INTERNATIONAL MONETARY FUND

PRESERVING DEBT SUSTAINABILITY IN LOW-INCOME COUNTRIES IN THE WAKE OF THE GLOBAL CRISIS

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EXECUTIVE SUMMARY

The global financial crisis has had a significant impact on low-income countries (LICs)' debt vulnerabilities. Recent debt sustainability analyses (DSAs) indicate that external and fiscal financing requirements have increased. In addition, standard measures of a country's capacity to repay debt—GDP, exports, and fiscal revenue—are expected to be permanently lower. On average, debt ratios are therefore expected to deteriorate in the near term, particularly for public debt.

The global crisis, however, is not expected to result in systemic debt difficulties across LICs. Debt ratios are expected to return to a downward trend by 2011–12, and risk rating downgrades have been rare in post-crisis DSAs. Critical assumptions to achieve this outcome are that: (i) the crisis has no permanent impact on long-term growth; (ii) the recovery will be relatively quick, consistent with the nature of the shock for LICs (mostly external demand) and the expected recovery in industrialized countries; and (iii), as the recovery firms up, LICs restore the policy space that many of them have used to mitigate the impact of the crisis, and continue to have access to adequate financing.

The share of LICs that face higher debt vulnerabilities is significant but has not increased with the crisis. These countries are rated as being either at high risk of *external* debt distress or in debt distress in their most recent DSAs. A few countries with more favorable risk ratings also have high *total public* debt.

Sustained implementation of a combination of measures, involving debtors and creditors, should reduce debt vulnerabilities significantly in all these countries over the medium term:

- In about half of these countries—including all those in debt distress— debt vulnerabilities are expected to be reduced substantially through HIPC/MDRI relief (or will require similar treatment).
- In the other half:
  - Options to address debt vulnerabilities include fiscal consolidation and efforts to improve institutions and policies (particularly in the economic and debt management areas) on the debtor side, and more concessional financing terms on the creditor side;
  - Sustained implementation of a combination of these options should be sufficient to reduce debt vulnerabilities substantially over the medium term in all these countries.
  - Nevertheless, the need for debt relief in isolated cases at some point in the future cannot be excluded, given the hazard of large negative shocks. The effectiveness of traditional debt relief mechanisms would hinge on the participation of all creditors, as the share of Paris Club debt in total debt is relatively limited in these countries.

I. INTRODUCTION[1]

1. **The global financial crisis has had a substantial impact on LICs.[2]** They have had to cope with a sharp slowdown in external demand, leading to a contraction in export growth, and much reduced non-debt-creating external financing, with a drop in foreign direct investment (FDI) inflows and remittances.[3] In response, many LICs have implemented countercyclical macroeconomic policies, often with the financial support of the Fund, the Bank, and other international financial institutions.[4] Automatic stabilizers have generally been allowed to operate and, in a number of cases, have been complemented with discretionary fiscal stimulus, mainly on the spending side. With scarce external financing (including aid), some countries have resorted to domestic debt financing to close widening fiscal financing gaps. Overall, economic growth has decreased sharply and external and fiscal borrowing requirements have increased substantially.

2. **This paper analyses the extent to which debt vulnerabilities in LICs have risen as a result of the crisis** based on a comparison of pre- and post-crisis debt sustainability analyses.[5] With higher borrowing requirements and a less favorable evolution of GDP, exports, and revenues, the debt sustainability outlook has clearly deteriorated. A key question is how severe this deterioration is and, in particular, whether the global crisis could lead to a systemic debt crisis in LICs, as some have argued. This issue is taken up in Section II.

3. **The paper also discusses options to address cases of high risk of debt distress or actual debt distress.** These countries, which we refer to as those with "higher debt vulnerabilities," face a wide diversity of situations. The options available to each of them to reduce these vulnerabilities vary accordingly. In Section III, the paper seeks to quantify

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[1] This paper was prepared by Julien Hartley, Mariusz Jarmuzek, Kadima Kalonji, Annette Kyobe, Shannon Mockler, Francois Painchaud, Chris Papageorgiou, Anna Unigovskaya, Esteban Vesperoni, and Yongzheng Yang (IMF) and Mona Prasad and Marie-Hélène Le Manchec (World Bank) and supervised by Christian Beddies and Bhaswar Mukhopadhyay (IMF) and Leonardo Hernandez (World Bank). Overall guidance was provided by Dominique Desruelle and Hervé Joly (IMF) and Carlos Braga (World Bank).

[2] In this paper, LICs are defined consistently with the January 11, 2010 decision taken by the IMF Executive Board on PRGT eligibility (http://www.imf.org/external/np/sec/pn/2010/pn1016.htm). See Annex I for a list of LIC DSAs considered in this paper.

[3] See IMF (2009), "The Implications of the Global Financial Crisis for Low-Income Countries—An Update" (http://www.imf.org/external/np/pp/eng/2009/092809.pdf).

[4] In Africa alone, the IMF's total assistance increased to $5.0 billion in 2009, including concessional lending of $3.6 billion, compared with a total of $1.7 billion in 2008.

[5] In doing so, the paper takes an aggregate view and does not detail crisis channels and policy responses in individual countries. For more details on these issues see IMF (2009), "The Implications of the Global Financial Crisis for Low-Income Countries" (http://www.imf.org/external/pubs/ft/books/2009/globalfin/globalfin.pdf) and IMF (2009), "The Implications of the Global Financial Crisis for Low-Income Countries—An Update" (http://www.imf.org/external/np/pp/eng/2009/092809.pdf).

whether the sustained use of these options can reasonably be expected to reduce debt vulnerabilities significantly in the medium term. Section III also considers whether traditional debt relief mechanisms would be effective, should they need to be activated for some LICs with higher debt vulnerabilities. Section IV offers conclusions.

4. **The analysis in this paper focuses on public debt to the extent possible.** As shown in earlier studies, available information indicates that public and publicly guaranteed external debt—the focus of DSAs conducted with the Debt Sustainability Framework (DSF)—still constitutes the bulk of LICs' external debt.[6] Private external debt is therefore not considered in this paper. However, a number of LICs have sizeable domestic public debt levels, and recourse to domestic debt has increased in the recent period.

II. How Has the Debt Sustainability Outlook for LICs Been Affected by the Crisis?

5. **DSAs performed under the DSF allow for a comprehensive analysis of the debt situation of LICs** (Box 1). DSAs are conducted annually for LICs, providing an opportunity to compare their debt situation before and after the crisis. WEO assumptions constitute a critical input for DSAs, as they provide the external environment a given LIC is expected to face during the projection period. These assumptions were revised drastically in early 2009, as it became clear that the financial crisis would have a major negative impact on the world economy. Subsequent revisions were, in comparison, much more limited. For the purpose of this analysis, it is therefore assumed that DSAs issued to the IMF Executive Board after May 1, 2009 include macroeconomic assumptions and frameworks that fully capture the expected impact of the crisis, as reflected in the April 2009 WEO ("post-crisis DSAs") (Table 1). Conversely, DSAs issued prior to this date are assumed to reflect the pre-crisis situation, as they are based on earlier WEO assumptions ("pre-crisis DSAs").[7]

Table 1. Real Growth, WEO Spring 2008-Fall 2009
(in percent)

	2008	2009	2010
World			
Spring 2008	3.7	3.8	4.8
Fall 2008	3.9	3.0	4.2
Spring 2009	3.2	-1.3	1.9
Fall 2009	3.0	-1.1	3.1
Advanced Economies			
Spring 2008	1.3	1.3	2.7
Fall 2008	1.5	0.5	2.0
Spring 2009	0.9	-3.8	0.0
Fall 2009	0.6	-3.4	1.3
Emerging and Developing Economies			
Spring 2008	6.7	6.6	7.1
Fall 2008	6.9	6.1	6.7
Spring 2009	6.1	1.6	4.0
Fall 2009	6.0	1.7	5.1

[6] See for instance Annex II in IMF (2009), "Changing Patterns in Low-Income Country Financing and Implications for Fund Policies on External Financing and Debt" (http://www.imf.org/external/np/pp/eng/2009/022509a.pdf).

[7] The use of a cutoff date is a crude but practical way of distinguishing pre- and post-crisis DSAs. It could lead to an underestimation of the impact of the crisis (e.g., the more recent pre-crisis DSAs may already reflect the initial impact of the crisis).

Box 1. Debt Sustainability Analysis[1]

DSAs conducted under the DSF focus on five debt burden indicators for external public debt: (i) PV of debt-to-GDP; (ii) PV of debt-to-exports; (iii) PV of debt-to-revenues; (iv) debt service-to-revenues; and (v) debt service-to-exports. Each of these indicators has an indicative threshold in the framework that depends on a country's quality of policies and institutions as measured by the three-year average of the Country Policy and Institutional Assessment (CPIA) index, compiled annually by the World Bank. The specific thresholds are as follows:

Debt Burden Thresholds under the DSF
(Applied to external public debt) 1/

	NPV of debt in percent of			Debt service in percent of	
	Exports	GDP	Revenue	Exports	Revenue
Weak Policy (CPIA ≤ 3.25)	100	30	200	15	25
Medium Policy (3.25 < CPIA < 3.75)	150	40	250	20	30
Strong Policy (CPIA ≥ 3.75)	200	50	300	25	35

1/ CPIA measured as a three-year average.

A rating of the risk of external debt distress is derived by reviewing the evolution of debt burden indicators compared to their indicative policy-dependent debt-burden thresholds under a baseline scenario, alternative scenarios, and stress tests. There are four possible ratings:

- **Low risk**. All debt indicators are well below relevant country-specific debt-burden thresholds. Stress testing and country-specific alternative scenarios do not result in indicators significantly breaching thresholds. In cases where only one indicator is above its threshold, judgment is needed to determine whether there is a debt sustainability problem or some other issue, for example, a data problem.
- **Moderate risk**. While the baseline scenario does not indicate a breach of thresholds, alternative scenarios or stress tests result in a significant rise in debt-service indicators over the projection period (nearing thresholds) or a breach of debt or debt-service thresholds.
- **High risk**. The baseline scenario indicates a protracted breach of debt or debt-service thresholds but the country does not currently face any payment difficulties. Alternative scenarios or stress tests also show protracted threshold breaches.
- **In debt distress**. Current debt and debt-service ratios are in significant or sustained breach of thresholds. Actual or impending debt restructuring negotiations or the existence of arrears would generally suggest that a country is in debt distress.

The risk ratings are based on a probabilistic approach. The indicative policy-dependent thresholds correspond to probabilities of debt distress ranging from 18 to 22 percent for CPIA ratings of 3.25, 3.5 and 3.75 (the benchmarks set for strong, medium, and weak performers, respectively).[2] Therefore, a high risk rating (unlike an "in debt distress" rating) should not be interpreted as synonymous of an unsustainable debt situation.

While the focus of DSAs is on public and publicly guaranteed external debt, they all also include an analysis of public debt sustainability. The DSF does not include, however, indicative thresholds for total public debt.

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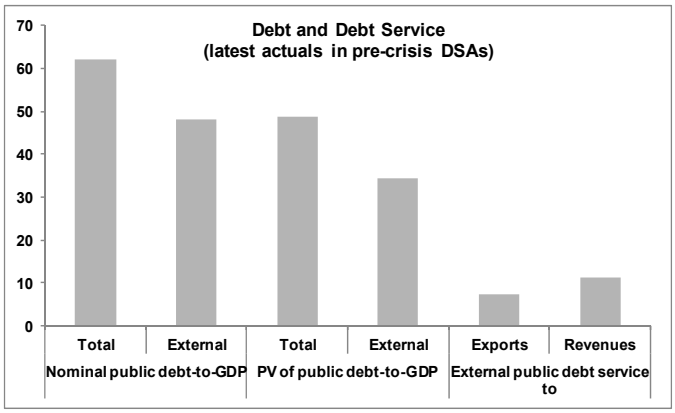
[1] See "Staff Guidance Note on the Application of the Joint Fund-Bank Debt Sustainability Framework for Low-Income Countries" IMF policy paper (2010), (http://www.imf.org/external/np/pp/eng/2010/012210.pdf). See also Barkbu, B., C. H. Beddies, and M-H. Le Manchec (2008), "The Debt Sustainability Framework for Low-Income Countries" *IMF Occasional Paper No. 266* (Washington: International Monetary Fund).

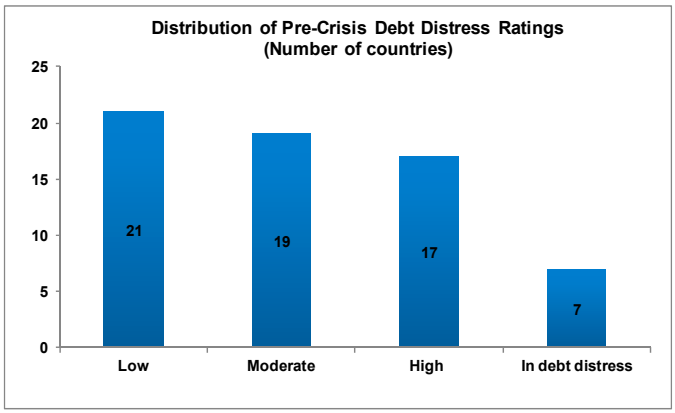
[2] See Box 9 in IMF (2009), "A Review of Some Aspects of the Low-Income Country Debt Sustainability Framework" (http://www.imf.org/external/np/pp/eng/2009/080509a.pdf).

A. The Pre-Financial Crisis Debt Situation[8]

6. **Prior to the financial crisis, LICs had sizeable public debt levels, mostly owed to external creditors.** Public debt amounted to 62 percent of GDP on average. Most of this debt was external, with domestic debt averaging about 14 percent of GDP. Debt levels were significantly lower when measured in present value (PV) terms, reflecting the concessionality of LICs' external debt. In PV terms, total public debt and public external debt respectively averaged 49 and 34 percent of GDP. The concessionality of external debt was also reflected in moderate debt-service ratios.[9]



7. **Beyond these averages, LICs faced very diverse debt sustainability situations.** This diversity is well summarized by the distribution of "risk of debt distress" ratings included in DSAs. About a third of the countries in the sample had a low risk rating, about 30 percent had a moderate risk rating, and the rest were classified as either at high risk of debt distress or in debt distress. Countries with comparatively lower debt ratios tended to have received debt relief under the HIPC Initiative and the MDRI; be rich in hydrocarbon resources; and have relatively stronger policies and institutions, as measured by their CPIA score (Table 2).



[8] See Annex 1 for the list of DSAs used for this study. The aggregate results in Section II.A rely on 64 countries while Section II.B relies on the 36 countries for which pre and post-crisis DSAs are available. Throughout the paper, averages are calculated as simple averages, unless otherwise indicated. Debt indicators are on a gross basis. DSAs indeed focus on liabilities and generally do not take into account the asset side. With foreign exchange reserves not expected to decrease on average in 2009–10 from 2008, the focus on liabilities is not expected to lead, on average, to an underestimation of the impact of the crisis on external debt vulnerabilities.

[9] Prior to the global financial crisis, the food and fuel price crisis had an adverse impact on debt burdens. For an assessment, see IMF (2008), "Food and Fuel Prices—Recent Developments, Macroeconomic Impact, and Policy Responses" (http://www.imf.org/external/np/pp/eng/2008/063008.pdf) and IMF (2008), "Food and Fuel Prices—Recent Developments, Macroeconomic Impact, and Policy Responses—An Update" (http://www.imf.org/external/np/pp/eng/2008/091908.pdf).

Table 2. Pre-Crisis Public Debt Indicators 2007–08[1/]

	Nominal public-sector debt	o/w domestic debt	PV of public sector debt	o/w external debt	PV of public external debt-to-exports	PV of public external debt-to-revenue	Debt service-to-exports	Debt service-to-revenue
Overall average	62	14	49	34	119	187	7	11
HIPCs vs.non-HIPCs								
Non-HIPCs	48	13	41	28	80	154	6	9
Pre-HIPC completion point	115	16	93	75	283	413	13	21
Post-HIPC completion point	41	14	27	14	56	76	5	7
Economic classification 1/								
Endowment-rich	59	11	42	29	81	146	6	11
Mineral-rich	64	13	48	34	89	214	7	17
Hydrocarbon-rich	55	9	36	24	75	91	5	7
Non-mineral or Hydrocarbon-rich	63	15	51	37	134	203	8	11
Income classification 2/								
Below the IDA cutoff	66	15	50	35	131	200	8	11
Above the IDA cutoff	54	12	46	34	83	131	7	11
Debt distress rating								
Low	32	10	24	14	43	68	5	6
Moderate	47	15	37	24	61	109	5	8
High	67	17	51	37	168	231	9	12
In debt distress	172	17	139	118	386	644	17	32
Quality of policies and institutions 3/								
Strong	47	16	43	28	69	111	6	9
Medium	42	13	31	20	63	100	6	8
Weak	79	15	59	44	191	271	10	14

Note: Columns 1-4 are in percent of GDP; columns 5-8 are in percent of unit specified.

1/ According to Guide in Resource Revenue Transparency, 2007 Revised Edition.

2/ Using the IDA income cut-off of US$1,095 of July 1, 2008. Exclude Afghanistan and Myanmar.

3/ Measured by the three-year backward looking CPIA used in the pre-crisis DSAs. No CPIAs are available for Liberia and Myanmar.

B. The Impact of the Crisis

8. **The global financial crisis has lowered LICs' GDP growth, exports, and fiscal revenue, and increased their external and fiscal borrowing requirements**. This is reflected in the macroeconomic scenarios underpinning post-crisis DSAs, which are available for 36 LICs (see Annex I).[10] Specifically, key changes between macroeconomic scenarios in pre- and post-crisis DSAs are as follows (see Panels 1–2):

- *On average, real GDP growth was revised downwards by 2.5 percentage points in 2009 and 1 percentage point in 2010, but is expected to return to pre-crisis levels in 2011-12.* This relatively quick recovery by historical standards is consistent with the nature of the shock for LICs (mostly external demand) and the expected recovery in industrialized countries (see Annex 2), as well as the implementation of supportive policies in LICs.

[10] These DSAs are based on the most recent IMF-WEO projections that were available to staffs at the time the DSAs were prepared. Since pre and post-crisis DSAs are not available for all LICs, the figures presented in this section cannot be compared to those shown in Section II.A.

- *The new growth and price outlook implies a permanent reduction in the level of nominal GDP*, by an average of 10.5 percent in the long-term (relative to pre-crisis DSAs); exports and government revenues follow a similar pattern.

- *Current account deficits, excluding interest payments, are larger over a prolonged period.* The initial deterioration averages about ¾ percentage point of GDP in 2009 and peaks at about 2 percentage points of GDP in 2012. Current account deficits only return to within one percentage point of GDP of their pre-crisis levels around 2021.The deterioration in current account deficits reflects permanently lower exports and net current transfers, the latter on account of remitttances (see Box 2).

- *FDI, a non-debt creating source of external financing, is substantially reduced in 2009 and 2010 (as a percentage of GDP) but recovers to pre-crisis levels by 2011.*

- *Primary fiscal deficits are projected to be larger by an average of about 2 percentage points of GDP in 2009*. This reflects both the operation of automatic stabilizers (mostly lower revenues) and, in a number of LICs, discretionary fiscal stimulus (mostly higher non-interest expenditures), both contributing to mitigating the impact of the crisis. The larger deficits are assumed to be financed both externally and domestically.[11]

- *Primary fiscal deficits gradually return to their pre-crisis levels by 2015.* Thus, DSAs assume that the policy space used during the crisis is progressively restored as revenues recover and non-interest expenditures (as a share of GDP) are reduced to levels slightly below those projected in pre-crisis DSAs.

9. **On average, post-crisis DSAs show a significant deterioration in debt ratios compared with the pre-crisis projections**, **particularly over the next five years or so** (Panel 3).[12] The PV of public debt-to-GDP ratio is expected to be higher by 5-7 percentage points in 2009 and 2010 than projected earlier. The debt service-to-revenue ratio is expected to be permanently higher by 2 percentage points over the projection period. Post-crisis DSAs show a significant increase in the level of debt and debt-service ratios between 2008 and 2009-10. The PV of public debt-to-GDP ratio is estimated to have increased on average by about 5 percent of GDP in 2009 over 2008. Ratios related to public external debt follow broadly similar patterns.

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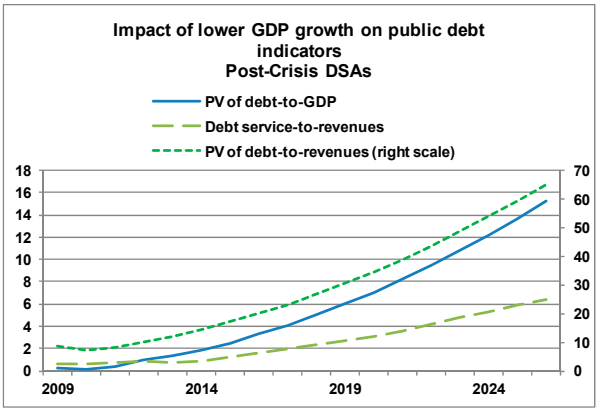
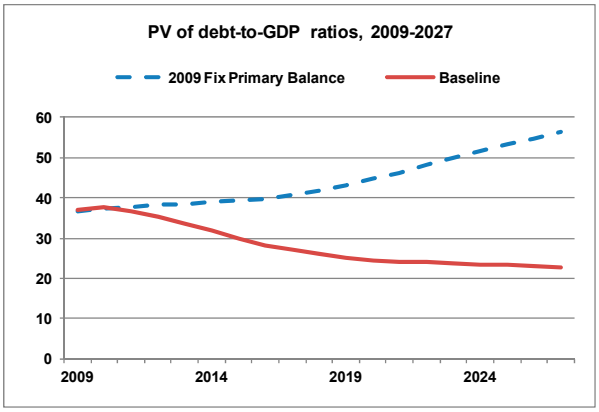
[11] As pointed out in IMF (2009), "The Implications of the Global Financial Crisis for Low-Income Countries—An Update" (http://www.imf.org/external/np/pp/eng/2009/092809.pdf), about one third of LICs have augmented automatic stabilizers with discretionary fiscal stimulus, the latter targeted mainly to the spending side.

[12] Because post-crisis DSAs used in this paper were issued in 2009 and early 2010, data for 2009 are referred to as projections. It should also be noted that the discount rate used in DSAs was lowered from 5 to 4 percent in late 2009. This change could account for some of the increase in debt ratios in post-crisis DSAs.

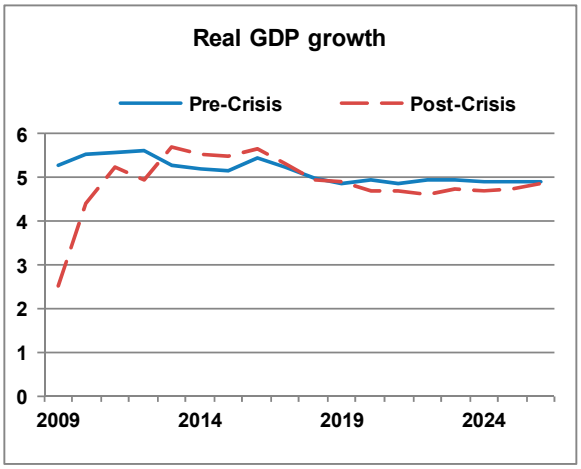
10. **The deterioration in the public debt to GDP ratio tapers off over the long term and this ratio is expected to return to a downward trend in post-crisis DSAs.** This development is predicated on a return to less expansionary fiscal policies (reduction in primary deficits) as well as more favorable endogenous debt dynamics (a recovery in growth). By contrast, keeping primary fiscal balances at 2009 levels would lead to unsustainable debt levels over the medium- and long-term. Similarly, lower GDP growth than assumed in baseline scenarios would worsen debt ratios significantly.



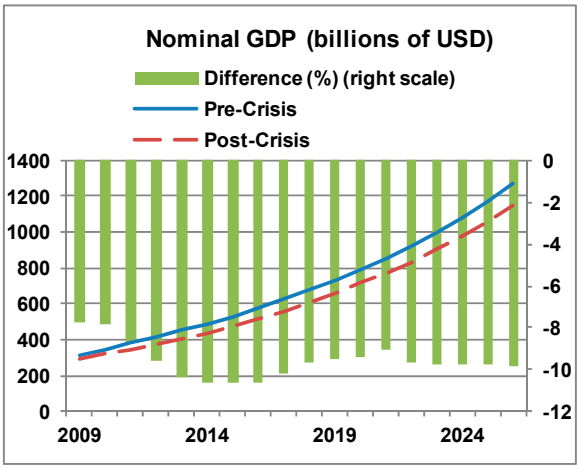


Panel 1. How has the crisis affected LICs' repayment capacity?

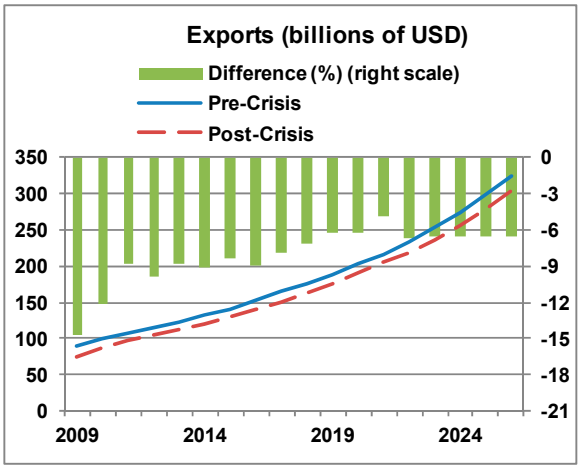
The crisis is expected to lead to a temporary reduction in real GDP growth…

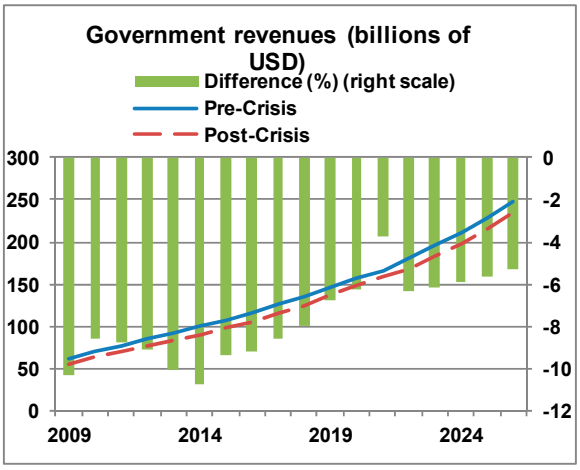


but a permanent downward revision to nominal GDP…



Exports and government revenues are also expected to be permanently impacted…

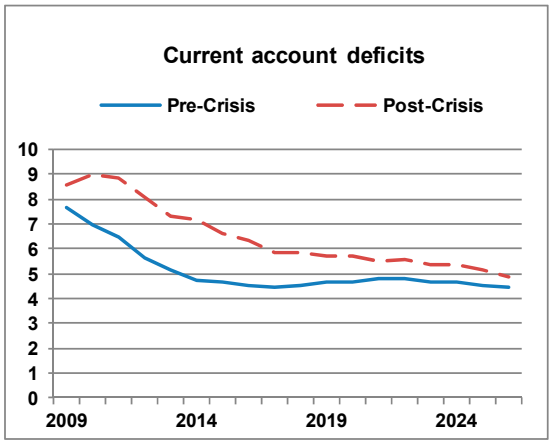




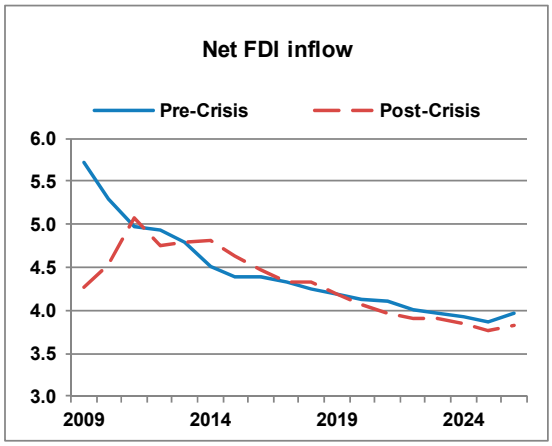
Source: Bank and Fund staff estimates.

Panel 2. How has the crisis affected LICs' borrowing requirements?
(in percent of GDP)

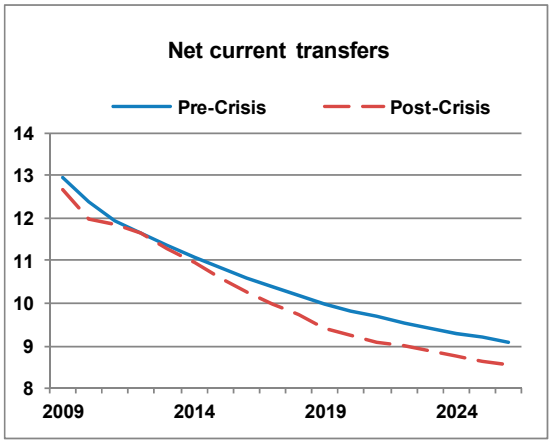
External financing needs have permanently increased...



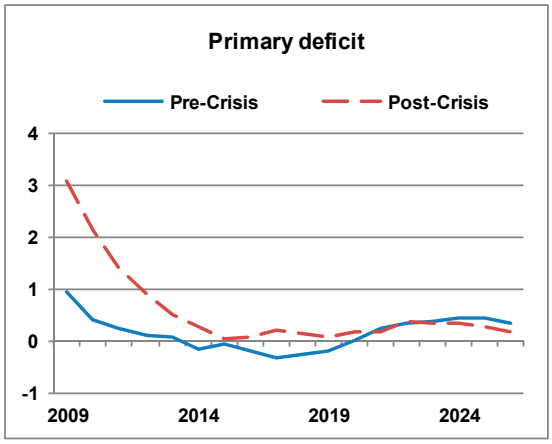
while FDI inflows have temporarily declined...



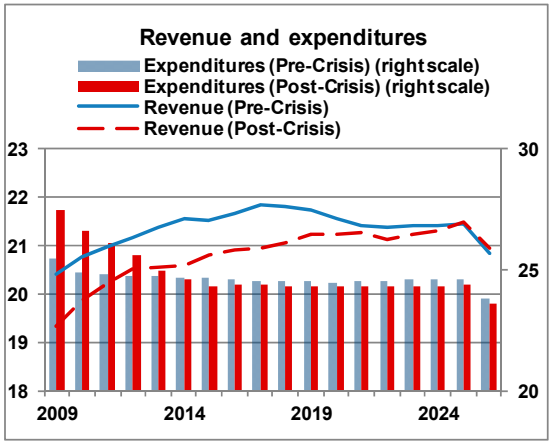
Net transfers are also somewhat lower...



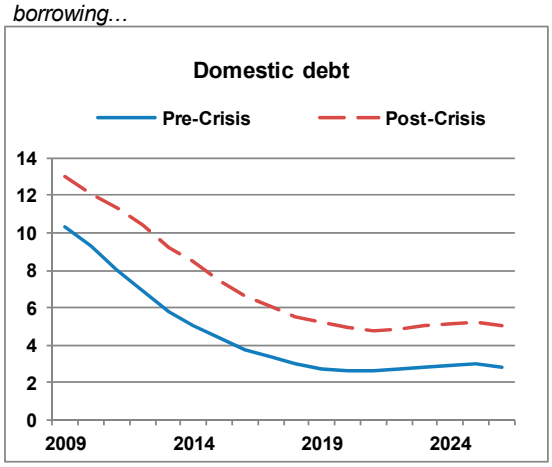
Countries are pursuing stimulative fiscal policies...



through automatic stabilizers and discretionary fiscal stimulus...

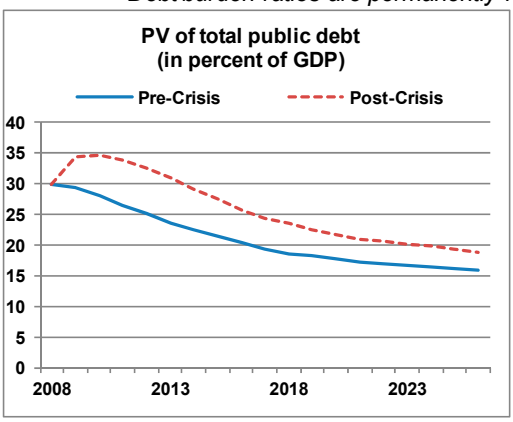


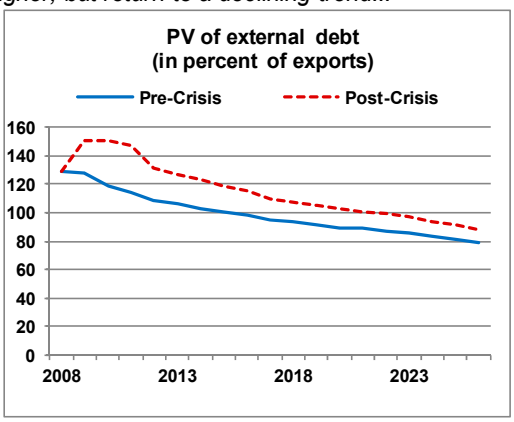
Countries are expected to rely more on domestic borrowing...



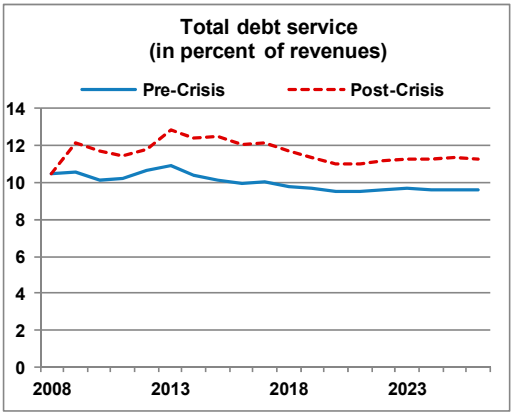
Panel 3. How has the crisis affected debt burden indicators?

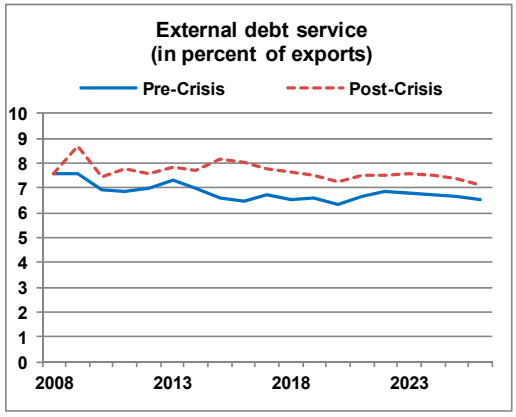
Debt burden ratios are permanently higher, but return to a declining trend...





...while debt service ratios remain permanently higher...





Source: Bank and Fund staff estimates.

Box 2. Prospects for Remittances

Remittances are likely to grow slowly in the short run. Although remittance flows tend to be countercyclical with respect to recipient country economic cycles (Chami et al., 2008), the effect of source country economic cycles clearly dominates in the context of the current global downturn. According to World Bank estimates (Ratha et al., 2009), remittances to developing countries may have declined by some 6 percent in 2009, the first time they have declined in a long time. Prospects for the next two years are expected to improve, but growth is likely to be weak and face a number of uncertainties, including with regard to the strength of the economic recovery—particularly in migrant-intensive industries such as construction—potential policy tightening that restricts migrant employment in host countries, and exchange rate movements.

Short-term prospects are likely to vary greatly among recipient countries. Despite the increasing geographical diversification of remittance sources—thanks to the emergence of many emerging markets—most LICs remain highly dependent on industrial countries as the dominant source of remittances. With an expected slower recovery in industrialized countries than in major emerging markets, recipient countries that are more dependent on industrialized countries are expected to have slower growth of remittances than those that have more diverse sources of inflows. Remittances to Latin America, for example, are expected to recover more slowly—despite having suffered a sharp decline in 2009—than those to most other parts of the world because of the region's greater dependence on the United States and European countries. In contrast, many countries in South and East Asia, which receive a significant share of their remittances from the Middle East, have been less affected by the global financial crisis and are expected to see a more rapid recovery of remittances.

The longer-term prospects for remittances are uncertain. Strong economic growth and rapid global integration—through movement of goods, services, capital, and labor—have underpinned the extraordinary growth of remittances over the past two decades. However, the strong remittance flows may also have been a result of better recording due to improved statistics, reduced transaction costs of remitting, and the shift of remittances from informal channels (e.g., cash-carrying) to formal financial channels as a result of the Anti-Money Laundering and Combating the Financing of Terrorism campaign. It is unclear how these factors will develop in a post-crisis environment. On the positive side, the crisis does not seem to have undermined the process of global integration, and continued diversification of source countries in favor of more rapidly growing emerging markets may provide wider and more stable sources of remittances. On the negative side, the recent tightening of immigration policies in some destination countries (for immigrants) may have a negative impact on remittances in the medium term.

Chami, R., A. Barajas, T. Cosimano, C. Fullenkamp, M. Gapen, and P. Montiel (2008), "Macroeconomic Consequences of Remittances," *IMF Occasional Paper, No. 259* (Washington: International Monetary Fund), available via internet: http://www.imf.org/external/pubs/ft/op/259/op259.pdf.

Ratha, D., S. Mohapatra, and A. Silwal (2009), *Migration and Development Brief, No. 11* (Washington: World Bank), available via internet: http://siteresources.worldbank.org/INTPROSPECTS/Resources/334934-1110315015165/MigrationAndDevelopmentBrief11.pdf

11. **The evolution of risk ratings between pre- and post-crisis DSAs provide a complementary measure of the impact of the global financial crisis on the debt situation of LICs**. **Risk rating downgrades have been rare so far**. Only two countries have experienced a downgrade during the last year. In the case of Eritrea, the rating downgrade (from high risk to "in debt distress") reflected the accumulation of arrears since 2007. The downgrade of Georgia's rating (from low to moderate) reflected both the impact of the conflict with Russia and the global financial crisis. Meanwhile, the Central African Republic's and the Republic of Congo's risk ratings were upgraded from high to moderate, thanks to the delivery of HIPC/MDRI debt relief at completion point.

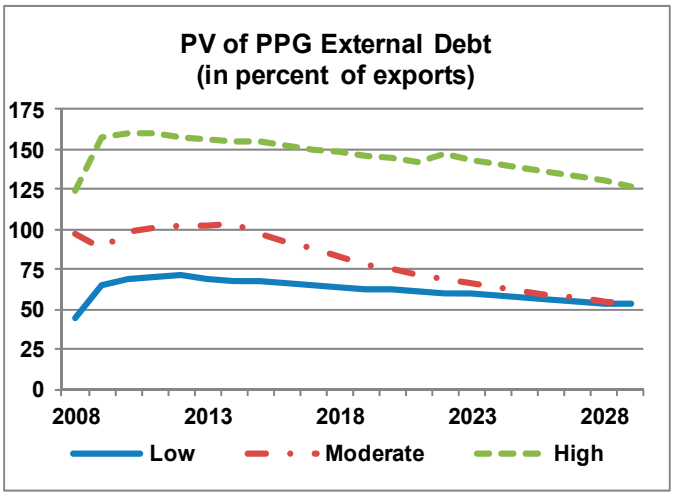
12. **This relatively favorable outcome reflects a number of factors**. First, many LICs entered the crisis in a much better situation than in previous downturns. Macroeconomic policies and performance had improved substantially, and debt burdens of many heavily indebted LICs had been relieved though the HIPC and MDR Initiatives. Second, the assessment of debt vulnerabilities in DSAs is based on a long-term perspective: deterioration in debt ratios need not lead to a rating downgrade if it is temporary.[13]

13. **Overall, the above analysis of post-crisis DSAs suggests that, broadly speaking, debt vulnerabilities remain manageable in LICs.** Debt ratios have deteriorated in the short term, but are expected to return to a declining trend by 2011-12. Furthermore, the distribution of risks of debt distress has not materially changed.

14. **However, this conclusion needs to be treated cautiously as it hinges on a few key assumptions,** namely that the crisis will not adversely affect medium- and long-term growth; and that LICs, after having appropriately adopted accommodative fiscal policies in response to the crisis, will reduce their fiscal and current account deficits to more sustainable levels in the medium and long term, while continuing to have access to adequate financing.

[13] Another issue is that DSF risk ratings are based only on public external debt, and therefore may not capture the full extent of the increase in public debt vulnerabilities. This is why the identification of higher vulnerabilities countries in Section III does not rely solely on risk ratings, but also on the ratio of total public debt to GDP.

15. **In addition, these average results mask some important differences across LICs.** Post-crisis DSAs indicate that debt ratios in LICs with low or moderate risk ratings converge to low levels over the projection horizon. However, countries at high risk continue to have significantly higher debt ratios, especially in relation to exports, even at the end of the projection period. Further analysis of debt vulnerabilities in these countries, where such vulnerabilities were already relatively high prior to the financial crisis, is thus warranted. This is the topic of the next section.



III. Addressing Higher Debt Vulnerabilities

16. **To complement the analysis of the impact of the crisis on debt sustainability in LICs, this section considers specific options to address the debt situation of LICs with "higher" debt vulnerabilities.**[14] Specifically, the analysis below is focused on all countries rated as being either at high risk of debt distress or in debt distress in their most recent DSAs. In addition to these countries that have high external debt vulnerabilities, the analysis below also considers the Maldives, St. Lucia, and St. Vincent and the Grenadines, where total public debt is high (see Table 3).

17. **The circumstances of LICs with higher debt vulnerabilities are diverse, and this has implications for the options available to individual countries to address debt vulnerabilities**. Such diversity relates to the nature and extent of their debt vulnerabilities, their HIPC Initiative status, their macroeconomic circumstances, the composition of their financing, and the structure of their debt.

[14] The definition of "higher debt vulnerabilities" used in this paper is consistent with that used in the context of the Fund's policy on debt limits (see http://www.imf.org/external/np/pp/eng/2009/080509.pdf and http://www.imf.org/external/np/pp/eng/2009/121809.pdf).

Table 3. LICs at High Risk of Debt Distress, or In Debt Distress

In debt distress	At high risk of debt distress 1/
HIPCs	HIPCs
Pre-decision point	*Post decision point*
Comoros	Cote d'Ivoire
Eritrea	*Post completion point*
Somalia	Afghanistan
Sudan	Burkina Faso
Post decision point	Burundi
The D.R.C.	The Gambia
Guinea	Haiti
Guinea-Bissau	Sao Tome and Principe
Liberia	
Togo	Non-HIPCs
	Djibouti
Non-HIPCs	Grenada
Myanmar	Lao, P.D.R.
Zimbabwe	Maldives
	St. Lucia
	St. Vincent and the Grenadines
	Tajikistan
	Tonga
	Yemen, Republic of

1/ Maldives, St. Lucia and St. Vincent and the Grenadines are also included in the sample on account of high total public debt vulnerabilities, defined to be a PV of public debt-GDP ratio in excess of 65 percent. Dominica, whose PV of public debt-GDP ratio experiences only a small and temporary breach of this threshold even under the baseline scenario is, however, not included in the sample

A. LICs Eligible or Potentially Eligible under the HIPC Initiative, and Similar Cases

18. **All of the countries that remain eligible for debt relief under the HIPC Initiative are in debt distress, with the exception of Côte d'Ivoire. Nevertheless, there is significant variation in the extent of the debt vulnerabilities of these countries**.

- *Extreme debt vulnerabilities characterize Eritrea, Guinea-Bissau, and Sudan*, with PV of debt-to-exports ratios in particular ranging from 500 to 700 percent (i.e., from five to seven times their indicative DSF threshold) during the projection period, and

with very large breaches of the debt service-to-exports ratios as well in some instances.[15]

- *Less extreme, albeit still severe, debt vulnerabilities exist in the Comoros, the D.R.C., and Liberia*, with some debt indicators roughly three to four times the indicative threshold. Debt service-to-exports ratios in the D.R.C. and the PV of debt as a ratio to both exports and GDP in Liberia reach particularly high levels.

- By contrast, *debt vulnerabilities are more contained in Guinea and Togo*, with peak levels of all debt indicators less than two times the indicative DSF thresholds.

- Similarly, consistent with its high risk rating, *Côte d'Ivoire's indicators are also somewhat lower*, in part because it has already received substantial debt relief from many of its creditors.

19. **For these countries, debt relief under the HIPC Initiative and the MDRI is expected to significantly improve their debt outlook.** Many of these HIPCs have already reached the decision point, and are implementing Fund-supported programs aimed at getting them to completion point in the near future. Some others, however, have not yet reached the decision point, face ongoing security related risks, and will need to overcome significant challenges to benefit from the Initiatives.[16]

20. **Sound policies will be needed in these countries before and after completion point**. A track record of sound macroeconomic policies, as well as measures ("triggers") focusing on improving public financial management, are some of the main requirements to reach the completion point. Such policies contribute to the reduction of debt vulnerabilities, and they will also need to be pursued after debt relief has been provided at the completion point to keep debt vulnerabilities at a lower level.[17]

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[15] There has been no Bank-Fund engagement with Somalia for several years and recent data on its debt ratios is not available. Based on end-2004 data reported in the paper on the HIPC ring-fencing exercise (see: http://www.imf.org/external/np/pp/eng/2006/041106.pdf), Somalia's PV of debt-exports ratio exceeded 1,000 percent.

[16] See "Heavily Indebted Poor Countries and Multilateral Debt Relief Initiative—Status of Implementation" report of September 2009 (http://www.imf.org/external/np/pp/eng/2009/091509.pdf).

[17] As recent experience has shown, a few of these pre-completion-point HIPCs may still have a high risk rating after debt relief under the HIPC Initiative and MDRI (as for instance was the case recently with Afghanistan). This may be more likely for countries classified as weak policy performers, for which the DSF thresholds are lower than the corresponding HIPC Initiative benchmarks (e.g., 100 vs. 150 percent for the external debt-to-exports ratio). For such countries, the options to address higher debt vulnerabilities discussed in Section III. B. would be relevant.

21. **Myanmar and Zimbabwe, which are also in debt distress, but not at present HIPC-eligible, are also likely to require comprehensive debt relief to restore debt sustainability.** Myanmar could become potentially eligible for HIPC Initiative relief if, when its debt data become available, it can be demonstrated that it meets the HIPC Initiative eligibility criteria based on end-2004 data.[18] Zimbabwe is in a different situation vis-à-vis the HIPC Initiative, as it does not meet the World Bank's income criterion at end-2004 (it was not IDA-only at the time).[19] However, Zimbabwe's debt situation is such that it too is eventually likely to require comprehensive and coordinated debt relief from all its creditors.

B. Non-HIPCs and Post-HIPC-Completion-Point LICs

22. **The severity of debt problems also varies across the non-HIPCs and post-HIPC-Completion-Point LICs with higher debt vulnerabilities.** While all have a high risk rating, their vulnerabilities are quite different in nature, intensity, and immediacy (Table 4).[20, 21]

- *Afghanistan, Grenada, Tajikistan, and Tonga face the most severe debt problems*, with the breaches of the applicable thresholds that are large and sustained. Breaches in excess of the respective thresholds of 50 percent of exports or 10 percent of GDP persist for at least 5 consecutive years.[22] It should be noted that Tajikistan and Tonga enjoy very high levels of remittances, which constitute an important mitigating factor when their debt vulnerabilities are considered.

- *Grenada and Tonga also have high current debt-service ratios*, which constitute a more immediate risk to debt sustainability. While Tonga's debt service-to-exports ratio already exceeds its applicable DSF thresholds substantially and on a protracted basis, in Grenada there is a small breach for only one year, but this ratio remains elevated (exceeding 15 percent) for a number of years.

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[18] At the time of the 2006 ring-fencing exercise for the HIPC Initiative, suitable debt data to assess whether or not Myanmar met the HIPC Initiative's indebtedness criterion were not available.

[19] For the World Bank, the HIPC Initiative income criterion is bound by the end-2004 cutoff, i.e. any change in a country's IDA status post-2004 is not a relevant consideration. Thus, for Zimbabwe to be deemed eligible for HIPC relief, a modification of, or exception to, the World Bank's HIPC eligibility criteria would be required.

[20] The identification of debt vulnerabilities is based on external PPG debt in most instances, and total public debt in a few cases. Except in the latter cases, the profile of domestic debt in baseline scenarios does not pose a serious problem.

[21] A complete reassessment of Haiti's debt situation will have to be made once more information is available on the implications of the recent earthquake. For this reason, Haiti's debt vulnerabilities are not analyzed in this paper.

[22] In this analysis, a country's debt burden is considered "large" (entailing especially high risks) if it exceeds even the levels considered safe for a country with the next higher policy performance rating.

- *São Tomé and Príncipe* also experiences a large breach of a DSF threshold, but here, debt vulnerabilities would be substantially mitigated if oil production comes on stream as expected in the DSA.

- *St. Lucia and St. Vincent and the Grenadines have persistently high levels of public debt* over the entire sample period.

- *In the remaining countries debt vulnerabilities are less severe*—breaches of thresholds in baseline DSA scenarios are more modest, or temporary, or occur only in the medium or long term.

Table 4. High Debt Vulnerability Indicators
(In percent; unless otherwise indicated)

Country	Applicable DSF Threshold	Maximum Value	First year of breach	Length of Breach 1/ 2/
Debt Service to Exports Ratio				
Grenada	20	23	2012	1
Tonga	15	25	2015	7
PV of PPG External Debt to Exports Ratio				
Afghanistan	100	212	2013	16
Burkina Faso	150	191	2015	14
Burundi	100	180	2009	10
Gambia, The	100	147	2009	20
Grenada	150	289	2009	9
Haiti	100	153	2010	15
Sao Tome & Principe	100	255	2009	6
Tajikistan	100	244	2009	20
Tonga	100	308	2009	15
Yemen, Republic of	100	148	2022	8
PV of PPG External Debt to Revenue Ratio				
Haiti	200	243	2010	1
PV of PPG External Debt to GDP				
Djibouti	30	44	2009	8
Grenada	40	78	2009	9
Lao PDR	30	37	2009	8
PV of Public Debt to GDP Ratio				
Maldives	…	93	2009	5
St. Lucia	…	98	2009	20
St. Vincent and the Grenadines	…	102	2009	20

1/ In years.
2/ For the PV of public debt to GDP ratios refers to years in excess of 65 percent of GDP.

Options to Address Debt Vulnerabilities

23. **A number of options can be considered to address the debt situation of the 14 non-HIPCs and post-completion-point LICs identified as having higher debt vulnerabilities.** These include: (a) reforms aimed at improving policy and institutional performance (particularly in the economic and debt management areas), and through them a country's capacity to carry debt; (b) stronger fiscal positions, including to restore policy space post-crisis; and (c) better financing terms from donors/creditors.

24. **These options are explored below through illustrative simulations of individual country DSAs.**[23] Specifically, the impact on the most recent DSAs of stylized scenarios of improvements in policy and institutional capacity (measured by CPIA scores), fiscal position, and borrowing terms are simulated. These scenarios should not be seen as recommended strategies for any particular country. Rather, they are stylized exercises that aim to provide a sense of the impact that such hypothetical options, individually or in combination, could have on debt vulnerabilities. In these scenarios, vulnerabilities are considered to be substantially reduced by a certain date when all debt indicators are below their applicable thresholds at that date and beyond.

25. **Growth-enhancing policies should also be considered to reduce debt vulnerabilities whenever possible.** Such policies, which are desirable in and of themselves, are already incorporated to varying degrees in baseline scenarios in DSAs. For this reason, and to err on the side of caution, the impact of such policies is not simulated in this paper. However, the impact of higher growth on debt vulnerabilities should not be underestimated over the long term.

Improvements in Policy and Institutional Capacity

26. **Enhancing policy and institutional performance improves countries' capacity to carry debt,** among other benefits. Empirical evidence supports the view that the higher the quality of a country's policies and institutions, the better its capacity to carry debt.[24] This evidence led to the inclusion in the DSF of policy-dependent thresholds which are used to assess a country's risk of debt distress. In the context of the DSF, better policies and institutions translate into better CPIA scores, which lead to higher indicative DSF thresholds for countries that are not already strong performers. While the DSF thresholds are based on the full CPIA, some sub-categories, particularly those related to macroeconomic and public financial management, are especially relevant for debt sustainability. In this regard, technical

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[23] The simulations focus only on vulnerable non-HIPCs and post-completion-point HIPCs.

[24] See for example Kraay, A and Nehru, V. (2006), "When is External Debt Sustainable?", *World Bank Economic Review, Vol. 20, No. 3*, pp.341–65 (http://siteresources.worldbank.org/DEC/Resources/KraayNehruDebtSustainabilityWBER.pdf).

assistance from the Bank and the Fund in such areas, including debt management, could contribute to improving capacity.

27. **Simulations show that modest but sustained improvements in policies and institutions could significantly reduce debt vulnerabilities in a number of vulnerable LICs.** Table 5 below describes recent trends in CPIA scores of vulnerable LICs and shows the impact of a one-half percent annual increase in the CPIA score over 2009–14 on the policy capacity rating.[25, 26] Even with such relatively modest improvements, which fall within the range of improvements in several of the vulnerable LICs in recent years, six of the 14 countries could migrate to a higher policy performance rating by 2014.[27] This, in turn, could result in two countries moving out of the high risk category as soon as 2014, and more beyond, assuming that fiscal policies remain unchanged from the baseline scenarios (Table 6).

Macroeconomic performance

28. **Substantial strengthening of fiscal and external accounts is already incorporated in the baseline scenarios of most LIC DSAs.** The extent of adjustment varies across countries, and reflects their circumstances. As shown in Panel 4, assumed fiscal adjustment tends to be larger in the countries where fiscal deficits are higher.

[25] As DSF thresholds are based on the full CPIA, simulations assume overall CPIA improvements without trying to specify which cluster of policies, within the CPIA, would be most likely to increase a country's capacity to carry debt. Nonetheless, in recent years, improvements in fiscal policy, debt and macroeconomic management, all of which bear on a country's ability to handle debt, have been important elements in explaining increases in CPIA scores.

[26] The simulated increase in CPIA scores is broadly in line with the average increase of such scores in IDA countries over the last 10 years.

[27] Furthermore, Tajikistan, whose policies and institutions are classified as being weak in 2014, would also move up to being a medium performer from 2015, even with no further improvement in its annual CPIA score, since it would satisfy the requirement to maintain its 3-year average CPIA score at or above 3.25 for two consecutive years.

Table 5. Country Policy and Institutional Assessment Ratings Simulations

Country	CPIA Score		Policy Capacity Rating 2/	
	2008	2004-08 Average Growth 1/	2008 Actual	2014 Simulated 3/
Afghanistan	2.59	-0.24	Weak	Weak
Burkina Faso	3.73	0.26	Medium	***Strong***
Burundi	3.02	0.88	Weak	Weak
Djibouti	3.12	-0.54	Weak	Weak
Gambia, The	3.23	0.42	Weak	***Medium***
Grenada	3.72	-0.87	Medium	***Strong***
Lao PDR	3.28	3.55	Weak	***Medium***
Maldives	3.43	-2.27	Medium	Medium
Sao Tome & Principe	2.98	1.86	Weak	Weak
St. Lucia	3.88	-0.49	Strong	Strong
St. Vincent and the Grenadines	3.83	-0.59	Strong	Strong
Tajikistan 4/	3.17	1.82	Weak	Weak
Tonga	3.19	0.82	Weak	***Medium***
Yemen, Republic of	3.19	-3.05	Weak	***Medium***

Source: The World Bank and staff simulations.

1/ In percent.
2/ Rating based on 3-year average of CPIA scores.
3/ Simulated 3-year average rating based on a 0.5 percent per anum growth of annual CPIA scores over 2009-14.
4/ Based on the simulation, Tajikistan's 3-year average CPIA score in 2014 reaches the threshold for a medium rating, but not the requirement to maintain it for two consecutive years in order to qualify for a rating upgrade.

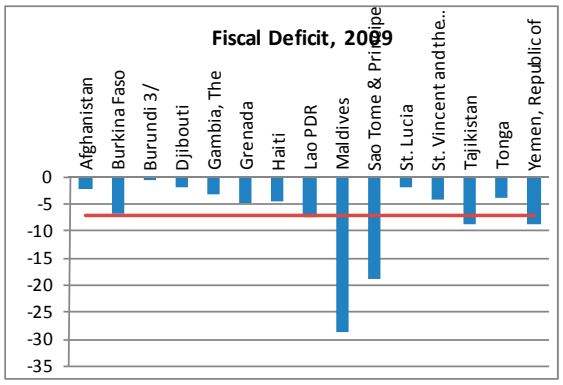
Table 6. Impact of Capacity Improvements on Risk of Debt Distress under the Baseline Scenario

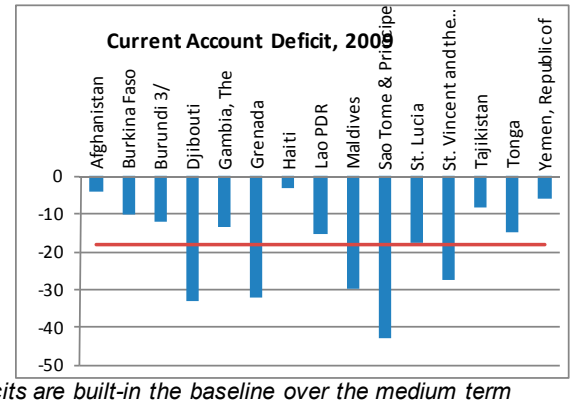
	2014	2019	2028
	Countries in breach of thresholds under baseline scenario 1/		
	9 countries	7 countries	7 countries
Current Thresholds	Afghanistan, Burundi, Djibouti, Gambia, Grenada, Lao, Sao Tome, Tajikistan, Tonga	Afghanistan, Burkina Faso, Burundi, Gambia, Grenada, Tajikistan, Tonga	Afghanistan, Burkina Faso, Djibouti, Gambia, Grenada, Tajikistan, Yemen
	Countries where breaches are resolved with capacity improvements 2/		
New Thresholds	Gambia, Lao	Burkina Faso, Gambia, Grenada	Burkina Faso, Gambia, Grenada, Yemen

1/ Excludes Maldives, St. Lucia, and St. Vincent and the Grenadines, since there are no formal public debt thresholds associated with capacity categories.
2/ This is in relation to the above list of countries with breaches of thresholds at the respective dates.

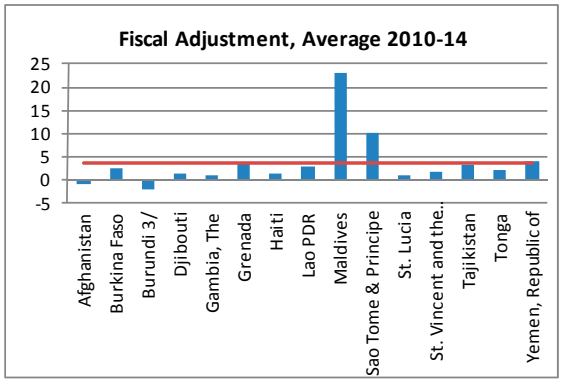
Panel 4. Countries in High Risk of Debt Distress—Macroeconomic Adjustment in the Baseline

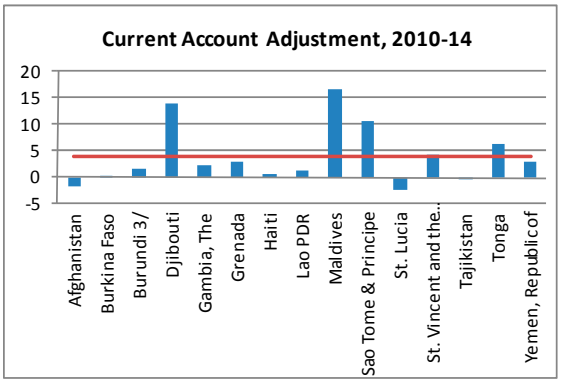
Fiscal deficits are over 7 percent of GDP and current account deficits over 18 percent of GDP on average in 2009 with large variations around these averages....



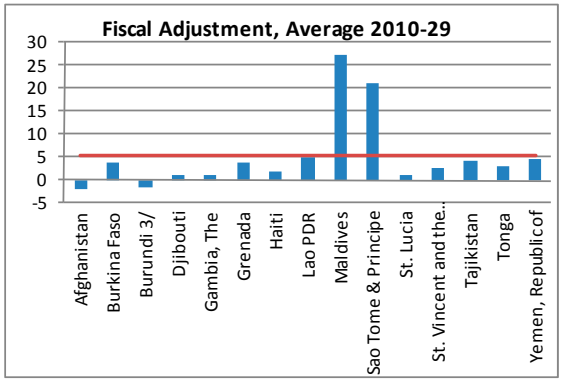


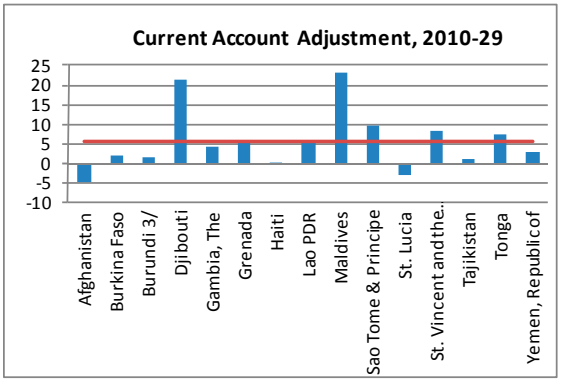
... accordingly substantial strengthening of twin deficits are built-in the baseline over the medium term with larger adjustment where current account deficits are higher...





...and these adjustments are assumed to be sustained over the medium and long term.





Average

Note: All data as a percent of GDP.
Source: Fund staff projections.

1/ Fiscal adjustment and current account adjustment defined as the difference between the values of the average fiscal and current account deficits in 2010-28 and 2010-14 respectively and their values in 2009. A positive value indicates lower deficits.

2/ For Burundi, averages compared against fiscal deficits in 2008.

29. **The impact of a further strengthening of fiscal positions on debt vulnerabilities is modeled in two illustrative scenarios.** Specifically, the simulations explore the impact of primary fiscal spending that is 0.5 percent of GDP, and 1 percent of GDP respectively, lower than in the baseline DSA scenario over the entire projection period.[28] As emphasized above, these scenarios are meant to be purely illustrative; fiscal consolidation, in practice, could also be obtained through revenue measures. Any adjustment would need to protect priority spending, including expenditures on poverty alleviation.

30. **In the near term, higher debt vulnerabilities persist in most countries, but fiscal consolidation produces results over time.** Table 7 provides the results of the simulations for both scenarios. The discussion below focuses on the 1 percent of GDP scenario, but the results under the other scenario are qualitatively similar, especially over the near term (by 2014).

- By 2019, high external debt ratios persist only in Tajikistan, Tonga, and Afghanistan (where there is no breach in the early projection period).[29] A modest breach of a threshold is still recorded in Gambia, and a marginal one in Burkina Faso. However, in St Lucia, and in St. Vincent and the Grenadines, significant public debt vulnerabilities persist.

- In 2028, higher debt vulnerabilities persist only in Afghanistan, St. Lucia, St. Vincent and the Grenadines, and Tajikistan.

[28] The elasticity of the pass-through from fiscal consolidation to the current account is assumed to be 0.8. This is at the lower end of the estimates reported in Ghosh, A. R., C. Christofides, J.I. Kim, L. Papi, U. Ramakrishnan, A. H. Thomas, and J. Zalduendo (2005), "The Design of IMF-Supported Programs," *IMF Occasional Paper 241* (Washington: International Monetary Fund). This is also not large compared to the implied pass-through of fiscal adjustments under the baseline scenarios of DSAs illustrated in Panel 4.

[29] Neither this alternative scenario nor the baseline scenario for Grenada include large prospective financing from China.

Table 7. Illustrative Fiscal Adjustment Scenarios 1/

Country	Applicable DSF Threshold	0.5 percent of GDP 3/			1 percent of GDP 3/		
		2014	2019	2028	2014	2019	2028
				(In percent)			
Debt Service to Exports Ratio							
Grenada	20	20	17	18	19	15	16
Tonga	15	**19**	**21**	8	**19**	**20**	6
PV of PPG External Debt to Exports Ratio							
Afghanistan	100	100	**141**	**184**	83	**115**	**155**
Burkina Faso	150	143	**169**	**170**	133	**151**	149
Burundi	100	**134**	90	56	**125**	75	35
Gambia, The	100	**140**	**136**	100	**134**	**126**	85
Grenada	150	**212**	121	61	**208**	115	56
Sao Tome & Principe	100	**244**	42	27	**236**	38	19
Tajikistan	100	**230**	**189**	**166**	**222**	**175**	**148**
Tonga	100	**270**	**168**	62	**262**	**154**	43
Yemen, Republic of	100	72	77	**109**	67	65	81
Present Value of PPG External Debt to Revenue							
Sao Tome & Principe	200	167	50	25	161	45	18
Present Value of PPG Debt to GDP							
Djibouti	30	**34**	28	28	**34**	27	25
Grenada	40	**64**	38	20	**62**	36	18
Lao PDR	30	**33**	28	19	**33**	27	18
Present Value of Total Public Debt to GDP							
Maldives	…	63	42	15	61	40	12
St. Lucia	…	**83**	**87**	**95**	**81**	**85**	**93**
St. Vincent and Grenadines	…	**81**	**86**	**96**	**80**	**83**	**93**

1/ Figures in bold in shaded cells represent a breach of thresholds.
2/ Please refer to Appendix Table, "Debt Burden Ratios in Baseline Scenario."
3/ Defined as a permanent reduction in public primary spending starting in 2010.

More Favorable Financing Terms

31. **LICs benefit from significant levels of concessional financing in their efforts to maintain debt sustainability.** Table 8 indicates that concessional financing is projected to account for a very significant share of total external financing for the vulnerable LICs under consideration in the next few years.[30] The average concessionality of donor lending has also been very high, with generally more generous average grant elements of financing to countries with more severe debt vulnerabilities, including to those without a Fund-supported program.

[30] Nonetheless, as discussed in IMF (2009), "The Implications of the Global Financial Crisis for Low-Income Countries—An Update" (http://www.imf.org/external/np/pp/eng/2009/092809.pdf), a significant scaling up of aid flows would be needed to meet Gleneagles commitments.

Table 8. Concessionality of External Financing in Vulnerable LICs 1/

	Grant Equivalent Financing (In percent of total financing) 2010-2012	Average concessionality of new loans 2/ 2010-2012
Afghanistan	88	52
Burkina Faso	75	43
Burundi	93	52
Djibouti	68	37
The Gambia	70	46
Grenada	54	24
Lao, PDR	53	30
Maldives	33	23
Sao Tome and Principe	77	40
St. Lucia	7	0
St. Vincent and the Grenadines	41	12
Tajikistan	48	25
Tonga	76	51
Yemen	50	36

1/ As defined in DSAs.
2/ Average grant element of new financing, in percent, calculated with the discount rate in DSAs, which may differ from that used in calculating the concessionality of loans in Fund-supported programs.

32. **The simulations suggest that a significant increase in the grant element of new financing would be required to reduce debt vulnerabilities substantially in many countries**. Table 9 provides the results of two scenarios in which the average grant element of new loans is higher than in the baseline DSA scenario by 5 and 10 percentage points, respectively. Such a measure takes time to reduce debt vulnerabilities as it only affects new borrowing, and not the existing stock of debt.

Table 9. Impact of Debt Burden Indicators under Concessionality Scenarios

	2014	2019	2028
	Countries in breach of thresholds under baseline scenario		
	11 countries	9 countries	9 countries
Baseline	Afghanistan, Burundi, Djibouti, Gambia, Grenada, Lao, Sao Tome, St. Lucia, St. Vincent, Tajikistan, Tonga	Afghanistan, Burkina Faso, Burundi, Gambia, Grenada, St. Lucia, St. Vincent, Tajikistan, Tonga	Afghanistan, Burkina Faso, Djibouti, Gambia, Grenada, St. Lucia, St. Vincent, Tajikistan, Yemen
	Countries where breaches are resolved with more concessional financing 1/		
5 Percent	None	None	Djibouti
10 Percent	None	Burundi	Djibouti

1/ This is in relation to the above list of countries with breaches of thresholds at the respective dates.

33. **The established policies of a number of donors could actually deliver a larger than assumed (in DSAs) average grant element of new financing in some vulnerable LICs**. These donors—particularly large multilateral institutions such as IDA and some regional development banks—have policies under which the terms of new financing depend on the debt sustainability situation of the recipient. For instance, IDA provides financing on grant terms to countries at a high risk of debt distress or in debt distress, while low-risk countries get concessional loans. However, for high-risk countries, DSAs normally rely on conservative assumptions with regards to these financing terms, as DSAs are used to establish an eventual need for more favorable terms. For instance, IDA financing is assumed to be in the form of concessional loans, not grants, in the medium and long term. A vulnerable LIC which would continue to remain at a high risk of debt distress in the future would therefore get more concessional terms from these donors than assumed in the latest DSA. For countries where these donors are projected to provide the bulk of new loan resources in the DSA, this could change the debt sustainability outlook much more substantially than suggested in the simulations described in the previous paragraph.

Combined options

34. **To address the debt situation of LICs with higher debt vulnerabilities, the above options could be combined.** While in the previous sections the impact of various policy options was assessed separately, we explore here the impact of implementing these options together. These scenarios illustrate the impact of efforts by both borrowers and their creditors.

35. **A combination of the illustrative policy scenarios—improvements in policy performance, less borrowing, and more favorable borrowing terms—can substantially address the debt vulnerabilities of most vulnerable LICs** (Table 10).[31]

- By 2014, large breaches of thresholds are limited to São Tomé and Príncipe, Tajikistan, and Tonga. Smaller breaches are observed for Burundi, Djibouti and Grenada.

- The situation improves still further by 2019, with only small breaches in Afghanistan and Tajikistan.

- By 2028, only Afghanistan remains in breach of its threshold.

- Higher public debt vulnerabilities persist in St. Lucia and St. Vincent and the Grenadines over the whole period.

[31] The simulation combines an improvement in CPIA scores of 1 percent per annum over 2009–14, a permanent improvement of 1 percent of GDP in the primary fiscal balance, and a 10 percentage point increase in the grant element of new loans, relative to the baseline.

The case of countries where combined options do not seem sufficient

36. **Afghanistan will likely require continued provision of external financing mostly in the form of grants in the medium term**. The profile of Afghanistan's DSA is largely driven by the assumption that grant financing, which currently amounts to 50 percent of GDP, would be gradually replaced with concessional loans. The DSA illustrates that too rapid a shift would run the risk of a sustained increase in debt ratios (from the current relatively low levels). Nonetheless, with much of Afghanistan's external financing needs likely to be met by IDA and the AsDB, these institutions' policies on financing LICs (see paragraph 31) should prevent such a rapid shift to concessional loans from taking place. Thus, Afghanistan's debt ratios would eventually not increase as quickly as outlined in the baseline and adjustment scenarios.

37. **Stronger fiscal adjustment than simulated above may be required in St. Lucia and St. Vincent and the Grenadines.** The baseline scenarios in the most recent DSAs are meant to illustrate that current policies, or policies involving only modest fiscal adjustment, are not sustainable in either country. These DSAs include alternative "active" scenarios which suggest that, given the current fiscal situation, larger—but still realistic—fiscal adjustment would be required to bring about a substantial decline of debt ratios. The recommended adjustment is significantly larger than that simulated above.

Table 10. Capacity Improvements, Fiscal Adjustment, and Concessional Borrowing 1/

Country	Applicable DSF Threshold in 2014 2/	1 percent of GDP 3/		
		2014	2019	2028
		(In percent)		
Debt Service to Exports				
Grenada	25	19	15	15
Tonga	20	19	19	6
PV of PPG External Debt to Exports Ratio				
Afghanistan	100	77	**105**	**139**
Burkina Faso	200	127	141	136
Burundi	100	**122**	71	32
Gambia, The	150	129	118	78
Grenada	200	**206**	114	51
Sao Tome & Principe	100	**234**	38	19
Tajikistan 4/	150	**212**	**163**	135
Tonga	150	**256**	149	40
Yemen, Republic of	150	65	62	75
Present Value of PPG External Debt to Revenue				
Sao Tome & Principe	200	160	45	18
Present Value of PPG Debt to GDP				
Djibouti	30	34	28	28
Grenada	50	**62**	36	17
Lao PDR	40	33	27	18
Present Value of Total Public Debt to GDP				
Maldives	…	60	39	11
St. Lucia	…	**79**	**81**	**88**
St. Vincent and Grenadines	…	**80**	**83**	**93**

1/ Numbers in bold in shaded cells indicate a breach of thresholds.
2/ Based on an improvement of the annual CPIA score of 0.5 percent per anum over 2009-14.
3/ A permanent reduction in public primary spending of 1 percent starting in 2010 and an increase in the average grant element of borrowing by 10 percent.
4/ The applicable threshold till 2014 is 100 percent of exports and 150 percent thereafter.

Debt Relief

38. **Notwithstanding the possibility that higher debt vulnerabilities can be addressed through sustained efforts by debtors and creditors, the need for debt relief at some point in the future cannot be excluded in some cases.** It will take time for the policy options discussed above to resolve higher debt vulnerabilities in some countries. Should one or these countries experience difficulties in servicing their debts during this period, for instance in the wake of a large negative shock, debt relief may need to be considered.

39. **Debt relief under traditional mechanisms can be particularly effective where bilateral debt, especially to Paris Club creditors, accounts for a substantial part of the country's outstanding debt.**[32] Paris Club members have indeed provided such relief consistently in past decades when the need arose. Where the Paris Club accounts for a more limited share of the country's debt, the effectiveness of traditional mechanisms depends on the willingness of other bilateral and commercial creditors to provide comparable treatment, which the debtor is expected to seek under Paris Club rules.

[32] Traditional debt relief mechanisms refer to treatments provided by the Paris Club, with comparable treatment from other bilateral creditors.

Table 11. Composition of External Debt
(In percent of PV of total debt at end-2009) 1/

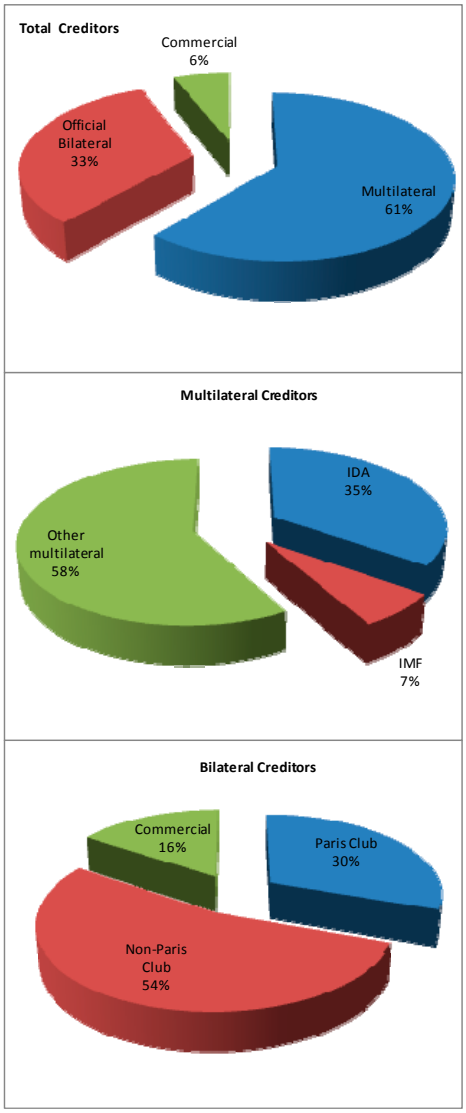
	Total 2/	Afghani-stan	Burundi	Burkina-Faso	Djibouti	The Gambia	Grenada	Lao	Maldives	Saint Lucia	Saint Vincent	Sao Tome and Principe	Tajikistan	Tonga	Yemen
Multilateral	61.3	100.0	98.9	82.9	65.8	68.4	30.8	63.4	60.2	56.9	54.5	26.3	51.0	77.7	54.5
IDA	21.3	29.7	69.7	32.7	15.7	14.2	5.1	19.1	21.3	3.4	0.0	10.9	26.1	20.9	21.4
IMF	4.2	2.3	23.0	4.1	3.4	0.2	2.6	0.7	0.8	14.3	0.0	3.6	1.1	0.0	1.2
AfDB	0.3	...	2.7	9.6	...	...	...	...	...	...	...	...	...	...	...
AsDB	19.6	61.2	...	...	...	...	...	36.5	...	...	...	...	16.5	...	...
EIB	0.3	...	...	...	...	...	...	3.3	...	...	...	...	...	...	...
Other multilateral	15.6	6.8	3.5	36.5	46.7	53.9	23.1	3.8	38.2	39.1	54.5	11.9	7.3	...	31.8
Official Bilateral	32.7	0.0	1.1	17.1	34.2	31.6	19.4	32.4	12.4	11.2	22.3	73.7	49.0	11.2	45.5
Paris Club	11.7	0.0	0.0	1.5	0.7	...	3.9	16.9	...	...	...	...	1.5	2.0	14.7
Non-Paris Club	20.8	0.0	1.1	15.6	33.6	31.6	15.5	15.5	...	...	...	73.7	47.5	...	30.8
Commercial	6.0	0.0	...	...	...	0.0	49.7	4.1	27.3	31.9	23.2	...	...	11.2	0.0

Sources: DSAs, GDF, and Fund staff estimates.

1/ Following the DSF methodology using the 4 percent uniform discount rate to calculate the PV of future external debt-service obligations (SM/10/16).

2/ Based on a weighted average, with weights equal to the share of each country's debt in the total debt to the creditor from all vulnerable LICs.

40. **The share of Paris Club creditors in the most vulnerable LICs' debt is relatively small (Table 11).**



Source: DSAs, GDF, and Fund staff estimates.

- Official bilateral creditors represent about 33 percent of total debt of which nearly two-thirds is owed to non-Paris Club creditors.

- Commercial creditors represent 6 percent of total debt.

- Multilateral creditors as a group account for 61 percent of the debt of vulnerable LICs, of which IDA represents 21 percent, the Asian Development Bank (AsDB) 20 percent and other smaller multilateral institutions 16 percent. The share of the Fund is about 4 percent.

41. **However the composition varies significantly across countries.**

- In post-MDRI countries the share of multilateral debt is generally higher than the average. Official bilateral debt is almost entirely due to a few non-Paris Club countries. Debt to Paris Club creditors is generally limited, reflecting very generous debt relief at the completion point and the provision of new financing mostly in the form of grants.

- A few countries have debts to bilateral creditors (official or commercial) largely exceeding one third (Grenada, Maldives, São Tomé and Príncipe, Tajikistan and Yemen). Some of them (Grenada and Maldives) have a sizeable debt to commercial creditors.

- The claims of large multilateral creditors are often concentrated on a few countries (e.g., Afghanistan for the AsDB).

42. **This structure of debt suggests the following**:

- Relief on all bilateral debt could have a substantial impact on some countries, but only a modest one on others.

- In all countries, the impact of traditional debt relief would be rather small without comparable treatment from non-Paris Club bilateral and commercial creditors.

IV. CONCLUSIONS

43. **Recent DSAs indicate that the global crisis has increased LICs' debt vulnerabilities significantly.** The main debt ratios are expected to be negatively affected, as financing requirements have increased while LICs' payment capacity is expected to be permanently lower.

44. **The global crisis, however, is not expected to result in systemic debt difficulties across LICs.** Debt ratios are expected to return to a downward trend, and risk rating downgrades have been rare in post-crisis DSAs. Critical assumptions behind this outcome are that the crisis has no permanent impact on long-term growth and that LICs restore the policy space used during the crisis as the recovery firms up.

45. **The share of LICs that face higher debt vulnerabilities is significant but has not increased with the crisis.** These countries require close monitoring and concerted and sustained action:

- In about half of these countries, debt vulnerabilities are expected to be reduced substantially through HIPC/MDRI relief (or will require similar treatment).

- In the other half, debt vulnerabilities could be effectively addressed with concerted efforts from both LICs (enhanced institutions and policies, better fiscal position) and the international community (improved financing terms).

- These efforts would need to be sustained to produce results.

46. **Nevertheless, the need for debt relief in some of these countries at some point in the future cannot be excluded**. The effectiveness of traditional debt relief mechanisms would hinge on the participation of all bilateral and commercial creditors, as the share of Paris Club debt in total debt is relatively limited in these countries.

ANNEX 1. LIST OF DSAS USED IN THE PAPER

DSAs used for each section of the paper

All Pre-Crisis DSAs

	Country	Issuance Date
1	Afghanistan	6/23/2008
2	Armenia	3/4/2009
3	Bangladesh	9/3/2008
4	Benin	11/26/2008
5	Bhutan	9/20/2007
6	Bolivia	12/19/2008
7	Burkina Faso	6/13/2008
8	Cambodia	12/29/2008
9	Cameroon	6/6/2008
10	Cape Verde	12/3/2008
11	Central African Republic	12/8/2008
12	Chad	1/13/2009
13	Comoros	12/2/2008
14	Congo, Democratic Republic	8/15/2007
15	Congo, Republic of	11/21/2008
16	Cote d'Ivoire	3/16/2009
17	Djibouti	9/4/2008
18	Dominica	7/14/2008
19	Eritrea	4/8/2008
20	Ethiopia	7/1/2008
21	Georgia	9/10/2008
22	Ghana	6/16/2008
23	Grenada	6/23/2008
24	Guinea	12/7/2007
25	Guinea-Bissau	8/29/2007
26	Guyana	2/12/2009
27	Haiti	2/3/2009
28	Honduras	3/25/2008
29	Kenya	8/20/2008
30	Kyrgyz Republic	12/2/2008
31	Lao, PDR	7/8/2008
32	Lesotho	1/26/2009
33	Liberia	3/3/2008
34	Madagascar	6/18/2008
35	Malawi	12/4/2007
36	Mali	5/8/2008
37	Mauritania	5/5/2008
38	Moldova	2/21/2008
39	Mongolia	3/19/2009
40	Mozambique	12/23/2008
41	Myanmar	1/7/2009
42	Nepal	5/6/2008
43	Nicaragua	8/28/2008
44	Niger	12/9/2008
45	Nigeria	1/22/2008
46	Papua New Guinea	3/2/2009
47	Rwanda	12/22/2008
48	Samoa	5/7/2007
49	Sao Tome and Principe	2/13/2009
50	Senegal	1/11/2007
51	Sierra Leone	6/20/2008
52	Solomon Islands	9/10/2008
53	St. Lucia	7/11/2008
54	Sudan	11/6/2008
55	Tajikistan	3/31/2009
56	Tanzania	6/13/2007
57	The Gambia	2/4/2009
58	Togo	11/10/2008
59	Tonga	6/18/2008
60	Uganda	12/22/2008
61	Vanuatu	4/16/2009
62	Vietnam	3/2/2009
63	Yemen	1/22/2009
64	Zambia	11/21/2007

Pre- and Post-Crisis DSAs, used for comparison

Country	Pre-Crisis	Post-Crisis
Afghanistan	6/23/2008	1/1/2010
Benin	11/26/2008	6/11/2009
Bhutan	9/20/2007	12/8/2009
Bolivia	12/19/2008	12/28/2009
Burkina Faso	6/13/2008	12/1/2009
Cambodia	12/29/2008	11/2/2009
Cameroon	6/6/2008	6/19/2009
Cape Verde	12/3/2008	11/19/2009
Central African Republic	12/8/2008	6/16/2009
Comoros	12/2/2008	8/31/2009
Congo, Democratic Republic	8/15/2007	12/1/2009
Congo, Republic of	11/21/2008	6/1/2009
Dominica	7/14/2008	6/29/2009
Eritrea	4/8/2008	12/2/2009
Ethiopia	7/1/2008	8/11/2009
Georgia	9/10/2008	11/30/2009
Ghana	6/16/2008	6/30/2009
Grenada	6/23/2008	5/21/2009
Guinea-Bissau	8/29/2007	5/21/2009
Haiti	2/3/2009	6/16/2009
Kenya	8/20/2008	5/18/2009
Kyrgyz Republic	12/2/2008	5/11/2009
Lao, PDR	7/8/2008	6/26/2009
Mali	5/8/2008	12/29/2009
Mongolia	3/19/2009	12/8/2009
Mozambique	12/23/2008	6/19/2009
Rwanda	12/22/2008	7/24/2009
Samoa	5/7/2007	11/24/2009
Senegal	1/11/2007	6/8/2009
Sierra Leone	6/20/2008	12/8/2009
St. Lucia	7/11/2008	3/1/2010
Tajikistan	3/8/2007	1/1/2010
Togo	11/10/2008	11/11/2009
Tonga	6/18/2008	8/14/2009
Yemen	1/22/2009	12/23/2009
Zambia	11/21/2007	12/3/2009

All Post-Crisis DSAs

Country	Issuance Date
Afghanistan	1/1/2010
Benin	6/11/2009
Bhutan	12/8/2009
Bolivia	12/28/2009
Burkina Faso	12/1/2009
Cambodia	11/2/2009
Cameroon	6/19/2009
Cape Verde	11/19/2009
Central African Republic	6/16/2009
Comoros	8/31/2009
Congo, Democratic Republic	12/1/2009
Congo, Republic of	6/1/2009
Dominica	6/29/2009
Eritrea	12/2/2009
Ethiopia	8/11/2009
Georgia	11/30/2009
Ghana	6/30/2009
Grenada	3/25/2010
Guinea-Bissau	5/21/2009
Haiti	6/16/2009
Kenya	5/18/2009
Kyrgyz Republic	5/11/2009
Lao, PDR	6/26/2009
Maldives	11/25/2009
Mali	12/29/2009
Mongolia	12/8/2009
Mozambique	6/19/2009
Rwanda	7/24/2009
Sao Tome & Principe	2/4/2010
Samoa	11/24/2009
Senegal	6/8/2009
Sierra Leone	12/8/2009
St. Lucia	3/1/2010
St. Vincent and the Grenadines	5/4/2009
Tajikistan	1/1/2010
Togo	11/11/2009
Tonga	8/14/2009
Yemen	12/23/2009
Zambia	12/3/2009

Source: Debt Sustainability Analyses.

Descriptors for Countries included in Pre- and Post-Crisis Analysis

	Country	Risk of Debt Distress Rating Pre-Crisis	Post-Crisis	HIPC Status	CPIA Rating	Oil Exporter
1	Afghanistan	High	High	Completion Point	Weak	Non-Oil Exporter
2	Benin	Moderate	Moderate	Completion Point	Medium	Non-Oil Exporter
3	Bhutan	Moderate	Moderate	Non-HIPC	Strong	Non-Oil Exporter
4	Bolivia	Low	Low	Completion Point	Medium	Oil Exporter
5	Burkina Faso	High	High	Completion Point	Medium	Non-Oil Exporter
6	Cambodia	Moderate	Moderate	Non-HIPC	Weak	Non-Oil Exporter
7	Cameroon	Low	Low	Completion Point	Weak	Oil Exporter
8	Cape Verde	Low	Low	Non-HIPC	Strong	Non-Oil Exporter
9	Central African Republic	High	Moderate	Completion Point	Weak	Non-Oil Exporter
10	Comoros	In debt distress	In debt distress	Pre-Decision Point	Weak	Oil Exporter
11	Congo, Democratic Republic	In debt distress	In debt distress	Interim HIPC	Weak	Oil Exporter
12	Congo, Republic of	High	High	Completion Point	Weak	Oil Exporter
13	Dominica	n.a.	n.a.	Non-HIPC	Strong	Non-Oil Exporter
14	Eritrea	High	In debt distress	Pre-Decision Point	Weak	Non-Oil Exporter
15	Ethiopia	Moderate	Moderate	Completion Point	Medium	Non-Oil Exporter
16	Georgia	Low	Moderate	Non-HIPC	Strong	Non-Oil Exporter
17	Ghana	Moderate	Moderate	Completion Point	Strong	Non-Oil Exporter
18	Grenada	High	High	Non-HIPC	Medium	Non-Oil Exporter
19	Guinea-Bissau	In debt distress	In debt distress	Interim HIPC	Weak	Non-Oil Exporter
20	Haiti	High	High	Completion Point	Weak	Non-Oil Exporter
21	Kenya	Low	Low	Non-HIPC	Medium	Non-Oil Exporter
22	Kyrgyz Republic	Moderate	Moderate	Pre-Decision Point	Medium	Non-Oil Exporter
23	Lao, PDR	High	High	Non-HIPC	Weak	Non-Oil Exporter
24	Mali	Low	Low	Completion Point	Medium	Non-Oil Exporter
25	Mongolia	Low	Low	Non-HIPC	Medium	Non-Oil Exporter
26	Mozambique	Low	Low	Completion Point	Medium	Non-Oil Exporter
27	Rwanda	Moderate	Moderate	Completion Point	Medium	Non-Oil Exporter
28	Samoa	Low	Low	Non-HIPC	Strong	Non-Oil Exporter
29	Senegal	Low	Low	Completion Point	Medium	Non-Oil Exporter
30	Sierra Leone	Moderate	Moderate	Completion Point	Weak	Non-Oil Exporter
31	St. Lucia	Moderate	Moderate	Non-HIPC	Strong	Non-Oil Exporter
32	Tajikistan	High	High	Non-HIPC	Weak	Non-Oil Exporter
33	Togo	In debt distress	In debt distress	Interim HIPC	Weak	Non-Oil Exporter
34	Tonga	High	High	Non-HIPC	Weak	Non-Oil Exporter
35	Yemen	High	High	Non-HIPC	Weak	Oil Exporter
36	Zambia	Low	Low	Completion Point	Medium	Non-Oil Exporter

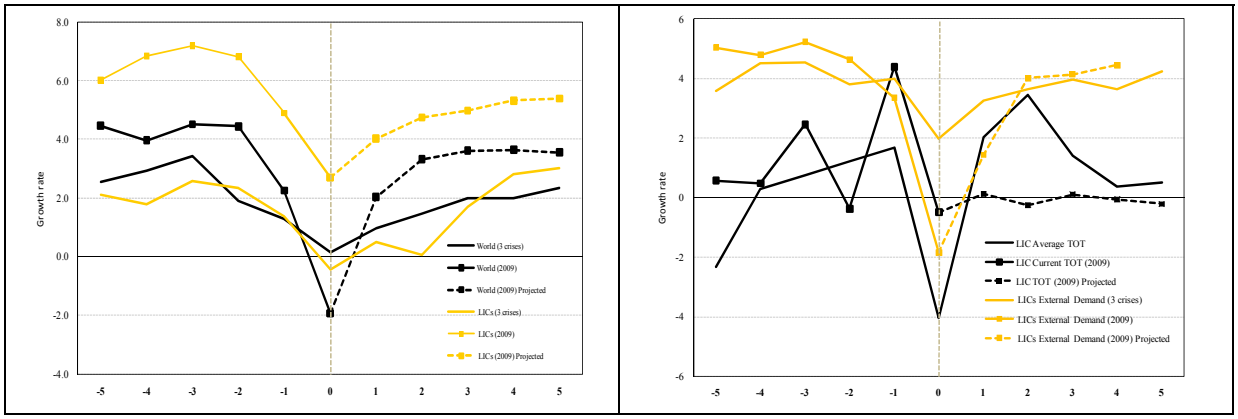
Source: Debt Sustainability Analyses, Staff estimates

ANNEX 2. THE MEDIUM- AND LONG-TERM EFFECTS OF THE CRISIS ON GROWTH IN LICS[33]

Whether the global financial crisis has a persistent negative growth effect on LICs depends crucially on the nature of the shock. While the origin of the crisis in advanced economies was in the financial sector, most LICs were primarily hit by sharply lower demand for their exports (external demand shock, or ED shock), lower FDI, and for fuel-exporting LICs, a negative terms of trade shock (TOT shock).[34]

Current WEO projections imply a more rapid recovery of growth in LICs than has been experienced in past global crises. Compared to past global crises, the current crisis is distinguished by the severity of the downturn and the synchronization between LICs and global cyclical growth movement (Imbs, 2010). In past global crises, LICs have tended to recover more slowly than the rest of the world (Figure 1, left panel). However, the current WEO forecasts imply a more rapid V-shaped recovery path out of the recession compared to previous crises, an observation that also applies to other economies. It is notable that unlike in previous crises where terms of trade (TOT) growth moved sharply downward relative to external demand (ED) growth, in the current crisis it is ED that has declined most (Figure 1, right panel).

Figure 1: GDP per capita, ED and TOT growth in past and current crises



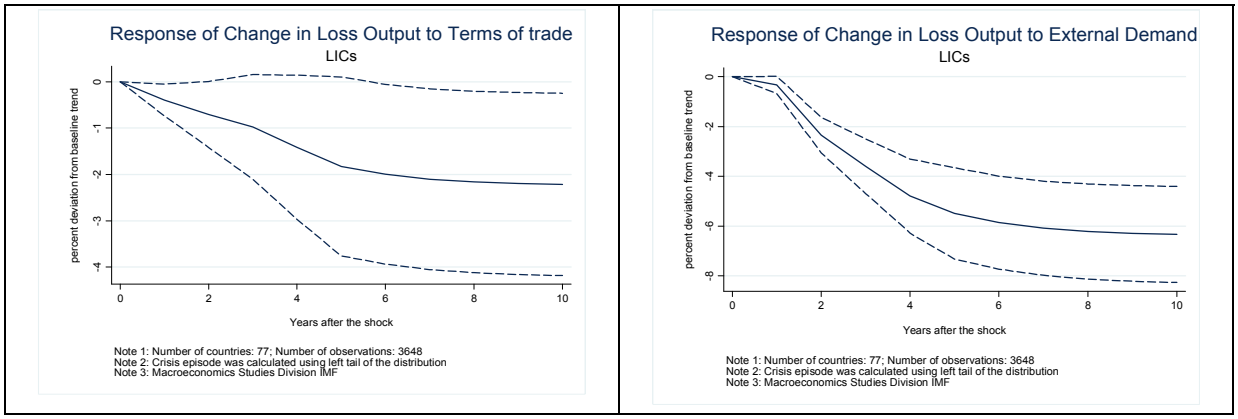
Note: The left panel plots the average per capita GDP growth in the world and in LICs while the right panel plots the TOT and ED growth in LICs 5 years before and 5 years after the global crises (centered at zero on the horizontal axis) of 1975, 1982 and 1991, and the current crisis. Also shown in dashed lines are WEO projections until 2013.

[33] The analysis in this annex is based on work in progress by Berg et al. (2010).

[34] From a methodological point of view, this difference is quite important because this external shock is more familiar to LICs than the financial shock is to advanced countries, therefore more credibly permitting a historical analysis of the effects in LICs.

Impulse response functions show evidence of large and persistent output losses from external shocks in the medium-term. An impulse response exercise (based on Cerra and Saxena, 2008) can assess the extent to which TOT and ED shocks have historically been associated with permanent output losses. The impact on output is negative and highly persistent under both TOT, and particularly ED shocks (Figure 2). Output losses continue to rise without a sign of a reversal for a number of years after an ED shock, resulting in a cumulative loss of over 6 percent of GDP. The output loss path eventually becomes flat as growth reaches its pre-crisis rate but after lower growth in the medium term and a substantial loss of output.

Figure 2: Impulse response of output loss in LICs to TOT and ED shocks

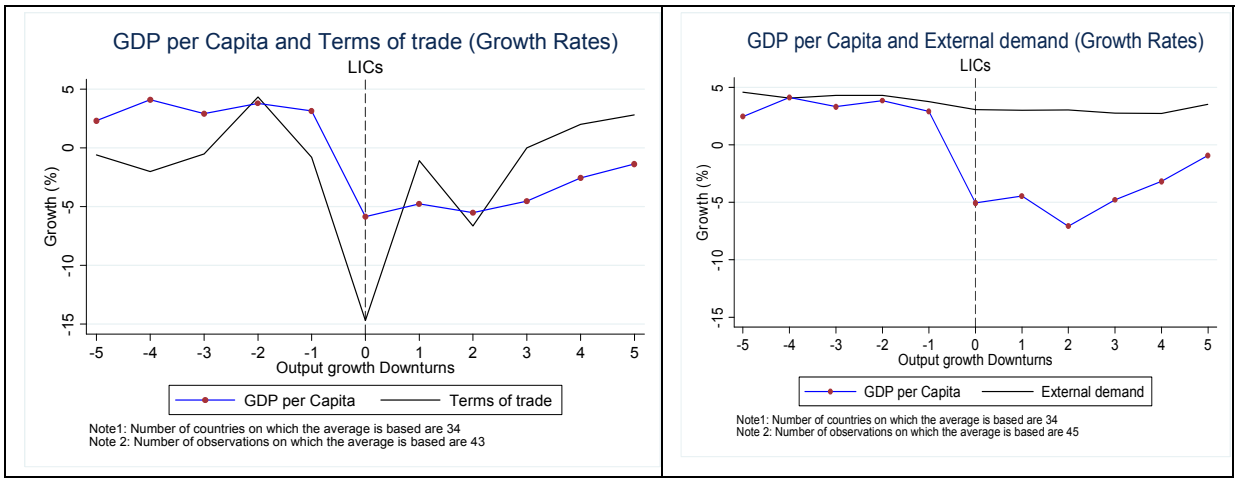


Note: The left and right panels present impulse responses of output loss, measured as the percentage change from a linear growth trend, to a TOT shock and an ED shock, respectively. The solid line is the mean of output loss, and the dashed line reflects one standard deviation from the mean.

While ED shocks tend to be associated with persistent losses in output levels, they are not linked to long-term downbreaks in growth. A growth breaks methodology (based on Berg, Ostry and Zettelmeyer, 2008) identifies sustained periods of slow growth in LICs and examines whether TOT and ED shocks are correlated with such "cliffs". TOT growth tends to decrease sharply in the run-up to growth decelerations, which provides suggestive evidence that sharp declines in TOT growth may lead to a sustained period of slow growth (Figure 3, left panel). On the contrary, ED growth shows virtually no co-movement with a growth downbreak (Figure 3, right panel).[35] Given evidence that the current crisis has affected LICs primarily through ED rather than TOT (Berg et al. 2010, IMF 2009), these results suggest a low probability that many LICs will suffer from a protracted period of slow growth due to the crisis.

[35] Plots in which per capita GDP growth was traced around TOT and ED growth down breaks provide qualitatively similar results to those in Figure 3.

Figure 3: TOT vs. ED around periods of growth decelerations in LICs



Note: The left and right panels plot the behavior of TOT and ED, respectively, in the period leading up to, and following, growth downturns (year 0 on the horizontal axis).

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