiscal Adjustments in LIDCs[1]

(Percent of GDP, PPP-GDP weighted averages, unless otherwise indicated)



Sources: World Economic Outlook, Gruss (2014); and IMF staff estimates.

[1] The classification of fuel, non-fuel commodity exporters and diversified exporters is shown in Appendix Table A1.

[2] Afghanistan, Bhutan, Kiribati, Mongolia, Solomon Islands, and Somalia, are not included due to data availability.

[3] Mongolia, South Sudan, and Somalia, are not included due to data availability.

13. Widening fiscal deficits and, in several cases, sizeable exchange rate depreciations have resulted in rising public debt levels (Figure 8, Panels C–D).[8]

- Many fuel exporters have long had relatively modest public debt levels, with high oil revenues being sufficient to finance spending levels and, in some cases, build strong reserve or foreign asset positions. The large budget deficits recorded in 2015–16 have pushed up average debt levels by 5½ percentage points of GDP since 2014; the average debt-GDP ratio is still a modest 22 percent of GDP, but some countries have recorded a large surge in debt (*Republic of Congo*).

[8] For many LIDCs, nominal levels of public debt can overstate the "true" debt burden, given that many external loans have been provided on below-market (often highly concessional) terms by multilateral and official bilateral lenders.

- Among non-fuel commodity exporters, average debt levels are set to increase by some 4 points of GDP from 2014 through 2016, to an average of 40 percent of GDP. Real exchange rate depreciations contributed to a marked jump in debt-GDP ratios in a number of countries, including *Mozambique* and *Zambia*.

- Average debt levels among diversified exporters have been drifting upwards for several years (Figure 8, panel C), reaching 46 percent in 2016. Sizeable primary deficits have been the main driver, with real exchange rate depreciation a contributory factor in some cases (*Kyrgyz Republic*, *Tajikistan)*. In some cases, rising debt levels largely reflect public investment scaling-up (*Bhutan, Ethiopia, Rwanda)*, but this is far from being a uniform story.

14. Debt sustainability assessments (DSAs) point to a gradual weakening of medium-term debt positions, although risk ratings have changed in relatively few cases:[9]

- Since end-2013, 6 countries have moved into high risk of debt distress (*Cameroon, Central African Republic, Ghana, Mauritania, Mongolia*, and *Yemen*), with *Mozambique* experiencing debt distress and seeking a debt rescheduling. Domestic conflict played a key contributory role in the cases of *Central African Republic* and *Yemen*; in other cases, the primary driver of eroding debt positions has been high levels of new external borrowing.

- Many more countries have seen debt burdens rising and "buffers" against potential downgrades correspondingly shrinking:[10]

  - For the "average" country classified at low risk of debt distress, all debt burden indicators have increased over 2013–16, moving closer to the thresholds that can trigger downgrades (Figure 9, top panel); on average, the gaps between indicators and corresponding thresholds have decreased by at least 25 percent.

  - For the "average" country at moderate risk of debt distress, gaps between debt burden indicators and the relevant thresholds have declined by at least 20 percent for three of the five indicators, remaining broadly unchanged for the other two (Figure 9, lower panel).

  - While debt burden measures are rising across most LIDCs, developments are an immediate cause for concern only in a sub-group of countries: Box 3 looks at some individual cases.

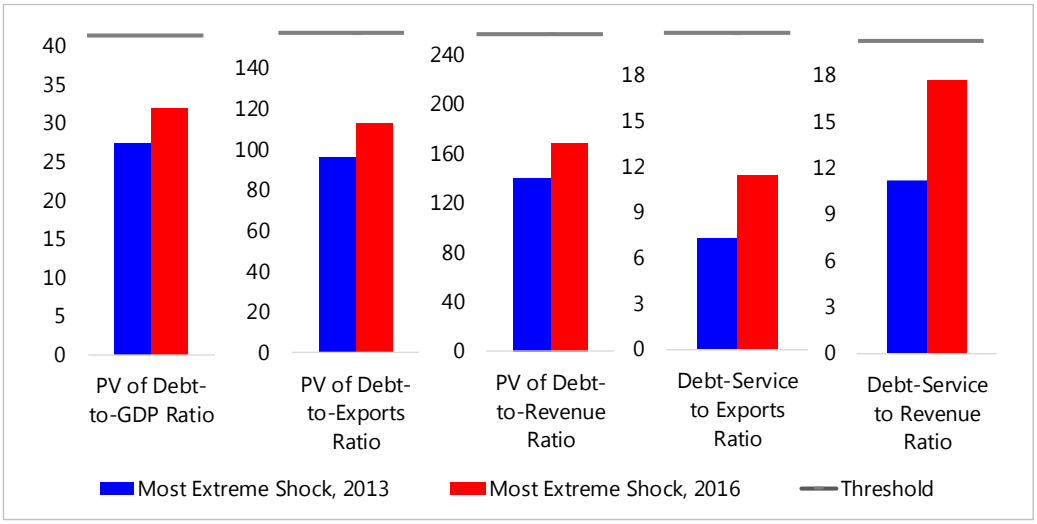
[9] DSAs for LIDCs are usually conducted annually, using the IMF-World Bank LIC Debt Sustainability Framework.

[10] For low risk countries, thresholds are compared to debt burden indicator projections under the most extreme stress test scenarios: one or more breaches of thresholds would typically lead to a debt risk rating downgrade from low to moderate. For moderate risks countries, thresholds are compared to debt burden indicator projections under the baseline scenarios; one or more breaches of these thresholds would typically lead to a risk rating downgrade from moderate to high risk.

Figure 9. Debt Burden Indicators, 2013–16

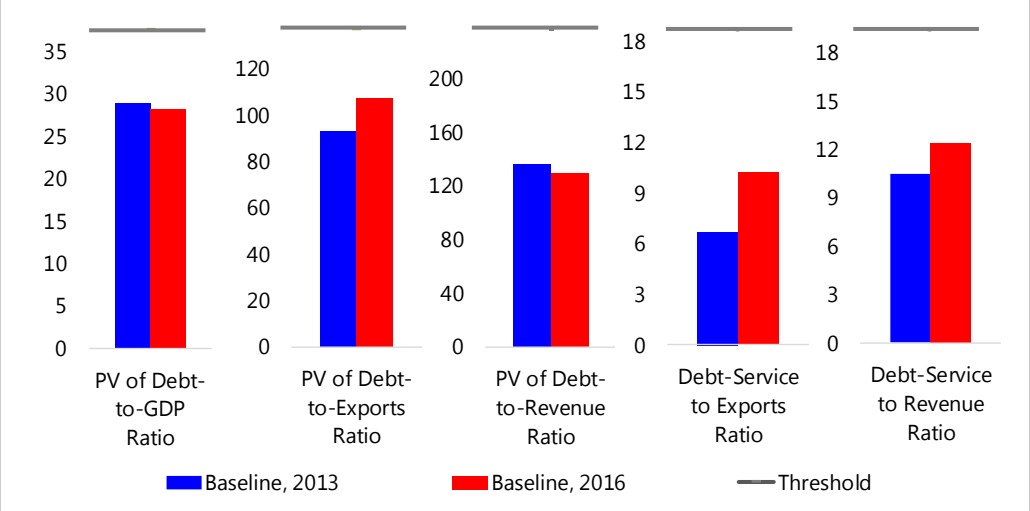
Low Risk of Debt Distress Countries

All debt burden indicators have, on average, increased in low risk countries...



Moderate Risk of Debt Distress Countries

...and most debt burden indicators have increased in moderate risk countries.



Sources: Low-Income Countries Debt Sustainability Framework (DSF) database; and IMF staff estimates.
Note: The top-panel chart is based on a sample of 15 countries that maintained a low risk rating over 2013-16, and the bottom-panel is based on a sample of 23 countries that maintained a moderate risk rating over 2013-16. In each chart, the bars represent the maximum value of the debt burden indicators over the DSA projection period. Both debt burden indicators and thresholds are averaged across countries in the sample.

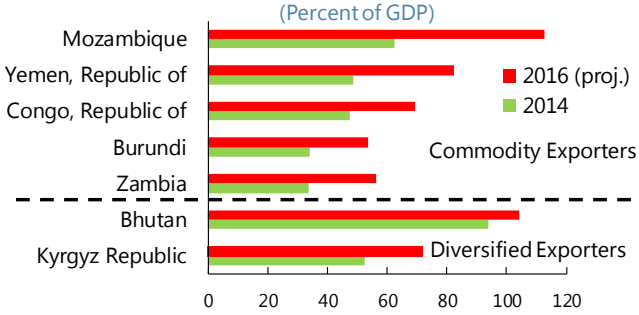
Box 3. Rising Public Debt Burdens: A Cause for Concern?[1]

We examine here the drivers of debt accumulation in countries where the public debt/GDP level has increased by more than 10 percentage points of GDP between 2014 and 2016 and now exceeds 50 percent of GDP. The cut-off points are somewhat arbitrary but help identify cases where debt burdens are now intensifying.[2]

There are eight countries that meet these criteria: six commodity exporters (*Burundi, Republic of Congo, Mongolia, Mozambique, Yemen, Zambia*) and two diversified LIDCs (*Bhutan, Kyrgyz Republic)* (Figure B3.1).

Figure B3.1. Public Debt for Selected LIDCs

(Percent of GDP)



Sources: World Economic Outlook; and IMF staff estimates.
Note: The chart shows the LIDCs with an increase in public debt by more than 10 percent of GDP from 2014 to 2016; and the LIDCs with the debt level set to exceed 50 percent of GDP at end-2016. Projected debt levels for 2016 may not reflect recent information since the publication of the 2016 WEO database.

Rising public borrowing levels have been the key driver of debt accumulation in most cases. The *Republic of Congo*, hit by a large drop in oil revenues, has run large fiscal deficits rather than revise spending plans. *Mozambique* undertook large external commercial borrowings through state-owned companies. *Zambia* has been running large fiscal deficits, influenced in part by the political business cycle. In *Mongolia,* large fiscal deficits—driven both by elevated spending levels and, more recently, a sharp fall in revenues—underpin the rise in public debt. Public and publicly guaranteed loans linked to hydropower projects have contributed to high debt levels in *Bhutan*, with the projected benefits to be realized over decades.

Other contributory factors include exchange rate movements and civil conflict. Sizeable real exchange rate depreciation has boosted external debt-to-GDP ratios in *Kyrgyz Republic, Mozambique*, and *Zambia*; civil conflict, and its adverse impact on economic activity, have pushed up debt-to-GDP ratios in *Burundi* and *Yemen*.

Debt servicing costs have also been rising, not only due to rising debt stocks but also because of increased recourse to higher-cost commercial loans. Interest payment costs as a share of budgetary revenues are expected to increase by more than 5 percentage points in five of the six commodity exporters; external amortization payments are set to exceed 10 percent of revenues in some cases (*Bhutan, Republic of Congo, Mozambique*). As global interest rates pick up with the normalization of monetary policies in advanced economies, active public debt management will be needed to manage re-pricing and rollover risks (see IMF-World Bank, 2014).

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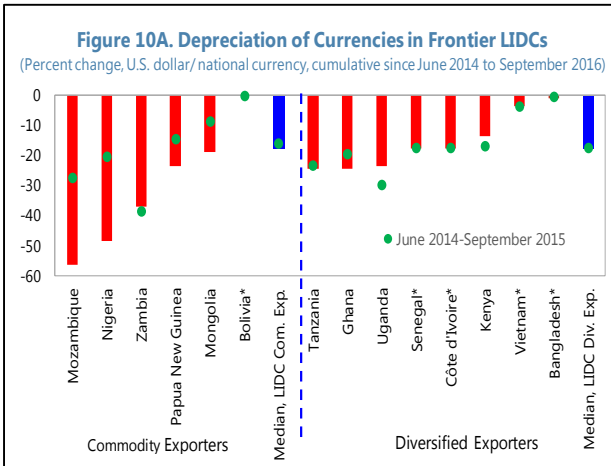
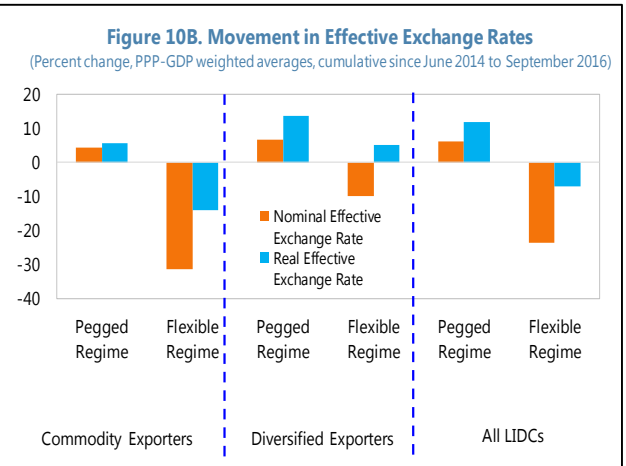
[1] Prepared by Rodrigo Garcia-Verdu, Futoshi Narita, and Yi Xiong (SPR); see also IMF, 2015c, and 2016a. Data cited here draw on the IMF, 2016b (*World Economic Outlook* database); data for Mongolia are currently being revised and hence not included.

[2] There were large increases in public debt levels in some countries immediately prior to this period, include Ghana and Malawi; the surge in debt accumulation has since been contained by macroeconomic stabilization programs.

External Positions Show a Mixed Picture

15. There were sharp movements in currencies across many LIDCs during 2015. Further sizeable depreciations were recorded in 2016 in commodity exporters under stress (Figure 10A), including *Mozambique* (where revelations of previously undisclosed external loans disrupted aid flows), *Mongolia* (where reserve levels have been significantly eroded), and *Nigeria* (where efforts to support the naira through foreign exchange rationing have gradually crumbled). While pass-through of exchange rate depreciation into domestic inflation has eroded much of the improvement in competitiveness, depreciation has contributed to significant (if likely insufficient) real exchange rate adjustment among commodity exporters with flexible exchange rate regimes (Figure 10B).



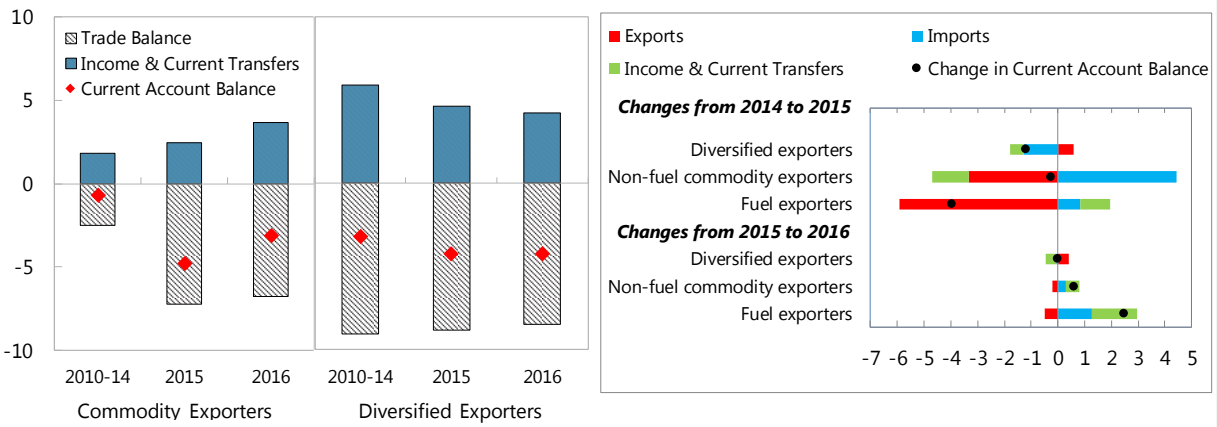


16. Current account positions have stabilized or improved somewhat in 2016, but deficits generally remain substantially above 2014 levels (Figure 11A, B):

- *Current account deficits are expected to decline somewhat for commodity exporters*. For fuel exporters, the sharp deterioration in 2015 (driven by the export collapse) is partially reversed in 2016, helped by import compression and declines in factor/service payments abroad (from local subsidiaries to foreign parents): the average current account deficit is 1.7 percent of GDP. Among non-fuel exporters, the current account position improves marginally in 2016 (for broadly similar reasons), but remains elevated, at average levels in excess of 5 percent of GDP.

- *Among diversified exporters*, current account deficits widened from 3 percent of GDP in 2014 to 4.2 percent of GDP in 2015 on the basis of strong domestic demand and rising import levels; there was little change recorded in 2016. Weighted averages here mask sizeable discrepancies both between larger and smaller countries (current account deficits are typically smaller in the former) and across countries in general—reflecting differences in financing patterns (e.g., grant aid versus concessional loans), public investment levels, and idiosyncratic factors.

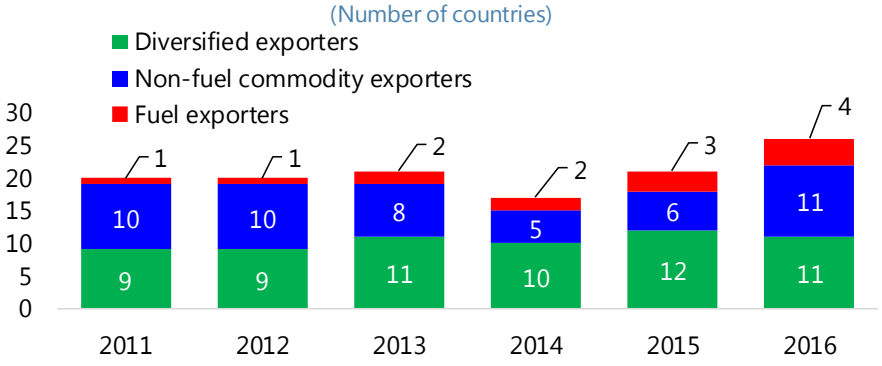
Figure 11. Current Account Balance in LIDCs
(Percent of GDP, PPP-GDP weighted averages)



Sources: World Economic Outlook; and IMF staff estimates.

17. Foreign reserve positions have steadily deteriorated in several commodity exporters (Figure 12). There were seven commodity exporters with reserve levels less than three months of prospective imports in 2014, a number set to reach 15 (out of 26) by end-2016 (including countries such as *Mongolia, Mozambique,* and *Zambia).* New IMF financing has helped support reserve positions in several cases (Box 4).

Figure 12. LIDCs with Reserves in Months of Imports Below 3
(Number of countries)



Sources: World Economic Outlook; and IMF staff estimates.

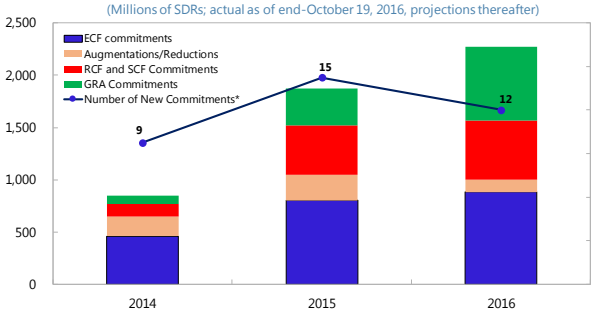
Box 4. Fund Financing for LIDCs: Recent Trends and Near-Term Outlook[1]

IMF financial commitments to LIDCs could reach SDR 2.3 billion in 2016, although some expected agreements on financial support may either fail to materialize or slip into 2017.

New lending commitments of SDR 1.7 billion were approved during January–October 2016 (Figure B4.1):[2]

- The bulk of the 2016 commitments is accounted for by an SDR 1.1 billion precautionary blended SBA/SCF arrangement (196 percent of quota) for Kenya to help the country address potential instability in global markets.
- Other commitments include: SDR 144 million (90 percent of quota) for Rwanda, SDR 32 million (10 percent of quota) for Afghanistan, SDR 84 million (75 percent of quota) for Central African Republic, and SDR 220 million (180 percent of quota) for Madagascar. The latter three arrangements follow the successful completion of a staff-monitored program or informal monitoring.
- There were also two augmentations of access under existing arrangements, together with extensions of the arrangements, totaling SDR 103 million for Mali and Malawi.

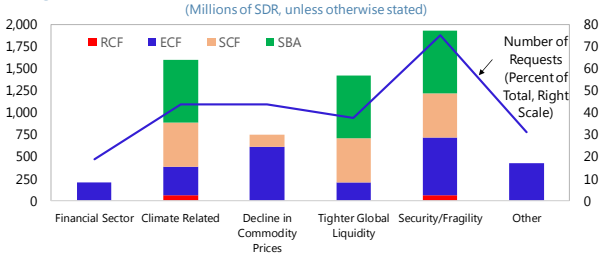
Figure B4.1. PRGT and GRA Commitments to LIDCs, 2014–2016
(Millions of SDRs; actual as of end-October 19, 2016, projections thereafter)



Sources: IMF staff estimates.
*Excluding augmentations.

The drivers of demand for Fund financial support to date include security-fragility concerns, climate shocks, and tighter global liquidity conditions (Figure B4.2). Some existing programs are also expected to help address financing gaps from drought, which hit both agriculture and hydro-power generation, notably in East and Southern Africa. Thus, the financial arrangement with Kenya also helps provide a cushion against the impact of El Niño on agriculture.

Figure B4.2. Drivers of Demand for Fund Assistance to LIDCs in 2016[1]
(Millions of SDR, unless otherwise stated)



Sources: IMF staff estimates.
[1] Sum of categories exceeds 100 percent since some countries fall under more than one category. Includes GRA resources from blended arrangements.

Demand for Fund financial support could rise in 2017, given the difficult economic conditions in which many LIDCs find themselves, as discussed above.

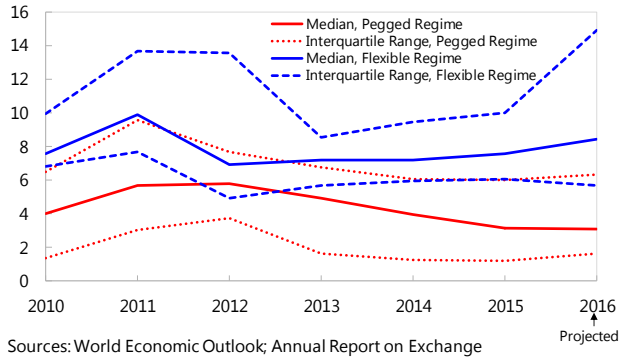
---

[1] Prepared by Gilda Fernandez and Izabela Rutkowska (FIN).
[2] The countries included in the LIDC group comprise of 56 of the 69 PRGT-eligible countries and four countries that have graduated from PRGT eligibility in 2015.

Inflation has Surged for a Few

18. Inflation developments have steadily eased in LIDCs with pegged exchange rate regimes, consistent with broader global price trends: the median inflation rate, down to 3.2 percent by 2015, slowed further to 3.1 percent in 2016 (Figure 13). **By contrast, the median inflation rate among countries with flexible exchange rate regimes has drifted up since 2014,** reaching 8.5 percent in 2016, helped by currency pressures (above) and ensuing pass-through effects. In a few cases, higher inflation also reflects output disruptions (*Haiti, Nepal, South Sudan, Yemen*).

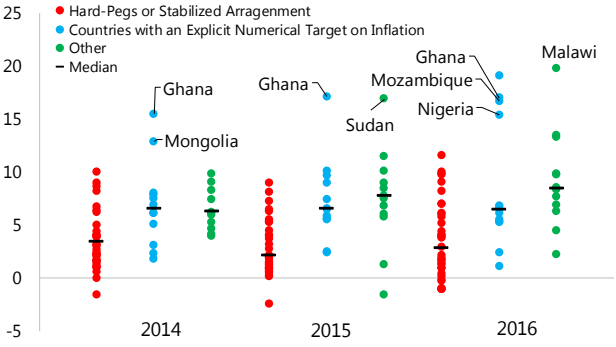
Figure 13. Inflation in LIDCs by Exchange Rate Regime
(Percent)



Sources: World Economic Outlook; Annual Report on Exchange Arrangements and Exchange Restrictions; and IMF staff estimates.

19. Inflation has risen to troubling levels in a handful of cases, concentrated in sub-Saharan Africa (Figure 14). Among commodity exporters, large exchange rate depreciations were a key contributor in *Mozambique, Nigeria*, and *Zambia*, augmented by the impact of drought in both Mozambique and Zambia. Inflation levels have been well into double-digits in both *Ghana* and *Malawi* for several years, but are easing somewhat as macroeconomic stabilization programs take hold. Other cases of double-digit inflation (such as *Nepal* and *Yemen*) reflect domestic supply disruptions from natural disasters and civil conflict.

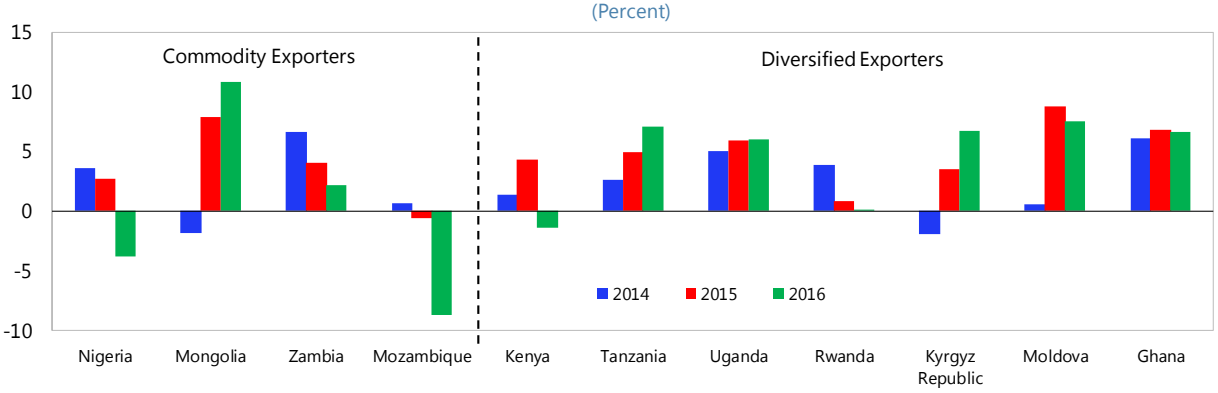
Figure 14. LIDCs: Inflation by Monetary Regime*
(Percent)



Sources: Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER); World Economic Outlook, and IMF staff estimates.
* Hard-pegs or stabilized arrangment is based on the AREAER classification of 1-5. Among the rest, a group of countries with an explicit target (including a target range) on inflation are based on the latest staff reports available. Outliers are excluded (Malawi and Sudan in 2014; Malawi, South Sudan, and Yemen in 2015; and South Sudan in 2016).

20. Monetary policy has fallen behind the curve in some countries with flexible exchange rate regimes. Policy rates (or reserve requirements) have been increased—often belatedly—in most countries where inflation has surged, but real market interest rates (adjusted for actual inflation) remain low or negative in several cases (Figure 15). Policy rates are being eased in some countries where inflation has been stabilized (including *Moldova* and *Uganda*), reversing monetary tightening undertaken in 2015.

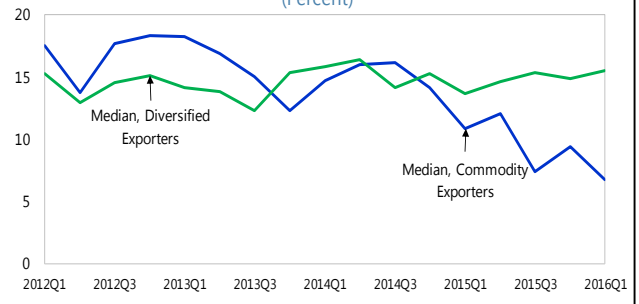
Figure 15. Real Interest Rates for Countries with an Explicit Numerical Target on Inflation*
(Percent)



Sources: Central Banks; Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER); and IMF staff estimates.
Note: *Real interest rate is based on interbank rate data, and is calculated as: (interbank rate $_t$ minus inflation $_{t+1}$)

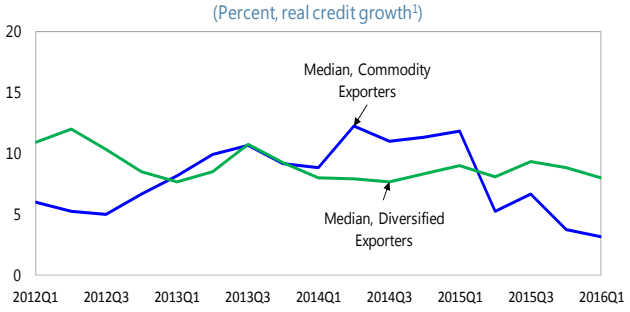
21. Broad money and credit growth has moved into lower gear in the past two years, (Figure 16–17)—much more markedly in commodity exporters, reflecting a country-specific mix of slowing growth, some monetary policy tightening, and emerging financial sector problems in some cases (see Chapter 2). The experience varies widely among diversified exporters, without clear patterns—consistent with the sizeable variations in the pace of growth (above). Credit continues to grow very rapidly in some cases (such as *Cambodia*), raising concerns about the possible erosion of credit quality—but has slowed markedly where financial stress has already materialized (*Moldova*).

Figure 16. Broad Money Growth
(Percent)



Sources: International Financial Statistics; and IMF staff estimates.

Figure 17. Domestic Currency Denominated Credit to Private Sector
(Percent, real credit growth[1])



Sources: International Financial Statistics; and IMF staff estimates.
[1]Calculated from nominal credit series deflated by CPI.

D. The Outlook

22. Global growth is expected to pick up somewhat in 2017, as advanced economies gain some strength and activity continues to pick up in emerging markets;[11] the projected trajectory beyond 2017 is for some further increase in the growth rate, helped by recovery in large emerging markets (Brazil, Russia, and South Africa). General risks to the global outlook include: a) difficulties in the ongoing re-balancing of the Chinese economy; b) increasing financial market volatility as

[11] See IMF, 2016b, for a full discussion.

monetary easing is scaled back in some advanced economies; and c) entrenched slow growth in advanced economies. For LIDCs, the risk of major banks scaling back engagement—project finance, trade finance, correspondent banking relations—in poorer/smaller economies is an added concern.

23. Against this backdrop, LIDC growth is also projected to increase in 2017, by some 1.2 percentage points: the main driver is a modest rebound of output levels in fuel exporters, reversing the output contraction in 2016, predicated on some recovery in oil prices (year-on-year) and coherent policy actions to tackle still-large macroeconomic imbalances (Table 2).[12] Growth in other LIDCs should revive somewhat, broadly in line with global demand—again, with the larger diversified economies recording significantly faster expansion than smaller countries.

Table 2. Selected Macroeconomic Indicators

	PPP-GDP Weighted Averages				
	2014	2015	2016	2017 Projections	2018-2020
Growth (Percent)					
LIDCs	**6.0**	**4.6**	**3.7**	**4.9**	**5.4**
Commodity Exporters	5.6	2.3	0.5	2.7	3.9
Fuel Exporters	5.7	0.9	-1.6	1.6	3.1
Non-Fuel Exporters	5.3	4.6	3.8	4.2	4.9
Diversified Exporters	6.4	6.4	6.1	6.5	6.5
Inflation (Percent)					
LIDCs	**7.4**	**7.5**	**10.2**	**9.3**	**7.8**
Commodity Exporters	9.4	9.6	15.9	13.9	11.3
Fuel Exporters	7.5	11.0	20.8	17.2	14.0
Non-Fuel Exporters	12.4	7.6	8.5	9.1	7.6
Diversified Exporters	5.8	5.8	5.8	5.9	5.4
Fiscal Balance (Percent of GDP)					
LIDCs	**-3.0**	**-4.2**	**-4.6**	**-4.1**	**-3.6**
Commodity Exporters	-2.0	-4.2	-4.7	-3.6	-3.0
Fuel Exporters	-1.9	-5.1	-5.5	-4.3	-3.7
Non-Fuel Exporters	-2.3	-2.8	-3.5	-2.5	-2.0
Diversified Exporters	-3.8	-4.2	-4.6	-4.4	-4.0
Current Account Balance (Percent of GDP)					
LIDCs	**-2.6**	**-4.5**	**-3.8**	**-3.6**	**-4.0**
Commodity Exporters	-2.2	-4.8	-3.1	-2.5	-3.7
Fuel Exporters	-0.2	-4.2	-1.7	-1.2	-0.9
Non-Fuel Exporters	-5.6	-5.8	-5.2	-4.6	-7.6
Diversified Exporters	-3.0	-4.2	-4.2	-4.4	-4.2
Memorandum Items			**Median**		
Growth (Percent)					
LIDCs	**5.0**	**4.4**	**3.9**	**4.5**	**5.2**
Commodity Exporters	5.0	3.0	3.1	4.2	4.8
Diversified Exporters	5.1	5.1	4.9	5.2	5.7
Inflation (Percent)					
LIDCs	**5.2**	**5.3**	**5.0**	**5.2**	**5.0**
Commodity Exporters	5.2	4.5	4.5	6.7	5.6
Diversified Exporters	5.7	5.4	5.3	4.9	5.0

Sources: World Economic Outlook; and IMF staff estimates.

[12] With oil prices having recovered significantly since early-2016, a recovery in annual average oil prices between 2016 and 2017 is already assured if oil prices remain at current levels.

24. Inflation patterns observed in 2016 are expected to persist in 2017, with moderate inflation projected for most countries (a median rate of 5¼ percent), continued double-digit inflation in several large commodity exporters (cited above), and inflation well above median in several fast-growing large diversified economies (including *Bangladesh, Myanmar, and Ethiopia)*.[13]

25. Fiscal and current account deficits are expected to improve somewhat for commodity exporters in 2017, both helped by the full-year effects of the recovery in oil prices during 2016 and by some reductions in fiscal spending. Among diversified exporters, fiscal positions will remain broadly unchanged in the aggregate, albeit with fiscal consolidation in some cases (*Ghana, Tajikistan, Lesotho)* and increased spending levels in others (*Bangladesh, Tanzania)*. Similarly, current account deficits are set to move largely sideways.

26. Weak economic and financial policies are likely the most significant domestic risk to the baseline outlook. Sluggish adjustment to commodity price declines could become disorderly adjustment if delayed too long; a weak monetary policy response to surging inflation could destabilize expectations, creating a need for greater tightening in future; excessive levels of external borrowing could push debt burdens into dangerous territory in a number of cases. In addition, as discussed in Chapter 2, financial sector stresses are intensifying in many LIDCs and will require pro-active handling by supervisory agencies if threats to wider financial stability are to be contained.

E. Policy Challenges

27. The realignment of global commodity prices has been a major adverse shock for many LIDCs. This realignment is expected to persist over the medium-term, implying that commodity exporters need to adjust to an environment of lower export receipts and budgetary revenues. Adjustment to the new external environment is, in most cases, incomplete, as reflected in widened fiscal deficits that are expected, at best, to narrow only marginally through 2017, continued exchange rate pressures, and ongoing erosion of foreign reserve positions.

28. The main messages for policy-makers in commodity exporters are well-established, although precise policy-settings—including the appropriate pace of adjustment—are inherently country-specific.[14] Fiscal consolidation sufficient to contain debt accumulation, while protecting outlays that are key to growth prospects, is an imperative; broadening the tax base should be an important component of the consolidation process. Monetary tightening is needed in many countries, either to defend pegged exchange rates or to contain double-digit inflation. Exchange rate flexibility has facilitated adjustment, but must be supported by appropriate monetary policy

[13] PPP-weighted averages and medians provide divergent readings here, given the concentration of higher inflation rates in relatively large economies.

[14] Financial sector policies are discussed in Chapter 2.

settings if inflation is to be contained. Vulnerable segments of the population need support through well-targeted interventions.[15]

29. The general messages for policy-makers in diversified exporters are less clear-cut, given the diversity of country circumstances that has featured above. Fast-growing economies where fiscal deficits are high and public debt levels are elevated need to rebuild fiscal positions and foreign reserve holdings. Scaling-up public investment can be highly beneficial if projects are sensibly selected and well-executed, but future debt burdens (and their robustness in the face of adverse shocks) need to be carefully tracked.[16] Finally, the availability of foreign commercial finance to LIDCs is welcome—but tapping such funding sources needs to proceed judiciously if serious erosion of debt sustainability is to be avoided.

30. Finally, the recent experience of LIDCs underscores the relevance of some general messages for developing countries in terms of building economic resilience:

- the value of having a diverse export base to allow countries handle adverse external shocks, and hence the importance of promoting economic diversification;[17]
- the importance of building large foreign reserve/asset positions during "good times" in countries where exports remain highly concentrated;
- the need to build a strong broad-based domestic tax system, drawing from a diverse set of sectors and tax instruments, to strengthen self-reliance in financing essential public services.[18]

[15] See Fabrizio and others (*forthcoming)* for a discussion of policy measures to offset the impact of macroeconomic policy adjustments and structural reforms on poverty and inequality LIDCs.

[16] See Chapter 3 for further discussion.

[17] Policies to promote economic diversification in LIDCs are discussed in IMF, 2014b.

[18] See IMF, 2015c, for a detailed discussion on developing robust tax systems in developing countries.

PERSISTENT HIGH VULNERABILITIES

31. This chapter examines macroeconomic and financial vulnerabilities in LIDCs, covering a set of inter-related topics:

- Section A discusses the evolution of macroeconomic vulnerabilities in LIDCs in recent years, using methodologies employed in IMF, 2014a and 2015a. The key messages are that vulnerabilities remain elevated, particularly in commodity exporters, but also in a minority of diversified exporters, where remittance shocks and poor policies have taken a toll.

- Section B analyzes current financial sector stresses across LIDCs, drawing on a survey of 52 IMF country teams and country data on financial soundness indicators.[19] The survey results suggest that financial sector stresses have emerged in about one-fifth of LIDCs, resulting in bank failures and supervisory interventions; and that as many as three-fifths of commodity exporters face an elevated risk of financial sector stress in the next 12–18 months.

- Section C assesses the quality of financial sector regulation and supervision in LIDCs, drawing on the extensive IMF technical assistance provided to LIDCs in this area. Common weaknesses identified include inadequate supervisory powers and independence, under-resourced and weak supervisory capacity, insufficient use of risk-based (rather than compliance-based) assessments, and poor enforcement of regulations and decisions.

- Section D discusses the key sources of fiscal risk in LIDCs and how they can best be mitigated, drawing on recent IMF analytical work on fiscal risks (IMF, 2016e).[20] Shocks to revenue (from commodity price changes, from large one-off receipts) can be large, with materialization of contingent liabilities an increasingly important risk factor. With risk management capacity typically weak, a road-map for improving risk management is laid out.

A. Evolution of Macroeconomic Vulnerabilities

Analysis of Vulnerabilities under Baseline Macroeconomic Projections

32. The discussion here draws on a methodology to quantify the risk of a marked decline in growth. Under this approach, a Growth Decline Vulnerability Index (GDVI) is developed based on an assessment of vulnerabilities at the sectoral level, focusing on the external, fiscal, and "real economy" sectors (the last reflecting a composite of growth performance, institutional capacities and income inequality). The index is mapped into risk ratings of low, moderate, and high. The methodology has been outlined in previous IMF reports (see IMF, 2014a).

[19] Financial sector stress need not result in a financial sector crisis; it implies, rather, a need for pro-active supervision and interventions to contain these stresses and thereby prevent the possible onset of a crisis.

[20] See, e.g., Brixi and Schick (2002) for an earlier discussion of fiscal risks.

33. GDVI estimates indicate that macroeconomic vulnerability in LIDCs remain elevated, while being most severe among commodity exporters (Figures 18A and 18B):[21]

Figure 18A. Growth Decline Vulnerability Index
(LIDCs with low, medium and high vulnerabilities; in percent of total, unweighted, based on Fall 2016 WEO data)

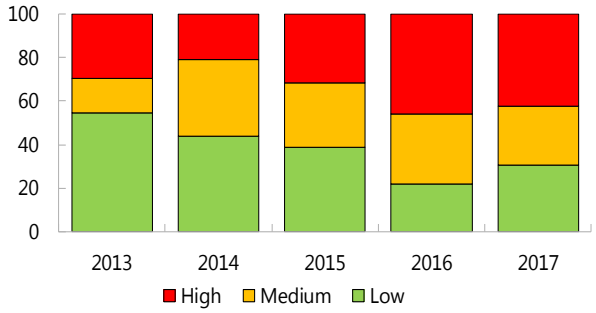
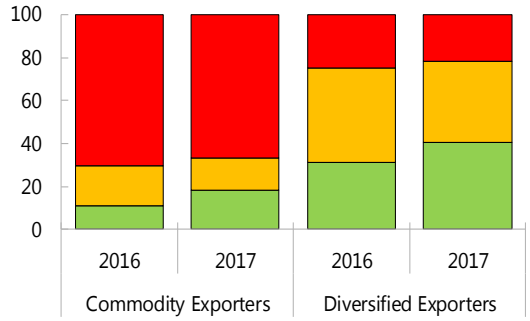


Figure 18B. Growth Decline Vulnerability Index by Export Type
(LIDCs with low, medium and high vulnerabilities; in percent of total, unweighted, based on Fall 2016 WEO data)



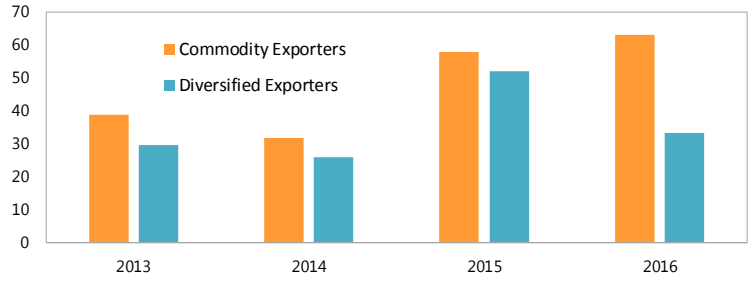
Sources: World Economic Outlook, International Financial Statistics, Debt Sustainability Framework (DSF) database; World Bank, Emergency Events Database (EM-DAT); IMF staff reports; and IMF staff estimates.

- The number of commodity exporters assessed to be at high risk remains high, despite some projected easing of pressures given the limited recovery in commodity prices since early-2016 lows. Two-thirds of the group (and all fuel exporters) are now assessed to be at high risk, based on weakened fiscal and external positions and, for fuel exporters, a sharp decline in growth.

- Less than one-quarter of diversified exporters are now assessed to be at high risk: robust growth performance and solid external positions (helped by improved terms of trade) have more than offset some weakening in fiscal positions in the majority of cases. That said, a minority of countries, affected by remittance shocks or weak policies, remain at high risk.

- An index of exchange market pressures in Figure 19 (combining shifts in exchange rates and foreign reserve holdings)—one sub-component of the GDVI construct—highlights the variation in stress intensity across the two groups.

Figure 19. Countries with High Exchange Market Pressures
(Percent)



Sources: IMF VE-LIC, and IMF staff estimates.

Note: Excludes CFA franc zone countries and Zimbabwe. The exchange market pressure index is defined as

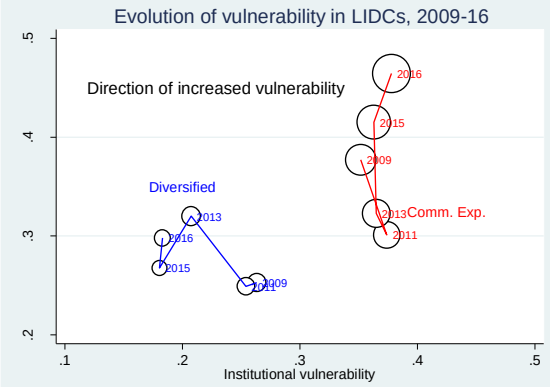
$$\frac{Exchange\ rate\ depreciation\ percent\ change}{standard\ deviation\ of\ exchange\ rate\ depreciation} - \frac{(reserves_t - reserves_{t-1})}{(-imports_t/12) \times standard\ deviation\ of\ change\ in\ reserves}$$

- Similarly, the share of countries whose debt levels indicate heightened vulnerability under the GDVI concept has risen substantially (to one quarter in both commodity exporters and diversified exporters, from about 15 percent prior to the commodity price decline).

[21] The assessment of vulnerability at the outset of 2017 is based on forecasts for 2016 variables.

34. An expanded version of the GDVI methodology helps flag the importance of institutional factors in explaining differences in vulnerabilities across country groups. The expanded approach introduces additional institutional factors into the analysis (such as government effectiveness, regulatory quality, rule of law) that improve the predictive power of the framework.[22] The roles of macroeconomic and institutional variables in explaining aggregate vulnerability in this approach can be summarized in sub-indices (Figure 20), which suggest that:[23]

Figure 20. Evolution of Vulnerability in LIDCs, 2009–16



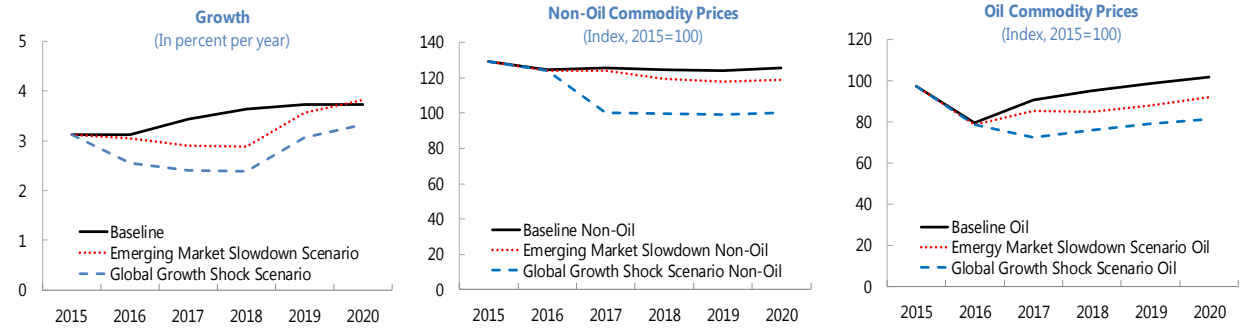
Source: IMF staff estimates.

- Commodity exporters recorded significantly higher levels of vulnerability even prior to the drop in commodity prices, due in the main to weaker institutions.
- Vulnerability in commodity exporters has increased since 2013 because of weakening macroeconomic positions: changes in diversified exporters are more modest, with some weakening in macroeconomic positions being counterbalanced by institutional improvements.

Shock Scenarios

35. As in previous reports, we examine the projected impact on LIDCs of selected adverse shocks to the global economy—focusing on two scenarios that have significant effects on trade flows and prices, the main route through which global shocks are transmitted to LIDCs (Figure 21).[24]

Figure 21. Shock Scenarios: Global Growth and Commodity Prices



Source: IMF staff estimates.

[22] For full discussion of the methodology for this "GDVI+", see IMF, 2015f, Appendix 1.

[23] The statements relate to group averages that hide significant variations across countries.

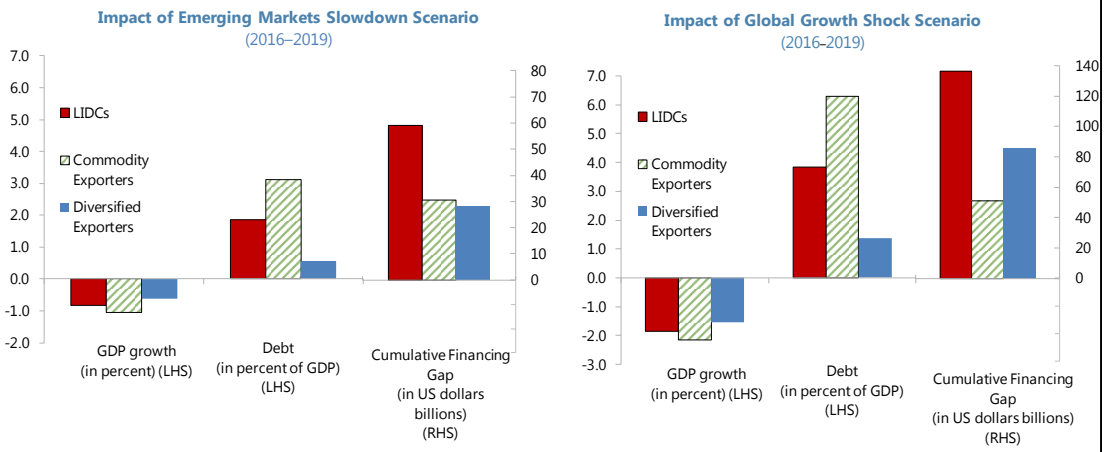
[24] The methodology employed in the scenario analysis is explained in IMF, 2015a, Box 3.

- An "*Emerging Markets Slowdown,*" considered in IMF multilateral surveillance, where growth slows significantly in China and other large emerging market economies. Here, global growth slows by a cumulative 1.6 percent during 2016–19, relative to the Fall 2016 WEO baseline, recovering in later years. Commodity prices follow a similar dynamic, falling relative to the baseline by 10 percent for fuel and 6 percent for metals over 2016–19.

- A larger "*Global Growth Shock*", involving a sustained slowdown in global growth of 0.5 percent relative to the first shock, coupled with a 20 percent decline in commodity prices relative to the baseline. This scenario focuses on shocks of particular relevance to LIDCs and should be seen as a low probability event.

36. Under the *emerging markets slowdown*, LIDCs could see macroeconomic performance weaken noticeably over the period 2016–19, particularly in commodity exporters (Figure 22). Relative to baseline, growth in LIDCs would weaken by ¾ percent (PPP-GDP weighted). Together with weaker fiscal balances, this would result in increased debt accumulation by about 2 percent of GDP by 2019. Current account balances would weaken by 1 percent of GDP and reserves fall by ¾ months of imports, resulting in external financing gaps of USD 59 billion (Figure 22).

Figure 22. Impact of Shock Scenarios



Sources: World Economic Outlook; and IMF staff estimates.
Note: One large diversified exporter substantially affects financing needs in the Global Growth Shock Scenario.

37. The *global growth shock* would have a substantially stronger impact, hitting commodity exporters particularly hard. Across LIDCs, growth would fall by a cumulative 1¾ percent over 2016–19, which together with weaker fiscal balances would push debt levels up by 4 percent of GDP. At the same time, current account balances would deteriorate by 2½ percent of GDP, and reserves would fall by 1¼ months of imports, resulting in a financing gap of USD 137 billion. Commodity exporters would be hit particularly hard, with debt rising by 6 percent of GDP (a large increase from their PPP-GDP weighted debt stock of about 30 percent of GDP). Among the commodity exporters, fuel exporters would suffer the most, seeing debt rise by 8 percent of GDP.

B. Emerging Financial Sector Stress

38. The deterioration in economic conditions in many LIDCs since 2014 poses a threat to financial sector health in affected countries. Financial systems in LIDCs have generally performed well over the past twenty years: the global financial crisis had very limited spillover effects (Laeven and Valencia, 2013) and there have been only a handful of systemic banking crises since 2000, all linked in some form to governance and regulatory failures.[25] That said, large terms of trade shocks have been shown to have a significant impact on financial sector stability in developing countries (Kinda and others, 2016), while LIDC financial sectors have, on average, doubled in size during 2000–15, in an environment of often limited regulatory and supervisory capacity (see section C below)—suggesting that difficulties may be emerging.

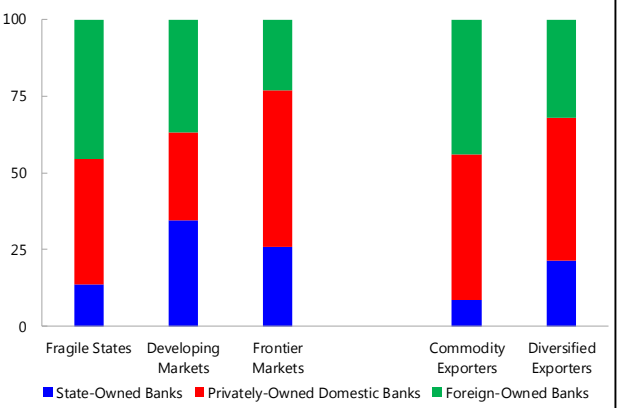
39. The discussion here assesses the scale and significance of emerging stress in LIDC financial systems, against the backdrop of significant economic shocks, drawing on a survey of 52 IMF country teams and on available financial soundness indicators (FSIs). The analysis of FSIs draws from existing databases provided by AFR and STA and is complemented with information provided by country authorities.[26]

Key Characteristics of LIDC Financial Systems

40. Banks play a dominant role in financial intermediation in most LIDCs. Financial markets are typically underdeveloped—with stock markets, for example, being small or non-existent in the majority of countries.[27] Frontier market economies have higher levels of financial development, with deeper debt and equity markets—although market liquidity remains a significant constraint on would-be foreign investors in all but a handful of cases. Micro-credit institutions play a significant role in relatively few countries, such as Bangladesh, Cambodia, Honduras, and Rwanda.

41. The majority of banks are privately owned, with foreign-owned banks playing an important role in many countries (Figure 23)—but ownership patterns vary quite widely across countries, with state-owned banks playing a lead role in some large LIDCs (such as Ethiopia and Vietnam). To the extent that state-owned banks engage in directed lending, they may face trade-offs between profitability and policy objectives, which complicates regulation and supervision.

Figure 23. Bank Ownership
(Percent of banking sector assets)



Sources: Country authorities, and IMF staff estimates.

[25] During 2000–14, systemic banking crises are assessed to have occurred in three cases—Nigeria (2009), Afghanistan (2010), and Moldova (2014). See Marchettini and Maino, 2015.

[26] Data availability for FSIs varies across countries and over time.

[27] On banking sectors in sub-Saharan Africa, see IMF, 2016a; Mecagni et al., 2015; and Mlachila et al., 2013.

42. On the asset side, high loan concentration is an important risk factor, particularly in commodity exporters. The survey of country teams indicates that bank loan concentration is high across LIDCs, with lending concentrated on sectors particularly hard hit in the past two years in 60 percent of commodity exporters and 30 percent of diversified exporters.[28] Countries specialized in a small number of export sectors have domestic banking systems whose fortunes are closely linked to these sectors: an example is Guinea-Bissau, where two banks providing finance to exporters failed in 2015 in the wake of a large decline in cashew nut prices.

43. Foreign-currency denominated lending is a potential risk factor in many countries, given the significance of foreign currency-denominated assets and liabilities on bank balance sheets. As seen in many more developed economies, the quality of foreign currency loans to unhedged domestic borrowers can be quickly impaired by significant depreciation of the domestic currency.

44. On the liability side, LIDC banking systems typically have a strong stable domestic funding base from household and non-financial corporate deposits, but there are a number of vulnerabilities.[29] Reliance on public sector deposits as a funding source is a risk factor in several countries, chiefly commodity exporters: in situations where fiscal positions come under pressure, the drawing down of these deposits yields a funding shock at a time when economic activity is typically weakening. Fiscal pressures can also hit bank balance sheets when governments accumulate arrears to private suppliers of goods and services, impairing corporate liquidity positions and their ability to service loans. And in countries that receive large volumes of remittances (e.g., Nepal, Tajikistan), private deposits are closely linked to the flows of remittances and come under pressure if remittance flows decline significantly in response to economic strains in host countries.

Staff Assessments of Financial Sector Stress

45. IMF team assessments indicate the emergence of financial sector stress in about one-fifth of LIDCs (Figure 24): countries already experiencing significant stress include Burundi, Moldova, Tajikistan, and Zimbabwe. Looking forward, the assessment is that as many as three-fifths of commodity exporters face an elevated risk of encountering financial sector stresses in the next 12–18 months, as slower growth and exchange rate adjustments convert into debt service difficulties for borrowers.

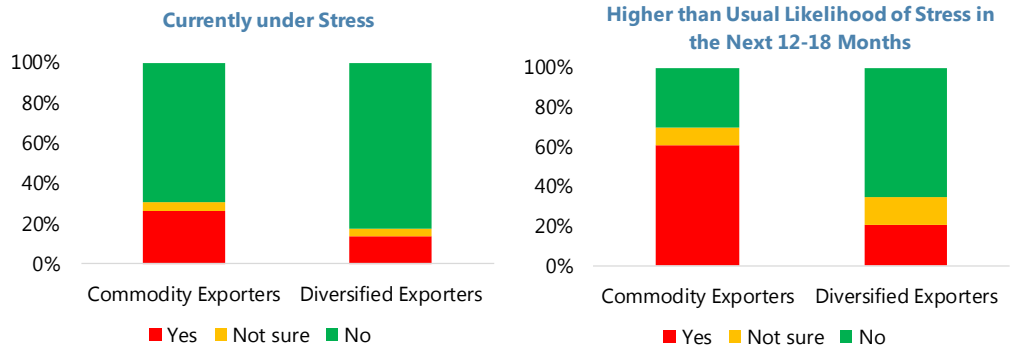
46. Growing financial system stress has already contributed to bank failures and government interventions. Bank failures have occurred in 22 (of 52) LIDCs over the past two years, while supervisory interventions to prevent bank failures have been undertaken in 23 countries. Measures taken have included placing banks under temporary administration (15 countries), mandating recapitalization (13 countries), and injecting liquidity (six countries). The estimated fiscal

[28] Teams draw on various data sources, including the sectoral distribution of credit. These aggregate statistics often underestimate the extent of concentration at the bank level, as individual lenders often specialize in particular sectors such as real estate or trade.

[29] There is minimal reliance on short-term foreign wholesale funding, which has played an important role in shielding LIDC banking systems from the direct effects of a tightening of global financial conditions.

cost of interventions has been modest in most cases. However, the cost of resolving insolvent banks has been approximately 0.5 percent of GDP in Sao Tome and Principe and could reach 12 percent of GDP in Moldova.

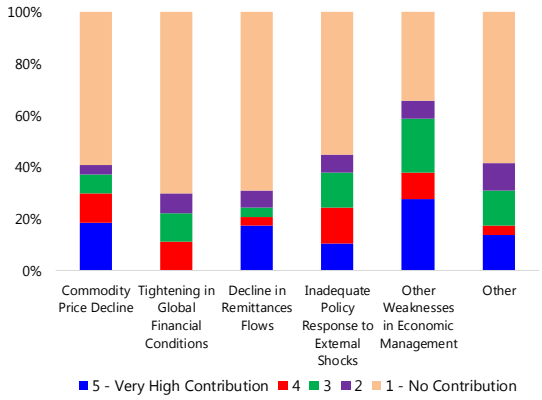
Figure 24. Financial Sector Stress



Source: 52 country team responses.

47. External developments have predictably played an important causal role in the emergence of financial sector stress, through falling commodity prices, declining remittances, and adverse spillovers from neighbors (as in the impact of Nigeria's economic difficulties on Benin). That said, teams' assessments indicate that poor macroeconomic policies and weak supervision have also played a significant contributory role (Figure 25).

Figure 25. Underlying Causes for Rising Concern about Financial Sector Health



Source: 52 country team responses.

- Domestic policy failures cited include delayed/poorly managed policy adjustment to lower commodity prices (as in Nigeria, where foreign exchange rationing adversely affected debt service capacity of many corporates); the build-up of large budgetary arrears (see below); and failure to contain insider/related party lending (as in Moldova and Zimbabwe).

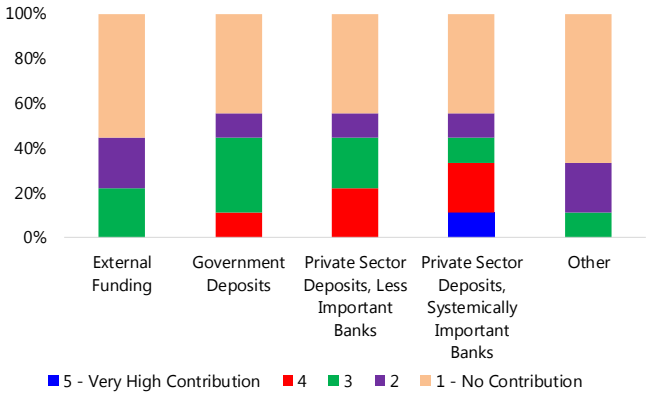
- Regulatory forbearance, gaps in the regulatory and supervisory frameworks, and limited supervisory capacity are estimated to have contributed to strains in more than half of the LIDCs where concerns about financial sector health have arisen in the past two years.[30]

[30] Regulation and supervision issues are examined in more depth in section C below.

48. Rising levels of public sector arrears are seen as an important transmission channel through which fiscal strains are undermining financial sector health. Specifically, rising government arrears to the corporate sector compound challenges from lower growth, undermining corporates' ability to service debt and, by extension, loan performance. As an illustration, close to one third of loans are non-performing in the Central African Republic, mostly due to the large stock of government arrears to banks (accounting for about half of non-performing loans), as well as arrears to suppliers.

49. A tightening of funding conditions has been an important transmission channel in a number of commodity exporters, with declines in private sector and government deposits being cited as particularly important (Figure 26). For example, in Chad, where the banking system is highly exposed to the government (the single largest depositor) and to companies that depend on government operations, the collapse of fiscal oil revenues has had a particularly strong impact on financial sector health.

Figure 26. Causes for Tightening of Funding

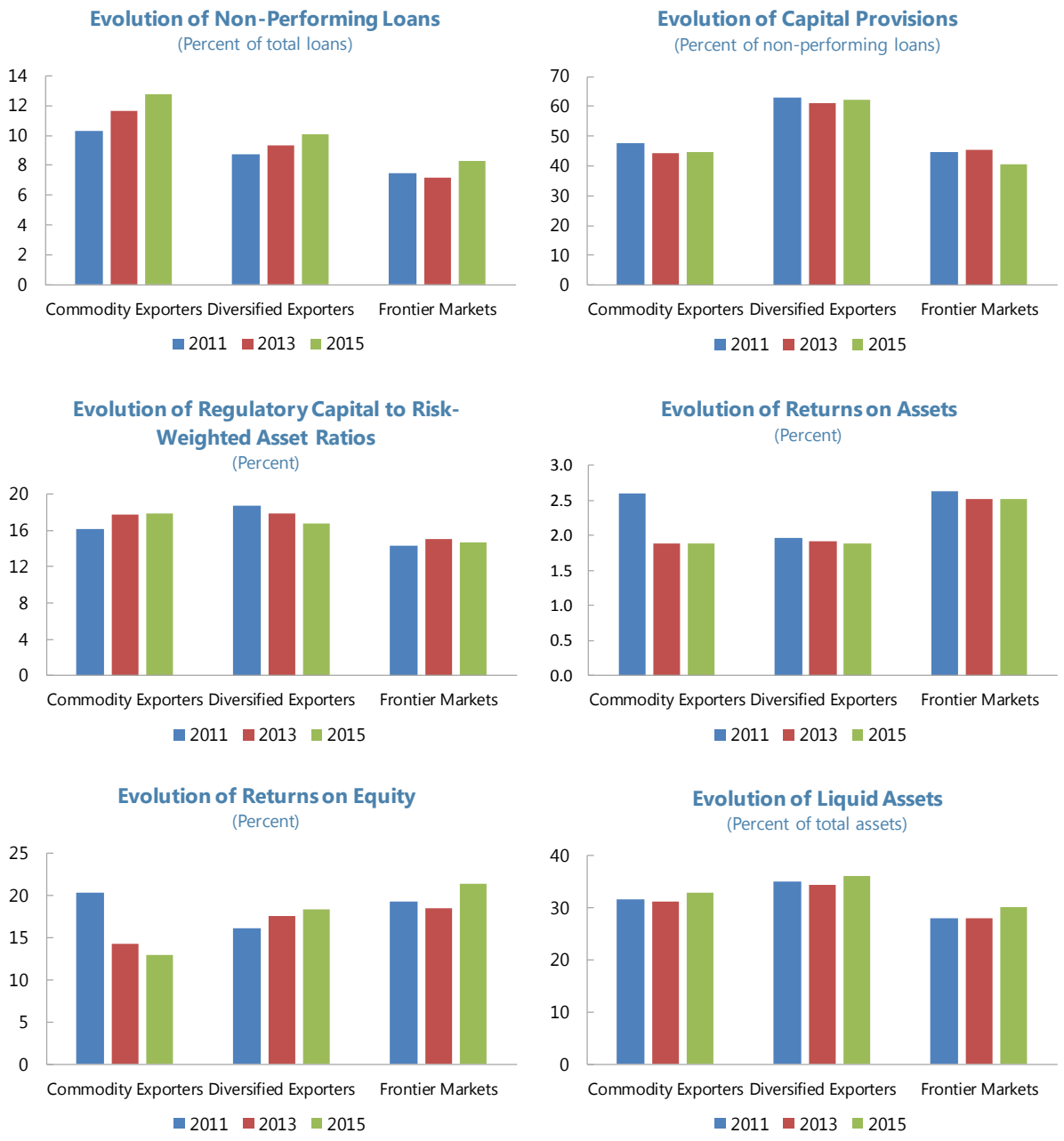


Source: 52 country team responses.

Evolution of Financial Soundness Indicators

50. The available data on FSIs supports the preceding assessment of financial sector developments, with the deterioration of non-performing loans (NPLs) in commodity exporters being particularly noteworthy (Figure 27). While NPLs have also risen in diversified exporters, the general pattern of evolution of FSIs does not point to a significant erosion in financial sector health in these countries through end-2015. That said, the lack of data on FSIs for 2016 is a significant weakness, as problems relating to loan quality are likely to surface with a lag, suggesting that the picture for end-2016 (when available) will be significantly darker than portrayed here. Moreover, FSAP missions often find that FSIs overstate the health of the financial system in LIDCs (see section C below).

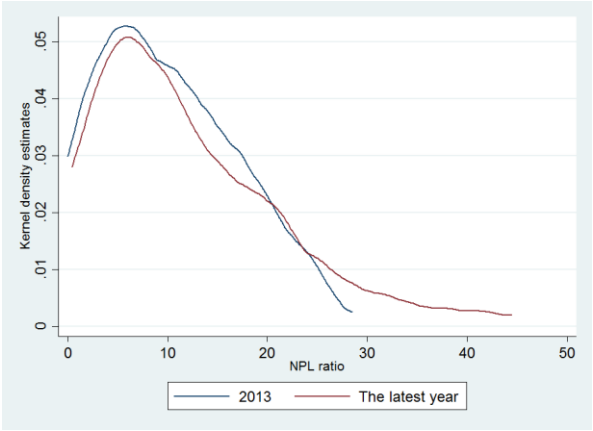
Figure 27. Evolution of Selected Financial Soundness Indicators (2011–15)



Sources: Country authorities and IMF staff estimates.
Note: Only countries with data for all three years are included. Average sample size is 36 and it varies from 25 countries for capital provisions to 45 countries for NPLs.

51. As the FSIs shown here are cross-country averages, they hide significant variation within country groupings. The cross-country distribution of NPL ratios is illuminating in this regard, pointing both to the large variation in NPLs across countries and also the expansion of the upper tail of the distribution over time—indicating that a number of countries have already recorded a sharp deterioration in asset quality (Figure 28). Statistical analysis of cross-country experience confirms a link between the scale of the decline in a country's terms of trade over the past two years and the deterioration in banking system asset quality for commodity exporters, although no empirical link was found between the erosion of asset quality in commodity exporters and the pace of credit growth during the boom years.[31]

Figure 28. Distribution of Non-Performing Loans to Total Gross Loans



Sources: Country authorities and IMF staff estimates.
Note: The latest year refers to 2016. If the data are not available, 2015 NPLs are used.

C. Banking Regulation and Supervision

52. The rapid growth of LIDC financial systems, often in the context of under-developed financial infrastructure, calls for improvements in regulation as well as more resources for and stronger vigilance by supervisors. The particular features of LIDC banking systems highlighted in the previous section (including high concentration risks, currency mismatches, strong links with the public sector, shallow interbank markets, often weak bank governance and internal controls, and deficiencies in business laws and their application) give rise to banking risks that require strong supervisory attention and, in some cases, intervention. This section examines weaknesses in regulation and supervision in LIDCs identified through recent MCM-delivered TA and the Financial Sector Assessment Program (FSAP), and provides recommendations to address them. Information was gathered from the more than 300 TA missions to LIDCs conducted by MCM staff during 2013–16, as well as from 7 Financial Sector Stability Assessments of 10 countries prepared during 2012–16.

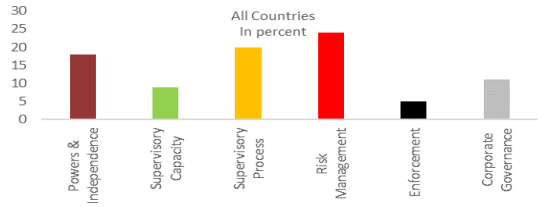
Key Weaknesses in Banking Regulation and Supervision in LIDCs

53. Key weaknesses in banking regulation and supervision in LIDCs are (i) inadequate supervisory powers and resources; (ii) limited supervisory capacity; (iii) supervisory approaches that are insufficiently risk-focused; and (iv) weak enforcement (Figure 29). Against

[31] See World Bank, 2016a, for a recent study and extensive literature survey on the impact of credit booms on micro-financial stability in emerging and frontier markets.

this background, it is perhaps not surprising that the few FSAPs undertaken in LIDCs during the last four years found a high level of non-compliance with the Basel Core Principles (Figure 30).[32]

Figure 29. Key Weaknesses in Regulation and Supervision Based on TA Requested by the Authorities

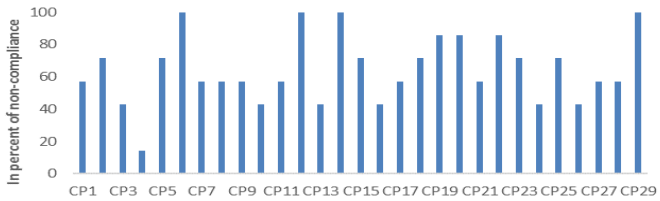


Source: IMF staff estimates.
Note: TA has shown that deficiences in risk management, the supervisory process, and powers and independence are key weaknesses in all LIDCs.

Figure 30. Non-Compliance with Basel Core Principles (BCPs) 1/

(Percent of countries assessed)

High levels of non-compliance with BCPs on risk management, home-host relationships, and abuse of financial services match also the findings from the review of TA reports.



Source: Standards and codes database.
1/ This chart represents ratings from FSAP BCP assessments in ten LIDCs during FY13-16. Four countries are commodity exporters while six are diversified exporters. There are four fragile states, three frontier markets, and three developing markets. See Annex 1 for a list of BCP principles.

Lack of Supervisory Independence and Powers

54. The lack of supervisory independence is largely due to deficiencies in the legal framework, and lack of transparency and accountability in relationships between supervisors, political institutions, and the industry. Lack of independence often translates into deficiencies in the bank licensing process, inconsistent enforcement of banking laws and regulations, and the inability or unwillingness of supervisors to address bank problems in an effective and timely manner.

55. The legal framework in some LIDCs does not provide supervisors with sufficient powers to fulfill their duties. Banking laws do not allow supervisors to apply stricter requirements on specific banks that present a higher risk profile or systemic importance. In addition, the range of available corrective actions is limited. Lack of supervisory authority to take action can be especially problematic in countries where enforcement of laws is difficult.

56. Many countries provide insufficient legal protection for supervisors. Legal protection is an important pillar of supervision, but banking laws in a number of LIDCs are still deficient in this respect, or else not properly applied. The misapplication of legal protection provisions reflects lack of practical procedures, weak judicial systems, and misperceptions about the supervisor's responsibilities. The lack of legal protection, coupled with capacity weaknesses, have derailed the functioning of some supervisory agencies; there are many examples of supervisors being sued successfully for taking action against problem banks, with a chilling effect on the willingness and ability of supervisors to take appropriate actions.

[32] The Basel Core Principles, the minimum standard for prudential regulation and supervision of banks and banking systems, stipulate that the supervisor needs to develop and maintain a forward looking assessment of the risk profile of banks and banking groups proportionate to their systemic importance. Supervisors should also have a framework for early intervention and a plan to resolve banks in an orderly manner.

Shortcomings in Supervisory Capacity

57. Limited supervisory capacity is one of the main impediments to developing an effective supervisory and regulatory framework in LIDCs. Supervisory capacity has proved weaker in fragile states and other developing markets than in frontier markets. Weaknesses include:

- Insufficient or non-autonomous supervisory budget allocation, resulting in insufficient resources;
- Shortage of staff resources, with important positions frequently left vacant for prolonged periods, reflecting slow administrative processes and unattractive remuneration in comparison to the growing number of higher paying job opportunities in banks;
- Lack of technical expertise, resulting in such shortcomings as supervisory reports that lack depth and analysis; limited understanding of asset classification leading to overstatement of strength of bank balance sheets; interpretation of stress testing reports that lacks understanding of implications for supervision; limited understanding of Basel requirements slowing progress towards adoption of these requirements and of risk-based supervision.

Shortcomings in the Supervisory Process and Approach

58. Weaknesses in the supervisory process and approach are apparent in several areas:

- The supervisory process needs to move further to a risk-based approach, focusing on banking risks, qualitative issues such as corporate governance and management, and the systemic nature of banks.
- A level playing field is needed for supervision of state-owned banks compared to private banks.
- Improvements are needed in consolidated and cross-border supervision of banking groups. The emergence of pan-African banking groups underlines the urgency of this issue.[33]
- Practical issues need to be resolved, such as better information sharing between on-site and off-site supervision; formalizing supervisory actions; and establishing automated supervisory information and reporting systems.

59. Over seventy percent of LIDCs have requested (and are receiving) TA to improve the supervisory process and approach over the past four years. Close to fifty percent of LIDCs are receiving TA on risk-based supervision and on the Basel II–III framework that addresses some of the above weaknesses. However, moving from a compliance-based[34] to a risk-based system is a longer-term process that needs a change in mindset, reliable reporting systems, and new supervisory tools.

[33] See IMF, 2015f.

[34] A backward looking system that entails assessment of compliance with prudential regulations not based on risks.

Inadequate Oversight of Banks' Risk Management

60. Bank risk culture and the ability to monitor, supervise, and manage risks is weak. In many LIDCs, regulations on risk management need to be enhanced and better covered in supervisory analysis. Bank examinations need to start assessing whether banks have appropriate risk management strategies, adequate risk appetite, and a sound risk management culture. Some LIDCs concentrate on credit risk. However, as explained above, many LIDC banks face significant liquidity and operational risks that are not sufficiently taken into account. Also, lax loan classification and provisioning regulations result in an overstatement of banks' capital and an understatement of their vulnerabilities. Stress tests are rarely undertaken due to a lack of data and know-how.

61. Over thirty percent of LIDCs have received TA to improve risk management over the past four years. Part of this TA is geared towards developing early warning indicators of risks; and towards building stress testing capabilities.

Insufficient Oversight of Banks' Governance Frameworks

62. Bank's corporate governance—including the ownership structure, internal controls, internal audit and compliance functions—remains weak in many LIDCs. Management and insiders of banks are insufficiently monitored because bank regulations do not specify the role and qualifications of the board of directors and its composition. Supervisors do not engage with governance boards or determine fitness of members. One of the results is that audits are not sufficiently transparent or independent.

Weak Enforcement

63. Weak enforcement relates to both inadequate legal powers and the absence of a clear framework specifying the various enforcement procedures and measures. In many cases where corrective actions were ordered, there was no timely and coherent process to follow-up on and escalate them as needed. The lack of enforcement is in part a symptom of insufficient supervisory independence and the dominant role of state-owned institutions. Weak enforcement and the resulting regulatory forbearance have exacerbated many banking problems in LIDCs.

Towards a Reform Agenda

64. LIDCs should prioritize measures to address those weaknesses in regulation and supervision that create the main macro-financial vulnerabilities. There is no one-size-fits-all approach to strengthening banking regulation and supervision, but in many cases doing so requires giving the banking supervisor sufficient powers to acquire information from banks to assess risks and to enforce regulations and take corrective action. It also requires improving capacity, and enhancing the financial safety nets—mainly banking crisis preparedness and resolution frameworks. Countries whose banking systems face high pressures (as is the case presently in a number of commodity exporters) should give priority to enhancing supervisory risk assessment and stress testing skills, and developing bank resolution and crisis management frameworks. In contrast, countries whose financial systems are facing fewer strains could benefit most from strengthening

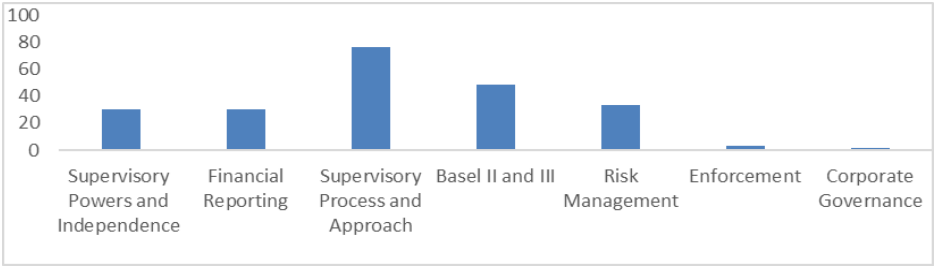
the foundation for supervision, which relate to supervisory independence and powers, by enacting changes to legal frameworks and supervisory processes.

65. TA should continue to support LIDCs in the implementation of their reform plans and to address gaps in their supervisory frameworks. TA has rightly focused on developing supervisors' capacity to assess banking risks and develop risk-based supervision (Figure 31). FSSRs (Box 5) will provide a useful platform to further strengthen TA targeting.

Figure 31. Supervisory Weaknesses Addressed in TA to LIDCs (2013–16)

(Number of countries that received TA in percent of total)

Most LIDCs have received TA in the supervisory process and approach and Basel II and III.



Source: IMF staff estimates.

Box 5. Financial Sector Stability Reviews (FSSRs)

FSSRs are expected to be a diagnostic upon which financial sector reform programs can be built and implemented. FSSRs assess country-specific risks and vulnerabilities; the adequacy of institutional frameworks; and capacity in financial regulation and supervision, as well as crisis prevention and management. FSSRs provide recommendations for enhancing prudential frameworks and safety nets. Follow-up TA would draw on the Fund's experience in helping LIDCs ensure that they pursue financial inclusion and deepening in a manner that is consistent with financial stability. Training will focus on sustainably strengthening capacity to offset often high attrition rates in regulatory agency staffing, combining face-to-face training with new online tools to be developed.

This TA product is particularly attractive as it is: (i) agile, identifying and addressing needs promptly; (ii) integrated, tying in with Fund surveillance and lending; and (iii) member-focused; providing targeted, demand-driven operational advice with strong country ownership and traction. The scope of work relies on consultation with authorities and on country circumstances. International standards provide a reference point for diagnostic work, but the missions do not conduct graded assessments. The mission's medium-term recommendations provide a framework for tracking reform progress over time.

Over the past two years, MCM has conducted several TA missions that may be seen as precursors of the FSSR. These include TA to Mongolia, Lesotho, El Salvador, Sri Lanka, and Sudan. Each mission proposed medium-term plans to strengthen financial sector stability in areas including financial regulation and supervision, the regulatory perimeter, lender-of-last-resort facilities, crisis prevention and management frameworks, and stress testing capacity. The missions have launched follow-up TA programs and enriched subsequent Article IV discussions. The first FSSR mission was to Honduras and took place in July 2016, and a pipeline of requests is developing. Management has approved the creation of a Financial Sector Stability Fund to scale up provision of FSSRs, and consultations with donors are underway.

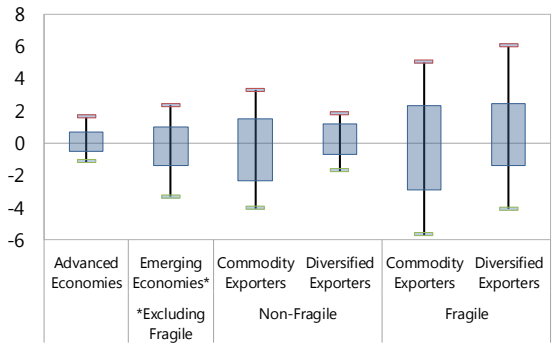
D. Fiscal Risks

66. Fiscal risks are factors that may cause fiscal outcomes to deviate significantly from expectations or forecasts. These deviations can stem from economic shocks—that throw budgets off track—or from the realization of contingent liabilities, whether explicit or implicit. Conventional fiscal risk analysis and forecasting tend to underplay the scale and impact of potential shocks to public finances, which include (i) sharp declines in GDP growth; (ii) financial sector crises that require government bailouts; (iii) weak fiscal management in sub-national governments and state-owned enterprises (SOEs); and (iv) natural disasters.[35]

Key Fiscal Risks in LIDCs

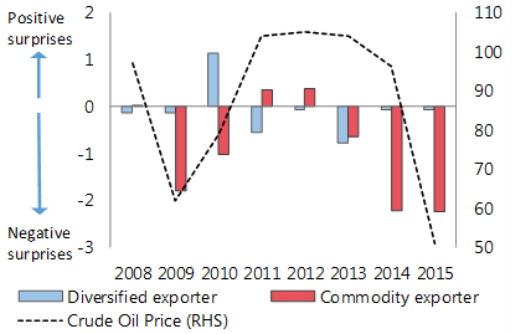
67. LIDCs typically encounter higher levels of revenue volatility than advanced and emerging market economies (Figure 32). Key contributory factors include: a) significant dependence on volatile revenues from commodity exports (Figure 33); b) the relative importance of donor grants (which can be subject to both delays and outright suspensions); and c) the importance of one-off tax revenues (e.g., revenue from mining exploration agreements), which are difficult to predict. LIDC policy-makers also face enhanced fiscal uncertainty as a result of the low quality of revenue forecasting, as reflected in PEFA assessments (Figure 34).[36]

Figure 32. Annual Change in Overall Revenue
(Percent of GDP, 90th, 75th, 25th, 10th percentiles)



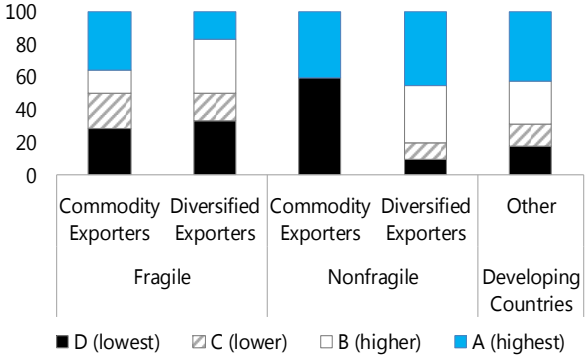
Sources: World Economic Outlook; and IMF staff estimates.

Figure 33. LIDCs: Forecast Errors of Overall Revenue
(Sample medians, percent of GDP)



Sources: World Economic Outlook; and IMF staff estimates.
Note: October 2015, WEO projections minus outturns.

Figure 34. PEFA Scores: Quality of Revenue Projections
(Share of countries, percent, latest PEFA)



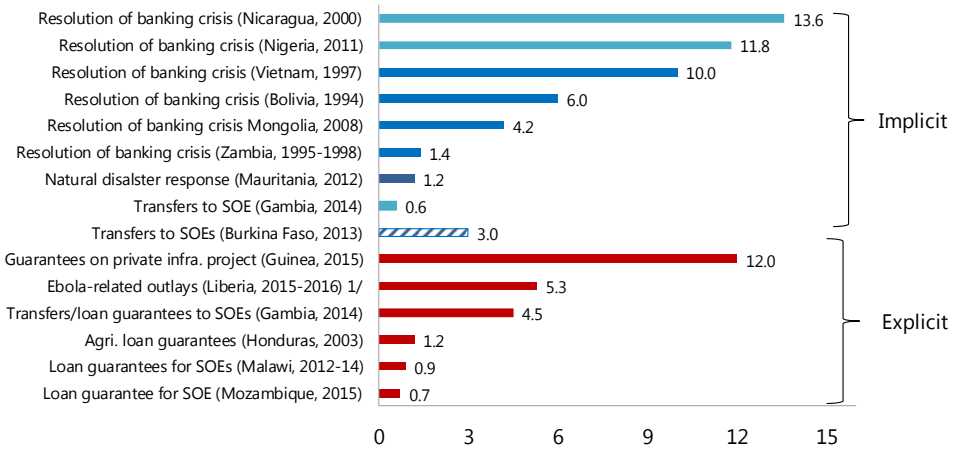
Source: IMF staff estimates.

[35] See IMF, 2016e, for a thorough discussion; other significant risks include unanticipated legal claims and the materialization of contingent liabilities linked to public-private partnerships.

[36] PEFA is a methodology for assessing public financial management performance. It identifies 94 characteristics across 31 key components of public financial management in seven broad areas of activity. The PEFA program provides a framework for assessing the strengths and weaknesses of public financial management.

68. Expenditure shocks can take the form of a surge in outlays or the realization of contingent liabilities. Surges in outlays, to pick examples, can come from failing to allow pass-through of international price increases to the domestic prices of subsidized products (such as fuel products) or from the costs of responding to natural disasters (such as drought or destructive weather events). Realization of contingent liabilities can come with significant budgetary price tags, as can be seen from a set of country examples, where fiscal outlays have ranged from 1 to 14 percent of GDP (Figure 35). Resolution of systemic banking crises have been particularly costly, but expenditure shocks have come from many other sources, including realization of loan guarantees and the need to provide sizeable financial support to poorly-performing SOEs.

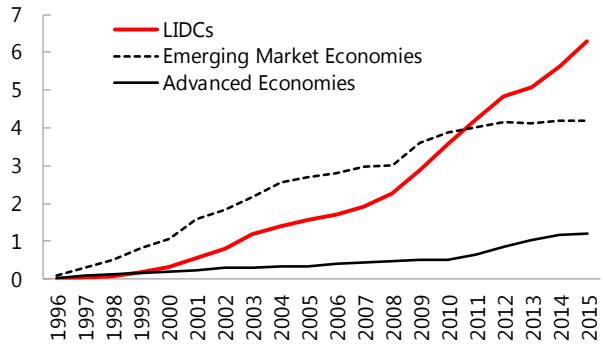
Figure 35. Fiscal Costs of Materialized Contingent Liabilities (Examples)
(Percent of GDP)



1/ 3.2 percent of GDP for 2015 and 2.1 percent of GDP for 2016. The amount covers only the cost that the government acknowledges.
Sources: IMF staff reports, MEFMI (2013), Valencia and Laeven (2012), and Baum et al. (forthcoming).

69. The sustained growth of capital assets deployed in public private partnerships (PPPs) suggests that there has been sizeable ongoing accumulation of contingent liabilities by LIDC governments (Figure 36). PPPs usually entail the provision of guarantees of various forms by the host government (such as minimum revenue guarantees for commercial infrastructure projects). The expected fiscal cost of these guarantees can be modest if contracts are well-designed, but costs could be considerable if there are unanticipated shocks. The steady growth of PPPs is not a cause of concern in itself (see Chapter 3), but rather points to the importance of developing strong domestic capacity in negotiating and monitoring implementation of PPP contracts.[37]

Figure 36. PPP Capital Stock
(Median, percent of GDP)



Source: IMF staff estimates.

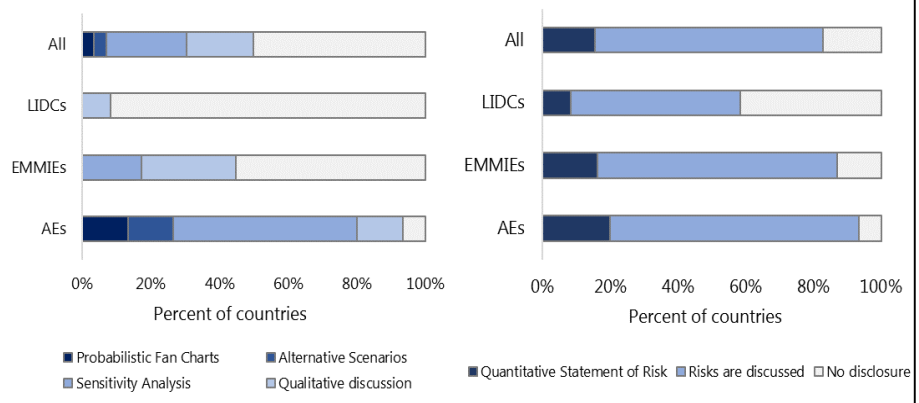
[37] See World Bank et al. (2014) for a comprehensive treatment of the benefits and risks associated with PPPs as well as best practices in their design and management.

70. One further risk factor that merits highlighting here is the impact of exchange rate depreciation on debt stocks and debt service capacity. LIDCs typically have a large share of outstanding public debt denominated in foreign currencies: the impact of exchange rate shocks on debt-GDP and debt service/budgetary revenue levels can be large (as was seen in the discussion of public debt developments in Chapter 1 above).[38]

Weakness in Risk Management Capacity

71. Many LIDCs have weak capacity to analyze and manage fiscal risks, as might be expected given the relative weakness of state capacity in most LIDCs. A recent review of fiscal risk analysis and disclosure practices indicates that few LIDCs provide a qualitative discussion of fiscal risks in budgetary documents, with many providing no analysis of macro-fiscal risks (Figure 37).[39] Results from the IMF's Fiscal Transparency Evaluations (FTEs) in a handful of LIDCs confirm the substantial scope for improving risk analysis, disclosure, and management.[40]

Figure 37. Current Practices of Fiscal Risk Disclosure and Analysis



Source: IMF (2016a)

72. Weak monitoring of the public sector outside the central government also leaves LIDCs exposed to significant risk. The central government is usually the implicit (or explicit) guarantor of sub-national governments, autonomous government agencies, and public enterprises/SOEs. It should therefore have a formal oversight role in relation to these entities and both monitor and manage the associated fiscal risks. PEFA assessments indicate that the

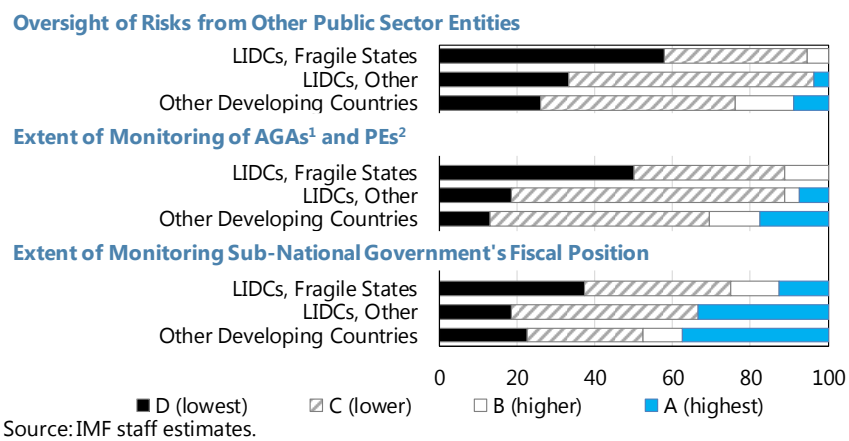
[38] A large exchange rate shock is one of the mandatory shocks featured in the IMF-World Bank Low Income Country Debt Sustainability Framework (LIC-DSF).

[39] The review (IMF, 2016e) covers 58 countries (15 AEs, 31 EMMIEs, (emerging market and middle income economies), and 12 LIDCs).

[40] FTEs are the Fund's fiscal transparency diagnostic, providing countries with a comprehensive assessment of their fiscal transparency practices. Thus far FTEs have been completed for 16 countries, including 4 LIDCs (Bolivia, Mozambique, Kenya, and Tanzania).

preponderance of LIDCs have only limited oversight and monitoring of public sector entities outside the central government (Figure 38).

Figure 38. PEFA Scores: Oversight of Public Sectors
(Percent, share of the number of countries)



Source: IMF staff estimates.
Notes: [1]Autonomous Government Agencies; [2]Public Enterprises.

Roadmap for Improving Fiscal Risk Management

73. LIDCs can improve fiscal risk management by building capacity in three areas: (i) identifying and assessing risks; (ii) controlling risks; and (iii) monitoring and reporting risks. Also, institutional reforms will likely be needed to support risk management.[41] Good practices include enacting a risk management policy, defining accountabilities, and establishing a central risk oversight body. Many LIDCs can reap economies of scale by centralizing the oversight of PPPs and state-owned enterprises (see, for example, IMF, 2016f; World Bank, 2014).

74. Efforts to build capacity in these areas need to be tailored to countries' current capabilities and the constellation of risks they face, and to be buttressed by hands-on support from development partners. The Fund—through technical assistance and training—helps its members identify priorities for strengthening fiscal risk management and assists members in implementing the resulting strategies. The Fund's Fiscal Transparency Evaluations also provide good starting points for countries in evaluating their fiscal risk analysis capacity and identifying reform priorities.

Identify and Assess Risks

75. Notwithstanding capacity constraints, policy-makers should seek to deepen their awareness of the risks to public finances. They should aim to identify the main sources of fiscal risks and, if feasible, assess the size of fiscal exposure and the likelihood of individual shocks. A starting point could be analysis of the fiscal implications of shocks to prices and output of key

[41] See Gupta and others (2016) for a more comprehensive discussion on institutions that can support planning and delivery of credible fiscal strategies in LIDCs.

export commodities; another early step should be developing an understanding of, and monitoring, the main explicit contingent liabilities (such as guarantees, including to PPPs). The IMF, through its Article IV consultations, can provide direct assistance for these efforts.

76. Fiscal stress tests that integrate analysis of macroeconomic shocks and the realization of contingent liabilities can provide an overview of the likely impact of plausible shocks on public finances. Tests should examine the impact of shocks on both flow variables (such as government revenue, expenditure, and financing) and stock variables (in particular government liabilities). As countries collect more information on sources of risk and build analytical capacity, they can begin to develop alternative macro-fiscal scenarios based on plausible shocks to key economic variables. Such a work program could be developed in collaboration with IMF staff or other development partners.

77. DSAs offer a useful tool for assessing the medium-term implications of fiscal policy strategies and the sensitivity of the public debt outlook to plausible macroeconomic shocks. The IMF-World Bank LIC Debt Sustainability Framework (LIC-DSF) offers a standardized methodology for conducting such assessments; use of the DSF by governments is supported through training programs financed via multi-donor trust funds.[42]

78. Use of DSAs can be complemented by probabilistic simulation of government debt in countries where risk analysis is well-developed. A probabilistic approach can help analyze the distribution of debt in the face of various shocks (macroeconomic, financial, contingent liabilities) and can be used to assess the size of the "safety margin" that countries would need in order to absorb potential shocks and still stay beneath their chosen debt ceilings.[43]

Contain Risks

79. Countries can act to mitigate the impact of plausible shocks in several ways:[44]

- *Build fiscal buffers*: Governments can accumulate resources in stabilization funds in "good years" to provide space for countercyclical fiscal policies when the economy is hit by shocks—a practice that is particularly important for commodity exporters, where export (and budgetary) revenues can be particularly volatile.

- *Diversify revenue sources*: For commodity exporters, the volatility of budgetary revenues can be reduced by gradually increasing tax revenues from other sources—e.g., steadily increasing receipts from indirect taxes (e.g., VAT). Across commodity exporters, the importance of non-

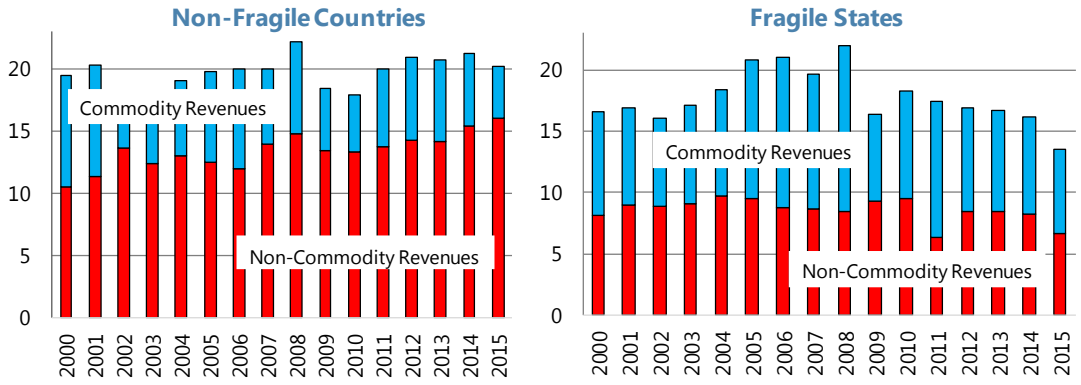
[42] The DSF is currently being reviewed to identify areas in which it can be strengthened to better capture the shifting landscape of development financing and, at the same time, to simplify its use for practical applications.

[43] See IMF, 2016f, pages 39–44, for further elaboration.

[44] Risk mitigation needs to strike an appropriate balance between its costs and benefits.

commodity revenues has been gradually increasing (Figure 39), although further efforts are needed, particularly in the context of "lower for long" export prices.

Figure 39. LIDCs Commodity Exporters: Commodity and Non-Commodity Revenues
(Percent of GDP)



Sources: World Economic Outlook; World Bank; and IMF staff estimates.

- *Introduce direct controls, ceilings, or caps*: LIDCs with weak institutional capacity would benefit from having in place strong direct controls over the creation of risk exposures. Examples of such direct controls include limits on sub-national borrowing, ceilings on the issuance of government guarantees, and centralized clearance for issuance of guarantees.

- *Strengthen regulatory requirements and oversight*: Risks can be mitigated through improved regulation of entities that contribute to fiscal risks (e.g., the banking system; the state-owned enterprises), recognizing that this will likely require the gradual building of institutional and regulatory capacity over time. Charging risk-related fees for formal guarantees will also act to limit the proliferation of exposures.

Monitor and Disclose Risks

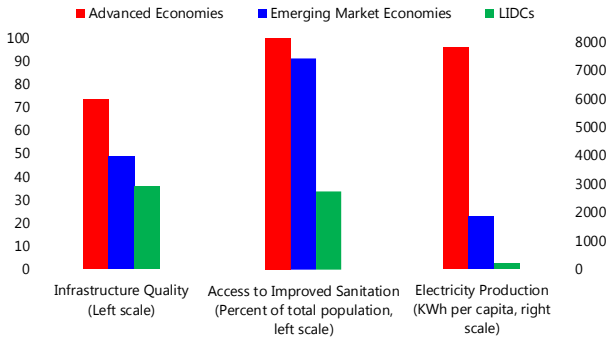
80. Countries should consistently monitor the accumulation of explicit contingent liabilities, such as guarantees and PPPs, and disclose this information in budget documents. Effective monitoring is the starting point for providing governments with an accurate picture of the public finances and its risk profile. Transparent disclosure on a timely basis allows better monitoring of developments by legislatures, markets, and citizens—which can both strengthen the quality of risk assessment and provide a tool for holding governments accountable.

INFRASTRUCTURE INVESTMENT—CHALLENGES TO SUSTAINED SCALING-UP

A. Introduction

81. Scaling up infrastructure investment is a key component of national development strategies in LIDCs. The quality, quantity, and accessibility of economic infrastructure in LIDCs lag considerably behind those in advanced and emerging market economies (Figure 40), and therefore pose sizable constraints on growth and inclusion.[45] With infrastructure gaps estimated at $1 to $1.5 trillion per year for all developing countries (United Nations, 2015), improving infrastructure is indeed a key component of the 2030 Development Agenda.[46]

Figure 40. Selected Infrastructure Indicators
(Median, latest available year during 2013-2015)



Sources: World Bank; World Economic Forum; United Nations; and IMF staff estimates.
Note: Infrastructure quality (index: 1-7) was rescaled to range 0-100 (100= maximum quality).

82. Improving infrastructure provision involves policy choices both on how infrastructure delivery is organized and on the levels and composition of investment. Public policy determines how economic infrastructure is provided: the state is almost invariably an important actor, but the role it plays varies markedly across countries and sectors—from direct provider of services to the more hands-off role of sector regulator.[47] As it takes a long time to recoup the cost of infrastructure investment, expectations regarding *future* policy decisions play a key role in influencing the willingness of private investors to either invest in, or lend to, infrastructure providers.

83. Most LIDCs have traditionally opted for direct state provision of infrastructure services, but this has been gradually changing—reflecting policy shifts, as in increased use of various forms of public-private partnerships, and technological change, as seen in the transformative impact of mobile telephony on the telecommunications sector. The scale of financing needed to tackle infrastructure gaps over the medium term is such that the role of the private sector in infrastructure provision will likely need to increase significantly over time (AfDB et al., 2015). That said, there is no "one-size-fits-all" optimal policy regarding the appropriate mix of public and private

[45] Economic infrastructure includes power, transportation, water and sanitation, and telecommunications facilities. Calderon et al. (2015) estimate that a 10 percent increase in infrastructure provision increases output per worker by about 1 percent in the long run.

[46] For example, three of the 17 Sustainable Development Goals (SDGs 6, 7, and 9) underscore infrastructure.

[47] The electricity sector (generation, transmission, and distribution of power) illustrates the variety of institutional structures across countries.

sector provision—nor, in a context where private sector investors often require government financial guarantees, is there a clean division between "public" and "private" sector provision.

84. This chapter examines recent trends in infrastructure investment in LIDCs and reviews the key policy challenges associated with ensuring an appropriate level of investment in economic infrastructure.[48] The next section looks at the stylized facts regarding infrastructure investment in LIDCs over the past 15 years, drawing on various information sources given the limited availability of cross-country data. The third section reviews policy challenges faced by LIDC policy-makers in promoting infrastructure investment and discusses the role of multilateral institutions in supporting investment in infrastructure and in improving public sector management capacity in the sector. The final section includes a brief review of key policy messages.

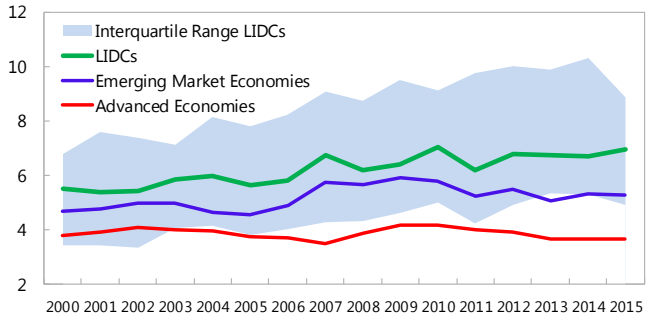
B. Stylized Facts

85. There is considerable variation across LIDCs in both the levels of infrastructure investment and the manner in which it is financed. This section begins with a review of trends in public investment and saving in LIDCs, given the lack of comparable cross-country information on infrastructure investment. Information drawn from IMF country teams is then used to examine the key features of public investment in economic infrastructure. Data from a World Bank database are used to explore the role of the private sector in infrastructure investment in LIDCs, while datasets on official development assistance (OECD) and project loans (Dealogic) are employed to examine financing patterns for infrastructure.

Trends in Public Investment and Saving

86. Public investment has gradually increased in most LIDCs over the past fifteen years.[49] The median level of public investment (as a share of GDP) in LIDCs rose from 5.5 percent in 2000 to 6.7 percent in 2007, helped by a favorable global environment, rising commodity prices, and debt relief.[50] Investment dipped in the wake of the global financial crisis (GFC) but has subsequently recovered. (Figure 41). This scaling-up has

Figure 41. Public Investment: 2000–2015
(Median and interquartile range, percent of GDP)



Sources: World Economic Outlook; and IMF staff estimates.

[48] In this respect, this chapter extends and updates a recent analysis on addressing the infrastructure gap in sub-Saharan Africa (IMF, 2014c).

[49] The analysis in this chapter is based on 47 LIDCs that have data on public investment and public saving in their national accounts.

[50] The current median level of public investment in LIDCs is similar to that observed in the present-day emerging markets (EMs) in the 1980s and is higher than the 1990s EM median of 6 percent of GDP.

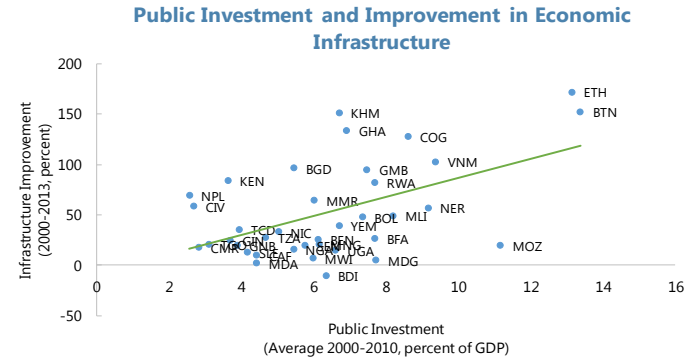
been accompanied by a broad increase in the stock of infrastructure across LIDCs, although the quantity and quality of infrastructure in LIDCs continue to lag compared to EMs (Box 6).

Box 6. Infrastructure Development in LIDCs[1]

Infrastructure has improved notably in most LIDCs over the past 15 years. The improvement was broad-based across country groups, although progress was most rapid in frontier economies and less perceptible in fragile states.

Progress has not been uniform across sectors. Information and communication technology has expanded dramatically, with the number of internet servers growing from near zero in 2000 to the average of six servers per million people in 2015. Over the same period, electricity generation per capita has increased by 57 percent on average, jumping over 300 percent in a few countries, such as Bhutan and Vietnam. Access to improved water and sanitation facilities rose on average by around 20 percent from 2000 to 2014. On the other hand, improvements in transport infrastructure have been relatively minor, even though transportation is typically the largest item in LIDC capital budgets.

The improved infrastructure outcomes reflect sustained public investment efforts. There is a significant positive association between average public investment during 2000–2010 and a composite measure of infrastructure improvement between 2010 and 2013 (Figure).[2] The link is not very tight, however, which may reflect diverse geographic conditions, different shares of infrastructure in public investment, and variation in investment efficiency.



Sources: United Nations; World Bank; World Economic Outlook; and IMF staff estimates.

Progress notwithstanding, there are still significant gaps in the quantity and quality of infrastructure in LIDCs. Despite significantly faster growth, electricity generation capacity in LIDCs—even in frontier markets—remains considerably lower than in emerging markets. Furthermore, electricity supply is also less reliable. According to World Bank (2010), a typical firm operating in a low-income country faces 18 outages per month on average compared to 8 and 3 outages in lower middle income and upper middle income countries, respectively. Road density also lags behind, although the gap is smaller. Mobile phone penetration has made huge strides from near zero in 2000 to 72 phones per 100 people in 2014, but was still significantly lower than 118 per 100 people in EMs. Survey data (Schwab, 2016) show a noticeable improvement in perceived infrastructure quality in LIDCs in the second half of the 2000, but no progress for the median LIDC since 2010, leaving a large gap with respect to advanced and emerging market economies.

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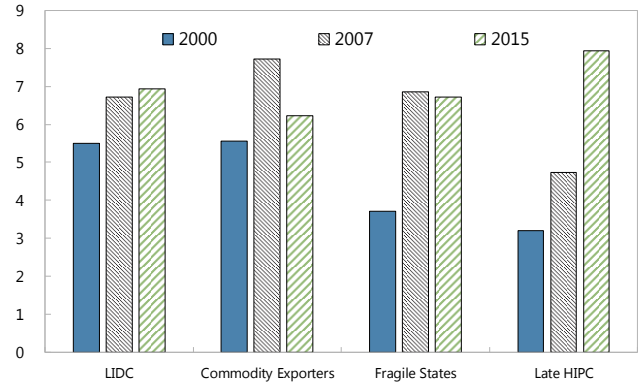
[1] Prepared by Cindy Xu (EUR) and Saad Quayyum (SPR).

[2] The measure is constructed as the average of percent changes in electricity production per capita, road density, and access to clean water and sanitation. The difference in the time periods covering the inputs (investment) and the outcomes (infrastructure improvement) is introduced to account for time lags.

87. The broad trend masks considerable cross-country variation. For commodity exporters, investment rose notably before the GFC, declining to lower levels since 2014 as lower commodity prices exerted fiscal pressures (Figure 42; see also Chapter 1). In several fragile states, post-conflict reconstruction contributed to rising public investment in the 2000s (e.g., Burundi and Haiti). After 2007, public investment rose in LIDCs that benefited from debt relief during that period ("late HIPCs"), while remaining substantially unchanged in diversified LIDCs. Average public investment levels exceeded 10 percent of GDP during 2011–15 in 12 LIDCs—representing a sizeable scaling-up from pre-GFC levels. This group of countries is diverse, but in many cases—e.g., Congo (Alter et al., 2015) and Ethiopia (Box 7)—the investment surge reflects national development agendas centered on improving infrastructure.

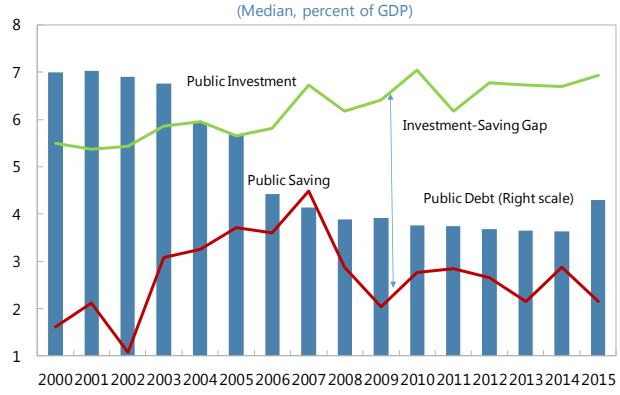
Figure 42. Public Investment in LIDCs by Subgroup
(Median, percent of GDP)



Sources: World Economic Outlook; and IMF staff estimates.

88. After the GFC, a wide gap has opened between public investment and public saving. In the mid-2000s, public saving rose markedly in LIDCs, financing an increasing share of public investment and contributing, along with debt relief and strong economic growth, to a large decline in public debt burdens (Figure 43). However, public saving declined markedly with the onset of the GFC, with investment levels being sustained through increasing recourse to debt financing.

Figure 43. Public Investment, Public Saving, and Public Debt in LIDCs
(Median, percent of GDP)



Sources: World Economic Outlook; and IMF staff estimates.

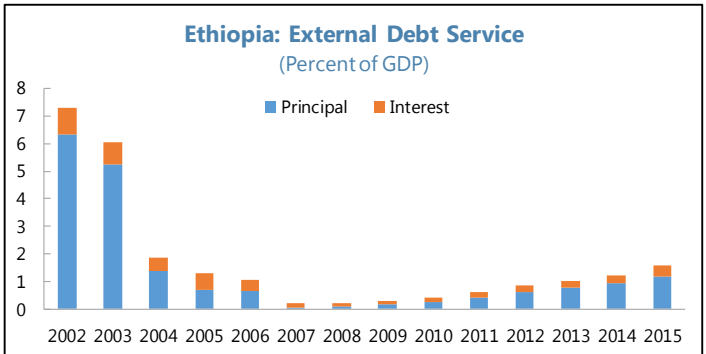
Box 7. Public Investment Scaling-up in Ethiopia[1]

High public investment in Ethiopia reflects the government's national development agenda with a focus on infrastructure. Since 2010, public investment has been guided by five-year Growth and Transformation Plans (GTPs). With this concerted effort, public investment went up from 14 percent of GDP in FY2008/09 to 18 percent in FY2015/16—among the highest levels in the world—and private investment also rose.

As a result, the stock of infrastructure has increased significantly. From FY2009/10 to FY2014/15, power generating capacity more than doubled, the number of telecom users quadrupled, and the stock of asphalt roads rose by 30 percent. A new light rail urban transportation system in Addis Ababa and a 750 km electric railway line connecting Ethiopia's capital and the port of Djibouti have also come into operation. At the same time, the growth of power transmission and distribution networks was not commensurate with that of generation, and the quality of the old lines has deteriorated. Consequently, the number of electric outages doubled between 2011 and 2015, as did the reliance of manufacturing firms on own electricity generators (according to World Bank Enterprise Survey data).[2]

Financing for capital spending came from a number of sources. While tax revenue is low in Ethiopia even by LIDC standards, a major compression in current expenditure compared to the 2000s freed up space for public investment.[3] Debt cancellation under HIPC in the mid-2000s reduced debt service dramatically and made room for external borrowing, which averaged 5.7 percent of GDP per year over the period FY2009/10–2014/15.[4] The government also relies on cheap forced lending by private domestic banks, while SOEs—which carry out a large share of infrastructure investment—have easy access to credit from state-owned banks.

The scaling-up has benefited the economy, but concerns about debt sustainability are emerging. Despite the growth dividend of high investment (real GDP increased at an average rate of 10 percent per year between FY2009/10 and FY2014/15), the ratio of public debt to GDP is on the rise. Domestic and external public debt stood at 24 and 30 percent of GDP, respectively, in FY2015/16 and is expected to increase further with the implementation of the second GTP.[5] The 2015 debt sustainability analysis raised the risk of debt distress from low to medium.



Sources: World Economic Outlook and IMF staff estimates.

[1] Prepared by Daniel Gurara (SPR).

[2] See http://www.enterprisesurveys.org/data/exploreeconomies/2015/ethiopia#infrastructure.

[3] It should also be noted that an overvalued exchange rate has reduced the cost of imported investment goods.

[4] Foreign loans come on both concessional and non-concessional terms. China has become an important creditor recently, accounting for 29 percent of total external borrowing during FY2011/12–2014/15.

[5] Total debt is projected to reach its peak at 61 percent of GDP in FY2017/18 and gradually decline as large public investment projects are completed.

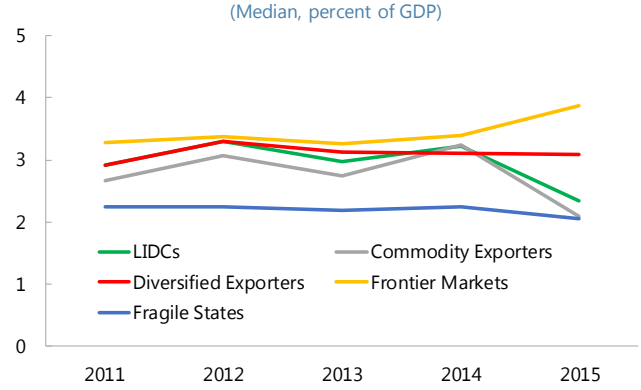
Public Investment in Infrastructure

89. We use information collected from a survey of IMF country teams to compile a picture of public investment in infrastructure in LIDCs in the last five years. Data was gathered for 32 countries,

with assistance from national authorities. The following statistics should be interpreted with caution as the information available is not fully standardized across countries—especially because of differences in coverage—but they nonetheless provide useful insights.[51]

90. Investment in economic infrastructure accounted for about one-half of total public investment in LIDCs. The median investment level stood around 3 percent of GDP in 2011–14, but dropped significantly in 2015 as commodity exporters were hit by falling export prices. Looking across country groupings, frontier market economies had somewhat higher levels of investment, facilitated by easier access to financing and stronger economic prospects; while investment levels in fragile states were typically lower than average, likely reflecting limited fiscal space and weak institutional capacity (Figure 44).

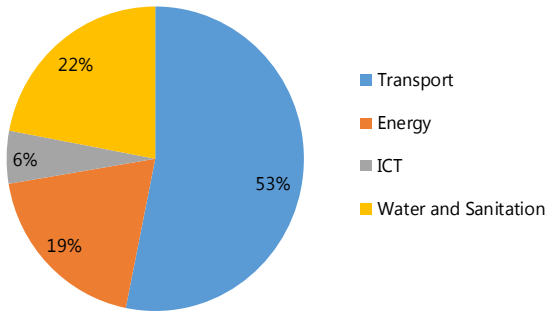
Figure 44. Public Investment in Infrastructure
(Median, percent of GDP)



Sources: Country Desk Survey; and IMF staff estimates.

91. The transportation sector accounted for about half of total investment in economic infrastructure (Figure 45), a result consistent with information from other sources (UNCTAD, 2014). The relatively low share of outlays on the energy is a concern, given the view that high levels of investment are needed to expand energy systems in LIDCs—although it may partially reflect the exclusion of SOEs from the public sector in many countries in our sample. The central role of private firms in mobile telephony in many developing countries over the past decade is reflected in the low share of public spending on information and communication technology.

Figure 45. Public Infrastructure Investment in LIDCs, by Sector
(Average, 2011-15)



Sources: Country Desk Survey; and IMF staff estimates.

Private Sector Participation in Infrastructure Provision

92. Private sector participation in infrastructure provision is primarily undertaken via Public-Private Partnerships (PPPs). As noted earlier, "pure" private sector provision of infrastructure is uncommon in LIDCs, with the high-profile exception of mobile telecommunications.

[51] The definition of the public sector (central government versus general government versus broad public sector) varies across the set of countries for which data was compiled. About 80 percent of country teams reported data for the central government. The list of 32 countries with survey data can be found in Annex I.

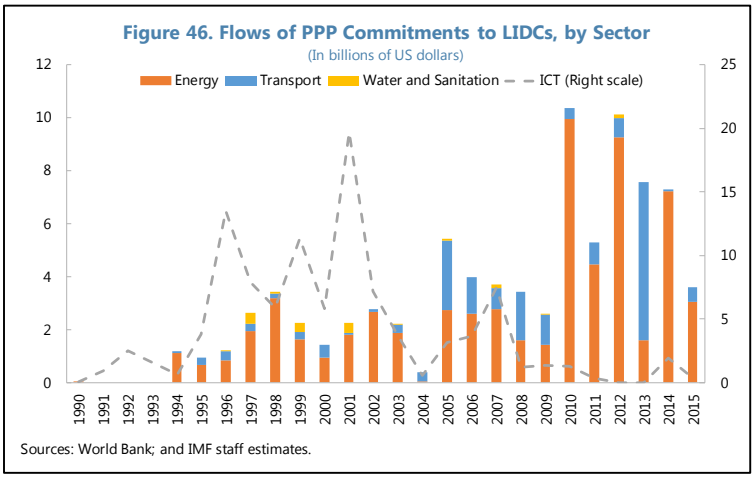
At 0.4 percent of GDP on average in the last five years, PPPs account for a modest share of infrastructure investment, but cross-country variation is large.[52] Asia attracted more than half of PPP investment in LIDCs, with Lao PDR the leader in volume terms, reflecting the role of hydroelectric projects exporting electricity under long-term power purchasing agreements, primarily with Thailand (Table 3).[53] Public-private partnerships are also being used to undertake regional projects. For instance, the Central Corridor project is an integrated transport program covering five countries (Burundi, DRC, Rwanda, Tanzania, and Uganda), with an investment of about $18 billion, involving local and international actors from the public and private sectors (World Economic Forum, 2015a).

Table 3. Countries with Most PPPs, 2011–15

Ranking	Country	# PPPs	Value (mil. US$)	% of GDP (per year)
1	Lao PDR	18	8,075	15.3
2	Nigeria	5	5,812	0.2
3	Vietnam	31	5,430	0.6
4	Bangladesh	22	2,688	0.3
5	Honduras	18	2,636	2.8
6	Ghana	3	1,466	0.7
7	Kenya	7	1,358	0.5
8	Nepal	12	1,173	1.2
9	Zambia	3	1,170	0.9
10	Senegal	6	717	1.0

Sources: World Bank; and IMF staff estimates.

93. PPPs are concentrated in the energy sector (Figure 46), particularly in Asia. There has been some involvement in transportation projects, notably in sub-Saharan Africa, but little engagement in the water/sanitation sectors, where direct state provision remains the dominant modality. Most of the investment in PPPs has financed greenfield projects (87 percent of all PPPs in the last five years). The central government is the main counterpart of the private sector, with minimal participation of subnational levels of government. About a quarter of PPP projects in LIDCs involve MDB participation and financial support, largely in the form of direct loans and credit enhancements, including political risk coverage and partial credit guarantees (World Bank, 2016c).



[52] The analysis draws on the World Bank's PPI database (World Bank, 2016b), which records total investment in infrastructure projects with private participation (but not purely private investment). Coverage of the telecom sector currently includes only the ICT "backbone" (e.g., fiber optic networks), but was broader in the past.

[53] Contracts with foreign energy firms supported PPPs in the energy sector in Lao PDR despite a weak legal and institutional framework for PPPs. While successful in Lao PDR, this model has limited applicability.

Financing for Infrastructure—Official Development Finance and Syndicated Loans

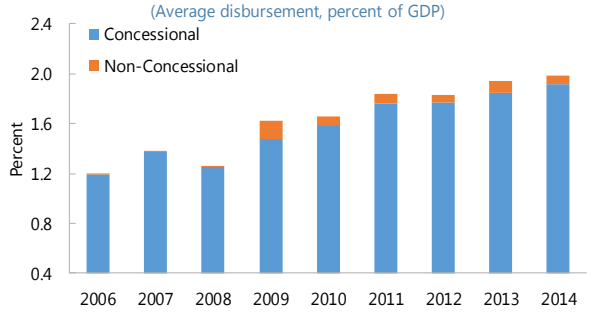
94. Official development finance (ODF) is an important and stable source of infrastructure funding in LIDCs (Figure 47). In 2014, LIDCs received nearly $17 billion in project finance from MDBs and OECD members.[54] While the total value of infrastructure investment in LIDCs is not known, ODF covers a much larger share of investment in LIDCs than in other developing countries.[55] The bulk of ODF in LIDCs consists grants and concessional loans, which averaged 88 percent of ODF in 2013–2014, in contrast to only 63 percent for all developing countries. The share of transportation projects in infrastructure ODF declined steadily from 53 percent in 2006 to about 45 percent to 2013–2014 while the share of energy increased (Figure 48). There is significant heterogeneity across countries in ODF allocation (Table 4): the role of ODF is higher relative to GDP in fragile states, and lower in frontier economies and in commodity exporters.[56]

Table 4. ODF Disbursements for Infrastructure, 2014
(Percent of GDP)

Simple Averages	Grants	Concessional Loans	Other Official Flows	Total
LIDCs	**1.3**	**0.7**	**0.1**	**2.0**
Fragile	1.9	0.4	0.1	2.4
Non-Fragile	0.7	0.8	0.1	1.6
Frontier	0.4	0.8	0.1	1.4
Non-Frontier	1.5	0.6	0.1	2.2
Commodity Exporters	0.8	0.4	0.0	1.3
Diversified Exporters	1.6	0.9	0.1	2.6

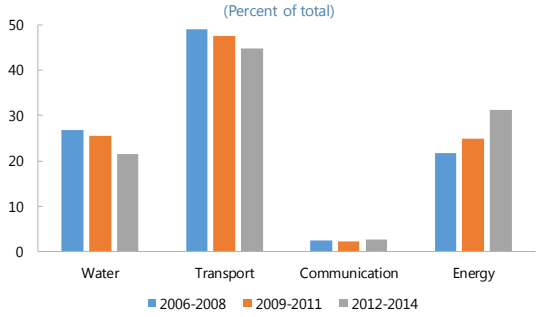
Sources: OECD; World Economic Outlook; and IMF staff estimates.

Figure 47. Official Development Financing for Infrastructure in LIDCs
(Average disbursement, percent of GDP)



Sources: OECD; World Economic Outlook; and IMF staff estimates.

Figure 48. Sectoral Allocation of Infrastructure ODF to LIDCs, 2006–2014
(Percent of total)



95. Some non-OECD countries, notably China and India, have also become important providers of infrastructure financing to LIDCs. These countries direct a significant share of their development financing to infrastructure—over 70 percent in case of China (Amusa et al., 2016). According to a recent analysis, China contributes about 20 percent of external finance for infrastructure projects in sub-Saharan Africa (Gutman et al., 2015). Most of that financing is provided

[54] Multilateral support accounted for 57 percent of ODF, bilateral for 43 percent. The World Bank is the largest multilateral donor; Japan is the largest bilateral donor.

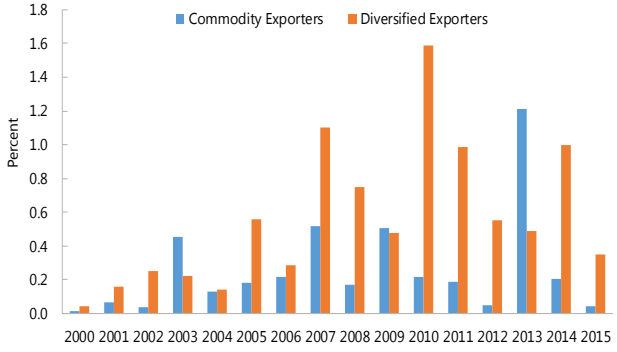
[55] According to OECD (2016), ODF covers 6–7 percent of infrastructure investment across all developing countries.

[56] The average numbers mask significant diversity, particularly among fragile states, where two receive the largest amounts of ODF relative to GDP (Kiribati and Liberia at 23 and 9 percent, respectively) and several receive close to nothing. Grants account for the bulk of financing in fragile states.

by China EXIM Bank. India's development financing for infrastructure in LIDCs is more modest, with most of it going to neighboring countries, primarily for energy and transportation. The establishment of new multilateral institutions, notably the Asian Infrastructure Investment Bank (AIIB) and the New Development Bank (NDB), is expected to provide an important new source of infrastructure finance over time.

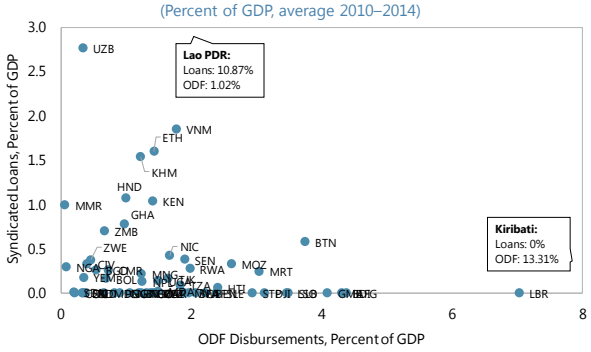
96. International syndicated loans are an important source of project finance in some LIDCs. Vietnam, Uzbekistan, Nigeria, Lao PDR, Ethiopia and Kenya are the largest recipients, with MDBs participating in about one fourth of such loans. Cross-border bank lending rose steadily in the late 2000s, peaking in 2013, before falling significantly alongside the drop in commodity prices in 2014–15 (Figure 49). In terms of sector distribution, 52 percent of loans go to energy and utilities, 19 percent to telecommunications, and 17 percent to transportation. This suggests complementarity between commercial cross-border lending and ODF, with the latter focused more on the transportation sector. This complementarity is also evident in country destination of the two forms of external financing (Figure 50).

Figure 49. Syndicated Lending for Infrastructure in LIDCs
(Percent of GDP)



Sources: Dealogic; and IMF staff estimates.

Figure 50. ODF Disbursements and Syndicated Loans (excl. MDB)
(Percent of GDP, average 2010–2014)



Sources: Dealogic; OECD; and IMF staff estimates.

C. Tackling Infrastructure Challenges

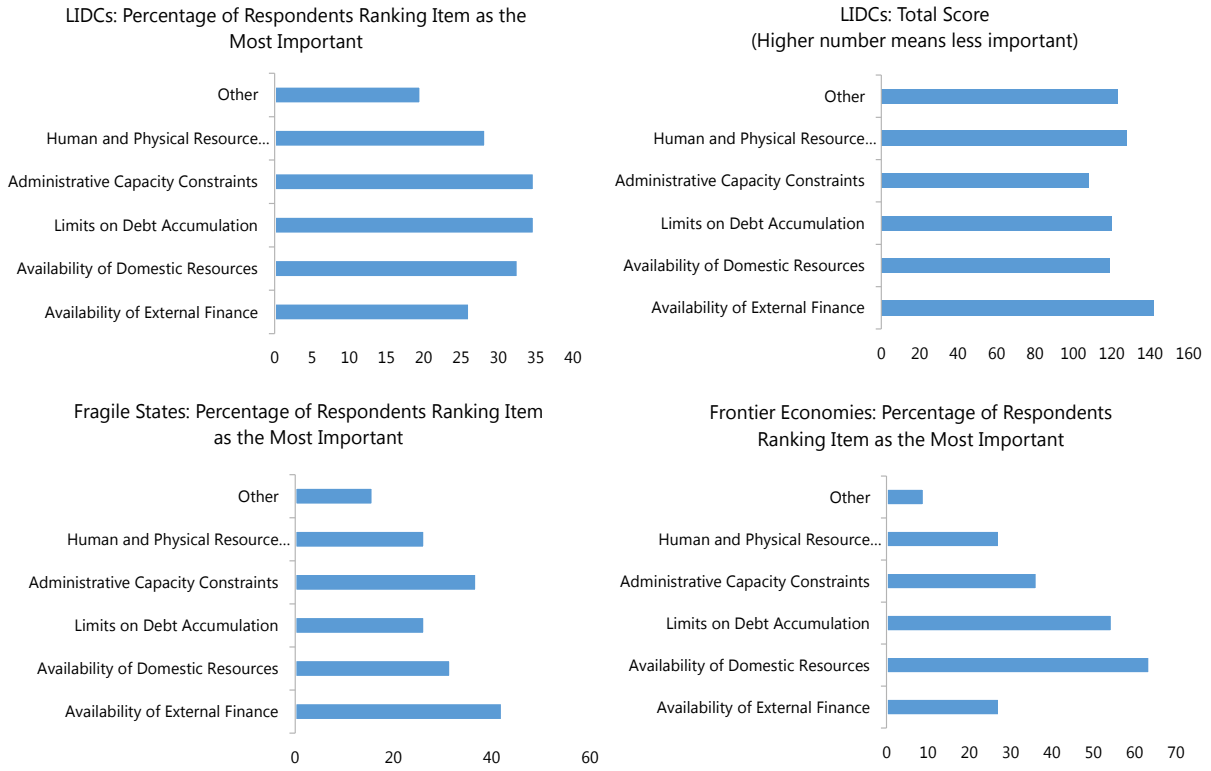
97. Bridging infrastructure gaps remains a challenge. Despite the broad increase in infrastructure investment noted in the previous section, the scale is not sufficient to close the infrastructure gaps over the SDG horizon, and a strong case exists for further expansion given potentially high social and economic returns. However, the scope for acceleration appears limited in the current economic environment. As noted in the previous two chapters, public debt levels have risen, external financing conditions have tightened for many, and growth prospects have weakened, particularly for commodity exporters. These factors will be a drag on infrastructure investment.[57] Moreover, large investment scaling-up episodes do not necessarily translate into growth (Warner, 2014). One reason for that is limited absorptive capacity, as the selection and the implementation of

[57] Commodity exporters that have put in place sovereign wealth funds could use them to delink investment spending from current revenue in order to maintain key investment projects that have already started (Melina et al., 2016).

multiple investment projects require a large set of technical and managerial resources that take time to be developed (Presbitero, 2016).

98. The IMF team survey suggests funding and absorptive capacity constraints as a common impediment to scaling up infrastructure investment across LIDCs. While no single constraint emerged as dominant in the full sample, availability of external finance and administrative capacity were seen as key barriers in fragile states, while availability of domestic resources and concerns about debt accumulation were most important for frontier economies (Figure 51).[58]

Figure 51. Key Obstacles to Scaling Up Public Investment in Economic Infrastructure



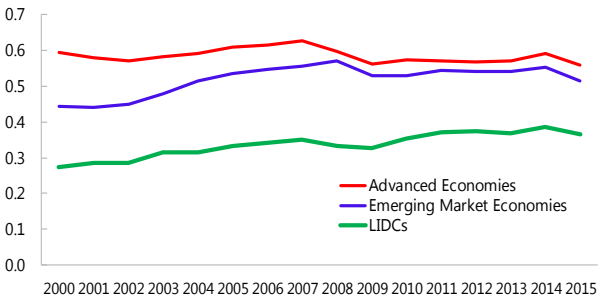
Source: IMF 2016 Survey of Country Teams.
Note: Scores ranges from 1-6 in decreasing order of importance. Based on 46 responses.

99. These findings suggest that sustaining and increasing infrastructure investment would require a coordinated set of measures. These measures include:

[58] "Limits on debt accumulation" reflected a combination of concerns about debt sustainability, debt ceilings set by national legislation or regional bodies, and lending policies of international institutions.

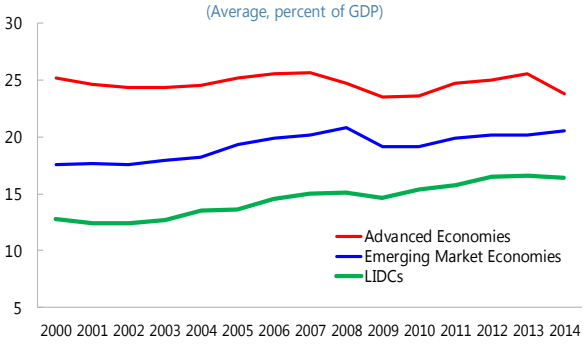
- Mobilizing public saving, by streamlining and prioritizing expenditures and increasing tax revenues. For example, despite some improvements in recent years, significant gaps remain in the efficiency of tax collection (Figures 52–53);[59]
- Improving the efficiency of public investment;
- Increasing the supply of concessional external financing;
- Expanding private sector involvement in the provision and financing of infrastructure investment while maintaining sustainable public finances, through effective leveraging of the resources of MDBs and development finance institutions (DFIs).

Figure 52. VAT Collection Efficiency, 2000-2015



Sources: World Economic Outlook; Eurostat; and IMF staff estimates.
Note: Collection efficiency is defined as the ratio of actual VAT to potential VAT if all final consumption were taxed at the current standard rate.

Figure 53. Tax Revenue, 2000-2014
(Average, percent of GDP)



Source: Gaspar et al. (2016).

Increasing Public Investment Efficiency

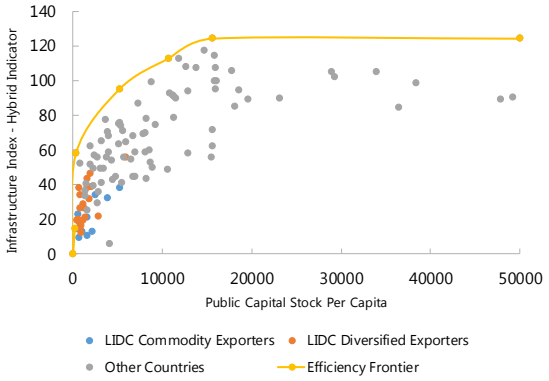
100. LIDCs can gain substantial economic dividend from improving public investment efficiency. The average size of the efficiency gap is estimated at 40 percent in LIDCs (Figure 54),[60] pointing to large scope for boosting investment returns and contributing to higher growth. This is consistent with recent studies (Berg et al., 2015; IMF, 2015h), which demonstrate that improving public investment efficiency can have a substantial impact on growth.

[59] The potential to mobilize domestic resources in developing countries and the steps needed to realize that potential are discussed in detail in IMF, 2015g.

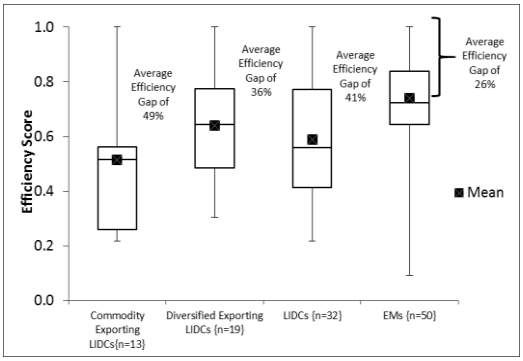
[60] The average efficiency gap in LIDCs is measured as the distance between the average country and an efficiency frontier constructed for a given level of public capital stock and income per capita. The public investment efficiency indicator estimates the relationship between the public capital stock and measures of infrastructure quality and access, and countries with the highest levels of quality and access for given levels of public capital and income form the basis of the efficiency frontier. See IMF, 2015h, for details on the methodology.

Figure 54. Public Capital and Infrastructure Performance

Panel A. Public Investment Efficiency Frontier



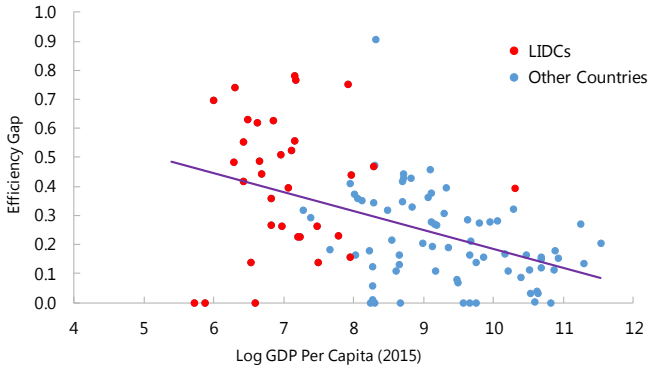
Panel B. Public Investment Efficiency Index (PIE-X)



Sources: Center for International Comparisons (2013); World Economic Forum (2014); OECD (2014); World Economic Outlook; World Development Indicators (2014); and IMF staff estimates. For details of the construction of the Public Investment Efficiency Indicator (PIE-X), see IMF (2015h).
Note: The box shows the median, 25th, and 75th percentiles while the whiskers show the maximum and minimum values. Scores range between 0 and 1.

101. Scope for improving public investment efficiency varies across different country groups within LIDCs. On average, the efficiency gap for commodity exporting LIDCs is estimated at 49 percent, while that for diversified exporters stands at 36 percent. Figure 54 confirms that the median and mean values of the efficiency scores for LIDCs fall behind those for emerging markets economies. Furthermore, while efficiency tends to increase with income per capita, there is greater variation within LIDCs, with some countries (mostly frontier-market commodity exporters) showing significantly larger gaps than their income peers (Figure 55).

Figure 55. Efficiency Gap and GDP Per Capita



Sources: Center for International Comparisons (2013); World Economic Forum (2014); OECD (2014); World Economic Outlook; World Development Indicators (2014); and IMF staff estimates.

102. Public investment efficiency can be improved by strengthening public investment management (PIM) institutions, but short-term priorities differ from country to country. IMF (2015h) develops the case that stronger PIM institutions lead to more efficient public investment, which in turn improves the growth dividend of investment and increases the impact of public capital on economic and social outcomes.[61] As discussed in Box 8, the heterogeneity in efficiency scores among LIDCs likely reflects differences in institutional strengths across country groups. Thus, a

[61] In addition to increasing the efficiency of new public investment, considerable gains can be obtained from better use of existing assets, particularly the operation of public utilities.

strategy to enhance PIM needs to take into account country-specific constraints and factors. In general, the following actions are important to improve public investment efficiency:[62]

- *Ensuring fiscal sustainability and effective coordination across sectors and levels of government* by applying fiscal principles or rules that guide sustainable and adequate levels of public investment.
- *Allocating capital spending to the most productive sectors and projects.* Effective cost-benefit analysis, including risk assessments, should provide the basis for identifying a pipeline of approved projects. Adequate funds need to be allocated for maintenance.[63]
- *Strengthening institutions related to project implementation*. The transparency of budget execution and openness of the procurement process are critical to ensuring the efficient use of funds.
- *Ensuring transparency and accountability in project management.* Monitoring and evaluation are needed to strengthen incentives to deliver projects on time and on budget and ensure value for money and integrity in the use of public resources.
- *Strengthening the management of PPPs*. Sound PPP management, with strong institutional framework, is increasingly important as PPP assets in LIDCs have risen over the last decade. PPP commitments should be systematically monitored and may need to be subject to overall limits to contain related fiscal risks (see Box 9 and Chapter 2).

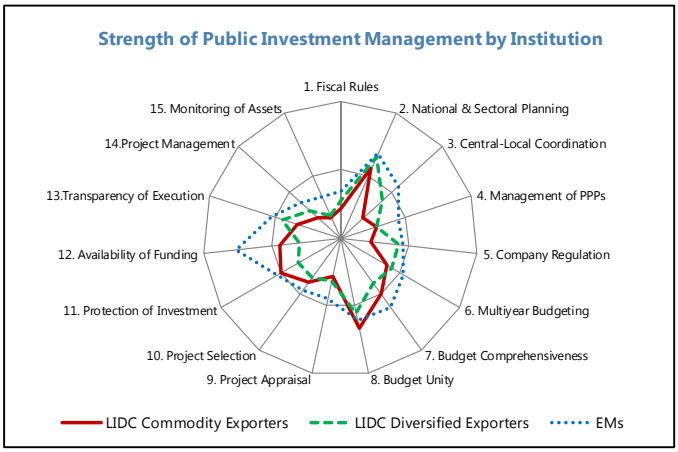
[62] Improvements in administrative capacity are an essential complement to strengthening institutions.

[63] In the IMF survey, only 40 percent of LIDC country teams indicated that new projects included a budget for maintenance.

Box 8. Lessons from PIMA in LIDCs[1]

The Public Investment Management Assessment (PIMA) framework has been employed in a few pilot LIDCs.[2] The PIMA evaluations found that LIDCs would particularly benefit from strengthening institutions related to project allocation and project implementation. For LIDCs to efficiently allocate scarce capital to the most productive areas, developing and applying sound criteria and guidelines for appraisal and selection of projects is essential. The establishment of review processes and guidelines for ongoing projects as well as ex-post project evaluation is also recommended. Measures to reduce uncertainty surrounding the allocation of resources along the project lifecycle would help improve the execution of internally-financed projects and prevent project implementation delays. Finally, competitive and transparent tendering would facilitate the timely and cost-effective implementation of public investment projects.

Commodity exporters exhibit greater institutional strength than diversified exporters in the allocation and implementation stages, but lower strength in the planning stage of the public investment cycle.[3] Diversified exporters scored higher than their commodity exporting counterparts in *national and sectoral planning* (Cameroon and Liberia are examples of countries with good planning institutions), *central-local coordination*, *management of PPPs*, and *regulation of infrastructure companies* (see Figure). At the same time, commodity exporters scored higher in institutions related to allocation such as *budget comprehensiveness*, which ensures the legal authorization and disclosure in budget documentation of all public investment, and *budget unity*, which ensures proper accounting of immediate capital and future operating and maintenance costs. They also performed better in the implementation stage with *protection of investment* and *availability of funding*, although diversified exporters displayed greater *transparency of budget execution*.



[1] Prepared by Olamide Harrison (FAD).

[2] PIMA provides a comprehensive evaluation of fifteen institutions relevant to public investment at three key stages of the investment cycle—planning, allocation, and implementation. Confidential mission-based PIMA assessments have been conducted for four LIDCs.

[3] This comparison is based on institutional scores available for three commodity exporters and nine diversified exporters among LIDCs as well as nine emerging markets.

Box 9. Public-Private Partnerships: Key Pre-Conditions for Success[1]

PPPs as vehicles for private sector operation of state assets can enhance growth in LIDCs by providing technology, capacity, and financing not otherwise available to the government. At the same time, they may expose public finances to fiscal risks and thus require a strong institutional framework coupled with good governance and regulatory capacity. A sound framework for managing fiscal risks associated with PPPs would have the following characteristics:

- *Strong overall framework for public investment planning.* In the absence of a strong institutional framework for managing PPPs, establishing ceilings on both the stocks and flows of PPPs can help contain fiscal costs and risks, and provide incentives for the prioritization of investment projects. E.g., in Peru a law caps the present value of contingent and non-contingent liabilities in PPP projects at 7 percent of GDP.

- *Comprehensive legal framework to handle PPP*s. An example of a comprehensive legal framework is Tanzania where the amended PPP Act of 2014 clearly details the responsibilities of the private and public sectors, the functions and powers of the PPP Unit, and the approval process for PPPs. However, there remains scope for improvement with regard to fiscal risk management practices.

- *Key role of the ministry of finance in managing PPPs in LIDCs*. E.g., in South Africa, Treasury approves PPPs at several stages: (i) feasibility stage; (ii) bid documents preparation; (iii) value-for-money assessment of preferred bid; and (iv) approval of final contract terms.

- *Transparent accounting and reporting*. Until comprehensive accounting and reporting standards for PPPs are put in place, the government should follow public sector accounting and reporting practices such as *International Public Sector Accounting Standards* (IPSAS), which leads to disclosure of PPP commitments and contingent liabilities. This is the case in Honduras, where since 2015 PPP operations have been reported in fiscal accounts based on ownership criteria, and not on financing, as recommended by the IPSAS-32 standard.

[1] Prepared by Olamide Harrison (FAD).

Development Financing for Infrastructure

103. Multilateral development banks have pledged to scale up support for infrastructure investment. The quantitative commitments are ambitious, although they vary across institutions in the degree of specificity and are dependent on an adequate supply of viable projects.[64] MDBs will continue to play a significant role in infrastructure provision in LIDCs, although that role may evolve as greater attention is given to leveraging private investment flows (see below). Bilateral donor budgets are under pressure from fiscal challenges and competing demands, including from the migrant crisis, even though some of them—particularly the largest, Japan—have promised substantial expansion of their infrastructure funding.

[64] See *MDBs Joint Declaration of Aspirations on Actions to Support Infrastructure Investment* (http://g20.org/English/Documents/Current/201608/P020160815360318908738.pdf) for the list of latest commitments. Balance sheet optimization has allowed MDBs to increase their lending capacity by over $130 billion since 2013 without substantially increasing risks (http://www.g20.utoronto.ca/2015/Multilateral-Development-Banks-Action-Plan-to-Optimize-Balance-Sheets.pdf).

Promoting Private Sector Participation

104. There is a marked disconnect between the large pool of institutional funds chasing low returns, the high potential rewards to infrastructure investment in LIDCs, and the paucity of private capital allocated to such investment. Institutional investors worldwide hold about $120 trillion in asset under management (McKinsey, 2016), but only about 2 percent of pension fund and insurance company assets are allocated to infrastructure (UNCTAD, 2014), and only a tiny fraction of that is in LIDCs. The mismatch between infrastructure investment needs and the supply of infrastructure finance is rooted in the scarcity of bankable projects, regulatory barriers, the absence of a market for infrastructure assets, and political/policy risk (Ehlers, 2014).

105. At the moment, the shortage of well-structured bankable projects appears to be the most severe constraint to greater private investment in infrastructure. It has been argued that there are plentiful sources of capital for well-structured projects with an acceptable risk-return combination, but such projects are rare (CSIS, 2016). Part of the problem is risk—both genuine and perceived. A separate issue is the length, cost, and quality of project preparation, reflecting capacity constraints and, frequently, small scale of the projects (Collier and Mayer, 2014).[65]

106. The project preparation challenge is being addressed, but the impact has been modest so far. In recent years, development partners have helped set up a large number of Infrastructure Project Preparation Facilities (IPPFs; see Box 10 for a selected list of IPPFs and other catalytic initiatives).[66] While these IPPFs have made some progress, very few have achieved the scale to make a significant impact (World Economic Forum, 2015b). For example, the MDBs' Global Infrastructure Facility (GIF)—created to help implement the Addis Ababa Action Agenda—can facilitate project preparation of at most 20 projects over a three-year period. In general, the field is becoming crowded but the scale of activity is still modest. Ultimately, local expertise in project preparation will need to be developed to match the needs. Achieving a degree of standardization in project design and project documentation would also help reduce transaction costs.

107. Reducing the risk that private investors face is essential to mobilize investment. Risks are abundant, even though perception may be grimmer than reality.[67] Rule of law and the clarity of the bidding process have been cited as the most important deciding factors in influencing the scale of infrastructure investment (Allen & Overy, 2009). For developing countries, the key risks include political change, breach of contract, regulatory shifts, and the inability to enforce policy commitments (Collier et al., 2014).

108. Institutional reform is key to risk reduction. Improving the business climate, enforceability of laws, and predictability of regulation would go a long way toward creating a

[65] For instance, developing a project in Africa takes on average 7 to 10 years (World Economic Forum, 2015b).

[66] According to CSIS (2016), in the past 10 years at least 64 IPPFs have become operational, with the vast majority established after 2010.

[67] According to Moody's (2015), average default rates on project finance (which mostly refers to financing for infrastructure) are fairly comparable between OECD and non-OECD countries (6.7 vs. 8.8 percent over the period 1990–2013).

favorable environment for private participation in infrastructure. In the near term, a narrower focus on the development of PPP frameworks may offer the fastest route to stimulating investment. In 2016, multilateral development agencies have collaborated to launch the PPP Knowledge Lab, the first comprehensive online resource that pools the knowledge and experience of industry leaders.

Box 10. Selected Platforms for Mobilizing Private Investment in Infrastructure[1]

Project preparation facilities

The most notable ones include the multi-sponsor Global Infrastructure Facility (GIF); AfDB's Infrastructure Project Preparation Facility (which operates through the Africa50 Infrastructure Fund); IFC's Infraventures; ADB's Asia Pacific Project Preparation Facility; IDBG's InfraFund, AquaFund, and FIRII; EBRD's Infrastructure Project Preparation Facility; EU-Africa Infrastructure Trust Fund (EU-AITF); several EIB-managed facilities; and several facilities managed by the Private Infrastructure Development Group (PIDG).[2]

The recently established GIF is a global open platform that facilitates the preparation and structuring of complex infrastructure PPPs to enable mobilization of private sector and institutional investor capital.[3] GIF's project support can cover the spectrum of design, preparation, structuring and transaction implementation activities. It became operational in April 2015, with an initial capitalization of $100 million. The GIF's three-year pilot program is expected to support 15–20 projects. Currently GIF is in the process of approving planning grants for four projects (of which one is in an LIDC—a deep-sea port in Cote d'Ivoire).

Credit enhancement

The World Bank provides partial risk guarantees and partial credit guarantees. AfDB launched its Initiative for Risk Mitigation in Africa in 2012. ADB re-launched its credit enhancement products in 2006. New platforms to mitigate risks also include ADB's Credit Guarantee and Investment Facility (CGIF), which in July 2016 started the Construction Period Guarantee, a new product aimed at mitigating construction risks for long-term investors in greenfield projects. GuarantCo, a facility under PIDG, offers partial guarantees for local debt instruments—which helps develop not only infrastructure but also domestic financial markets.

Co-financing

IFC's Global Infrastructure Fund has committed to date $447 million directly to eight companies (based in Brazil, China, Colombia, India, Turkey and Nigeria). In October 2016 IFC launched a Managed Co-Lending Program that allows institutional investors to passively participate in IFC's future loan portfolio. The Africa Finance Corporation (AFC) and the Emerging Africa Infrastructure Fund (EAIF)[4] provide subordinated debt to catalyze private investment.

Institution building

The Public-Private Infrastructure Advisory Facility (PPIAF), a multi-donor trust fund managed by the World Bank, provides technical assistance to governments in support of the enabling environment conducive to private investment, including the necessary policies, laws, regulations, institutions, and government capacity. Over the last three years PPIAF has approved projects totaling about $18 million per year on average.

_____

[1] Prepared by Daniel Gurara (SPR) and Sarwat Jahan (APD).

[2] PIDG is a multi-donor organization constituted in 2002. It mobilizes private investment in infrastructure in the frontier markets of sub-Saharan Africa and Southeast Asia through a series of facilities that mitigate risk throughout the project development cycle.

[3] See http://www.worldbank.org/en/programs/global-Infrastructure-facility.

[4] EAIF operates in 48 Sub-Saharan African countries and has mobilized $1.1 billion since its establishment in 2002 (see http://www.eaif.com).

109. Development partners are playing an increasing role in risk mitigation. MDBs are seeking to promote private sector investment by taking on some of the risk, yielding a sufficiently attractive risk-return combination for private investors.[68] This reorientation toward a leveraging role is promising, although it should be recognized that constraints exist not only on the size of MDB balance sheets but also on the riskiness of their portfolios; a substantial increase in the latter would require shareholder agreement on capital injections. The approaches fall broadly into the following categories:

- *Hedging political risks*. MIGA is the leading provider of political risk insurance. It issued US$4.3 billion in guarantees for investment projects in FY2016, of which about half were in the poorest (IDA-eligible) countries. Given MIGA's track record, Collier et al. (2014) propose scaling up its operations significantly, covering MIGA's insurance premiums through aid.

- *Credit enhancements*. These take a variety of forms, including credit guarantees and mezzanine finance. Most MDBs offer partial credit guarantees and partial risk guarantees, with the former covering default by a public sector project and the latter covering default by a private sector project caused by the government's failure to meet specific obligations. For example, through IDA partial risk guarantees, a dollar of IDA commitment leveraged, on average, almost six dollars of private capital and nine dollars of total project financing (World Bank, 2013).

- *Co-financing*. IFC has spearheaded efforts to catalyze private sector financing to infrastructure. Through syndication, IFC has mobilized $50 billion in lending over the past five decades, with infrastructure comprising 50 percent of its current portfolio.[69] It also mobilizes equity investment through the IFC Asset Management Company.

110. Another hurdle in attracting institutional investors to infrastructure relates to regulatory barriers and business practices.[70] The EU Solvency II and Basel III regulations require insurance companies and banks, respectively, to maintain a high capital allocation for long-term loans to infrastructure providers and favor shorter tenor loans. Pension funds set limits to their exposure to certain asset classes and countries, which curtail greatly the supply of finance to LIDCs. In addition, the rating agencies' "sovereign ceiling," which does not allow an individual project rating to exceed that of the country where it is located, could exaggerate the risk profile of infrastructure investment. The European Commission is considering a recalibration of the Solvency II conditions for infrastructure investment in recognition of its unique nature.[71] However, Basel III will likely continue to constrain infrastructure project finance. Domestic institutional investors will likely become an increasingly important financing source for infrastructure, and their involvement would be facilitated

[68] See, e.g., http://www.worldbank.org/en/topic/publicprivatepartnerships/brief/chairmans-statement-global-infrastructure-forum-2016.

[69] This amount is not limited to LIDCs.

[70] While the focus is on attracting foreign investors to LIDCs, over time domestic institutional investors are expected to play an increasing role, with synergies between developing LIDC capital markets and building infrastructure.

[71] https://eiopa.europa.eu/Publications/Consultations/EIOPA-CP-16-005_Consultation_paper_advice_infrastructure_corporates.pdf.

by developing a framework for such investment and by better regulation and supervision of LIDC financial systems (as stressed in Chapter 2).

111. The absence of a market for infrastructure assets exacerbates the problems of infrastructure finance. It adds a liquidity risk to the already high risk profile of infrastructure projects in LIDCs. Standardization and risk re-bundling could be steps toward developing an infrastructure asset market (Collier and Mayer, 2014). Individual infrastructure projects could be unbundled according to their phase—design, construction, and operation—and re-bundled as a fund or an index according to their respective risk category. Combining different projects would reduce risks through diversification, while selling tranches in those bundles would reduce the minimum scale of investment needed to "get into the game." This approach could reduce the risk profile to the level that institutional investors would be willing to accept. Despite the conceptual appeal, practical challenges abound, and very little progress has been achieved.

IMF's Infrastructure Policy Support Initiative

112. The IMF is assisting its members seeking to scale up infrastructure investment. Its Infrastructure Policy Support Initiative is a suite of tools that help countries evaluate the macroeconomic and financial implications of alternative investment programs and financing strategies and bolster institutional capacity in managing public investment.[72] These tools have already been applied in a large number of countries. The IMF also allocates one-fifth of its support for national capacity building to providing assistance in the areas of tax policy and administration, which are key to domestic revenue mobilization.

D. Policy Conclusions

113. Improving infrastructure in LIDCs to levels consistent with attaining SDGs remains an important challenge and requires action on multiple fronts. Despite a broad increase in public investment over the last 15 years, infrastructure gaps—in terms of quality and quantity—remain large. In many LIDCs increasing public debt and worsening external conditions—notably low commodity prices—are constraining investment in economic infrastructure. Overall, LIDCs still rely to a large extent on official concessional financing for infrastructure, while private sector provision and financing are limited.

114. National authorities should be at the center of these efforts. Countries need to strike a careful balance between supporting development outlays and maintaining debt sustainability. As fiscal risks limit room for borrowing, additional resources for public investment need to be sought through domestic revenue mobilization, expenditure prioritization, and concessional financing. Given the scarcity of resources, improving administrative capacity and investment efficiency is paramount—and there is scope for PIM and SOE reforms in most LIDCs. As a complement to government activities, a major increase in private sector involvement is essential and requires concerted efforts to improve the regulatory and macroeconomic environment as well as

[72] The package is described in IMF, 2015g, page 35.

complementary investment in health and education. Particular attention needs to be paid to strengthening PPP frameworks, developing pipelines of bankable projects and transparent procurement processes, and standardizing contracts.

115. Development partners have a large role to play in supporting infrastructure investment. MDBs and DFIs have pledged to scale up their infrastructure financing considerably over coming years. At the same time, in view of the recognition—including in the Addis Ababa Action Agenda—that private sector participation is indispensable for achieving the ambitious development goals, MDBs are pivoting toward a catalytic role. They seek to facilitate private sector involvement through assistance with legal and institutional frameworks (including for PPPs), project preparation facilities, and various risk mitigation measures.

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Annex I. The Universe of Low-Income Developing Countries (LIDCs)

This Annex lists the group of LIDCs and their sub-groups (Annex Table 1), their geographical location and per capita income levels (Annex Table 2, and Annex Figure 1).

Annex Table 1. LIDCs and Subgroups (2016)

		Frontier Markets (14)	Fragile States (28)	Developing Markets (19)
Commodity Exporters (27)	**Fuel Exporters (6)**	Bolivia[#] Nigeria (2)	Chad Congo, Rep.[2#] South Sudan Yemen, Rep. (4)	
	Non-fuel Commodity Exporters (21)	Mongolia[#] Mozambique[#] Papua New Guinea[#] Zambia[#] (4)	Afghanistan[2#] Burundi[2#] Central African Rep.[2] Congo, Dem. Rep.[2] Eritrea Guinea[2#] Guinea-Bissau[2#] Malawi[#] Mali[#] Sierra Leone[#] Solomon Islands Sudan Zimbabwe (13)	Burkina Faso Mauritania Niger[#] Uzbekistan[#] (4)
Diversified Exporters (33)		Bangladesh[#] Cote d'Ivoire[1,2#] Ghana Kenya Senegal[#] Tanzania[#] Uganda[#] Vietnam (8)	Comoros[2] Cote d'Ivoire[1,2#] Djibouti Haiti[2#] Kiribati Liberia[2#] Madagascar[#] Myanmar Sao Tome and Principe[2] Somalia Togo[2] (11)	Benin[#] Bhutan[#] Cambodia Cameroon[#] Ethiopia[#] Gambia, The[2] Honduras Kyrgyz Republic[#] Lao PDR Lesotho Moldova[#] Nepal[#] Nicaragua[#] Rwanda Tajikistan[#] (15)

Note: See IMF, 2014a, for the details of the classification. The number of countries is shown in the parentheses.

[1] Cote d'Ivoire is included in both the "frontier market" and "fragile state" groups.

[2] Late HIPC: completion point in or after 2007.

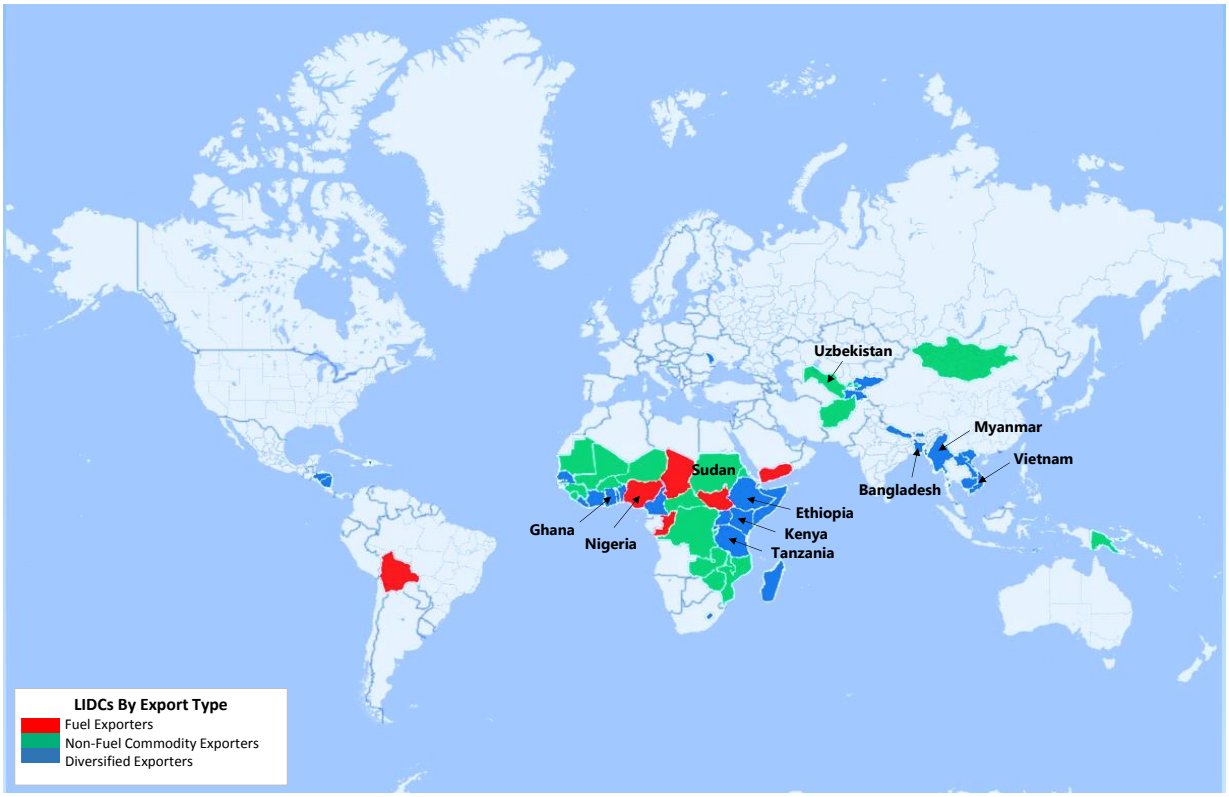
[#] Country with survey data on infrastructure investment.

Annex Table 2. GDP Per Capita of LIDCs by Region

Region / Country	GDP Per Capita (2015 U.S. Dollars)	Region / Country	GDP Per Capita (2015 U.S. Dollars)
Sub-Saharan Africa		**Sub-Saharan Africa**	
Benin	780	Uganda	609
Burkina Faso	615	Zambia	1,352
Burundi	304	Zimbabwe	1,002
Cameroon	1,235	**Asia and Pacific**	
Central African Republic	332	Bangladesh	1,292
Chad	942	Bhutan	2,591
Comoros	736	Cambodia	1,144
Congo, Democratic Republic of	470	Kiribati	1,410
Congo, Republic of	2,024	Lao People's Democratic Republic	1,787
Côte d'Ivoire	1,325	Mongolia	3,946
Eritrea	695	Myanmar	1,213
Ethiopia	687	Nepal	748
Gambia, The	451	Papua New Guinea	2,745
Ghana	1,402	Solomon Islands	1,950
Guinea	555	Vietnam	2,088
Guinea-Bissau	594	**Europe**	
Kenya	1,434	Moldova	1,822
Lesotho	1,057	**Middle East, North Africa, and Central Asia**	
Liberia	474	Afghanistan	615
Madagascar	402	Djibouti	1,788
Malawi	354	Kyrgyz Republic	1,113
Mali	804	Mauritania	1,312
Mozambique	529	Somalia	...
Niger	407	Sudan	2,119
Nigeria	2,763	Tajikistan	922
Rwanda	718	Uzbekistan	2,115
São Tomé and Príncipe	1,569	Yemen, Republic of	1,334
Senegal	913	**Latin America and the Caribbean**	
Sierra Leone	696	Bolivia	3,099
South Sudan	785	Haiti	813
Tanzania	957	Honduras	2,530
Togo	570	Nicaragua	2,024

Source: World Economic Outlook.

Annex Figure 1. LIDCs By Export Type



Source: World Economic Outlook.
Note: Country names shown in the map are the top 10 LIDCs in average GDP level (in purchasing power parity terms) during 2013–2015.