UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

G-24 Discussion Paper Series

The External Debt Contentious Six Years after the Monterrey Consensus

Ugo Panizza

No. 51, September 2008

UNITED NATIONS

UNITED NATIONS
UNCTAD

G24
INTERGOVERNMENTAL
GROUP OF TWENTY-FOUR

G-24 Discussion Paper Series

Research papers for the Intergovernmental Group of Twenty-Four on International Monetary Affairs and Development

UNITED NATIONS
New York and Geneva, September 2008

Note

Symbols of United Nations documents are composed of capital letters combined with figures. Mention of such a symbol indicates a reference to a United Nations document.

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UNITED NATIONS PUBLICATION

UNCTAD/GDS/MDP/G24/2008/2

PREFACE

The *G-24 Discussion Paper Series* is a collection of research papers prepared under the UNCTAD Project of Technical Support to the Intergovernmental Group of Twenty-Four on International Monetary Affairs and Development (G-24). The G-24 was established in 1971 with a view to increasing the analytical capacity and the negotiating strength of the developing countries in discussions and negotiations in the international financial institutions. The G-24 is the only formal developing-country grouping within the IMF and the World Bank. Its meetings are open to all developing countries.

The G-24 Project, which is administered by UNCTAD's Division on Globalization and Development Strategies, aims at enhancing the understanding of policy makers in developing countries of the complex issues in the international monetary and financial system, and at raising awareness outside developing countries of the need to introduce a development dimension into the discussion of international financial and institutional reform.

The research papers are discussed among experts and policy makers at the meetings of the G-24 Technical Group, and provide inputs to the meetings of the G-24 Ministers and Deputies in their preparations for negotiations and discussions in the framework of the IMF's International Monetary and Financial Committee (formerly Interim Committee) and the Joint IMF/IBRD Development Committee, as well as in other forums.

The Project of Technical Support to the G-24 receives generous financial support from the International Development Research Centre of Canada and contributions from the countries participating in the meetings of the G-24.

THE EXTERNAL DEBT CONTENTIOUS SIX YEARS AFTER THE MONTERREY CONSENSUS

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G-24 Discussion Paper No. 51

September 2008

Abstract

This paper has three objectives. It discusses the main developments and new issues that have arisen after the Monterrey Conference. It critically reviews the Monterrey Consensus on external debt. It provides a set of recommendations for reviewing the implementation of the Monterrey Consensus, to take place in Doha, Qatar, in December 2008. In doing so, the paper discusses the shortcomings of standard debt sustainability exercises; it presents new results on the additionality of debt relief; and discusses the need for developing new financial instruments and institutions aimed at reducing the risks of sovereign and external borrowing. The paper also briefly discusses issues related to the definition of external debt and touches on the odious debt debate.

Abbreviations

BIS	Bank of International Settlements
CCL	Contingent Credit Lines
CPIA	Country Policy and Institutional Assessment
DAC	Development Assistance Committee (of the OECD)
DSF	Debt Sustainability Framework
EMF	Emerging Market Fund
FLAR	Fondo Latinoamericano de Reservas (Latin American Reserve Fund)
GDF	Global Development Finance (database of the World Bank)
GDP	gross domestic product
HIPC	Heavily Indebted Poor Country
IDA	International Development Association
IFIs	international financial institutions
IMF	International Monetary Fund
ODA	official development assistance
MDRI	Multilateral Debt Relief Initiative
OECD	Organisation for Economic Co-operation and Development
SDRM	Sovereign Debt Restructuring Mechanism
UNCTAD	United Nations Conference on Trade and Development
WB	World Bank

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THE EXTERNAL DEBT CONTENTIOUS SIX YEARS AFTER THE MONTERREY CONSENSUS

Ugo Panizza*

I. Introduction

The analysis of the costs and benefits of external borrowing by developing countries has been at the centre of the development debate for at least fifty years. And yet, with five short paragraphs, "external debt" is the Cinderella of the "leading actions" listed in the Monterrey Consensus. These five paragraphs highlight that the responsibility for debt crises should be fairly shared between creditors and debtors, they argue for the creation of a mechanism for the resolution of sovereign debt crises, and request that debt relief should be delivered expeditiously and should be additional with respect to existing aid flows. They also suggest that the debt sustainability framework adopted by the Bretton Woods Institutions should be kept under constant review.

This paper has three objectives. The first objective is to discuss the main developments and new issues that have arisen after the Monterrey Conference. The second objective is to critically review the Monterrey Consensus on external debt. The third objective is to provide a set of recommendations for the review of the implementation of the Monterrey Consensus that will take place in Doha, Qatar, in December 2008. In doing so, the paper discusses whether there are remaining areas that require major initiatives aimed at maximizing the development role of external debt while minimizing the risks that arise from external borrowing.

A bird's eye-view at the recent evolution of the developing countries' external (and domestic) debt situation reveals several interesting patterns.[1] A comparison of the data for the year 2000 (the data available at the time of the formulation of the Monterrey Consensus) with those for 2006 shows lower average external deficits, lower external debt ratios (external debt went from 39 to 25 per cent of GNP, a 35 per cent decrease), and larger international reserves (table 1). The data show a dramatic change in the composition of borrowers and lenders. In 2000, 50 per cent of public sector long-term external debt was owed to official (multilateral and bilateral) creditors. In 2006, this share had dropped to 42 per cent. In 2000, external debt owed by private borrowers amounted to less than 30 per cent of total long-term external debt. By 2006, this share increased to 41 per cent. As a consequence, the share of total long-term external debt owed to private creditors increased from 59 to 71 per cent.

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* This work was carried out under the UNCTAD Project of Technical Assistance to the Intergovernmental Group of Twenty-Four on International Monetary Affairs and Development with the aid of a grant from the International Development Research Centre of Canada. An early version of this paper was presented at the Doha Review Conference held at UN Headquarters in New York on 4–5 March 2007. I would like to thank Jomo KS and Butch Montes for inviting me to that conference, Kristine Forslund, Matthias Rau, Mackie Bahrami and Helmut Reisen for helpful comments, and Mareen Buschmann for research assistance. All the opinions expressed in this paper are my own and should not be attributed to any organization that I am or have been affiliated with. The usual caveats apply.

Table 1

DEBT AND CURRENT ACCOUNT INDICATORS OF DEVELOPING AND TRANSITION ECONOMIES

	2000	*2006*
External debt		
Levels	*US$*	*US$*
Total debt	2 267	2 851
Long-term debt	1 896	2 216
Share of long-term external public debt owed to private creditors (per cent)	50	58
Share of long-term external debt owed by private borrowers (per cent)	29	41
Share of long-term external debt owed to private creditors (per cent)	59	71
International reserves	694	2 568
Debt indicators	*Per cent*	*Per cent*
Total debt/imports	123	74[a]
Total debt / GNP	39	25
Long-term external public debt/GNP	24	14[a]
Net present value of long-term external public debt/GNP	22	17[a]
Reserves/external debt	31	90
Current account *(per cent of GDP)*		
Simple averages		
Mean	-2.00	-0.83
Median	-3.18	-2.32
5th percentile	-17.22	-13.69
95th percentile	16.16	19.81
Standard deviation	8.74	10.54
Weighted averages (GDP weight)		
Mean	1.31	4.08
Median	-0.11	1.57
5th percentile	-5.79	-8.35
95th percentile	17.22	19.82
Standard deviation	6.34	8.21
Public debt		
Simple averages		
Total public debt (per cent of GDP)	69	64[a]
External public debt (per cent of total public debt)	65	60[a]
Weighted averages (GDP weight)		
Total public debt (per cent of GDP)	43	39[a]
External public debt (per cent of total public debt)	41	31[a]

Source: 2007 Report of the Secretary General on *Recent Trends in External Debt*; Panizza (2008); and Dikhanov (2007).
a Data for 2005.

In 2006, total international reserves of developing countries were about the same as the total external debt of these countries and reserves continued to increase at record rate during 2007 reaching $3,719 billion at the end of 2007. As most international reserves are held in assets issued by the advanced economies, developing countries, as a group, no longer have a net external debt. In fact, they hold net external debt assets of about $350 billion.

However, the second panel of table 1 shows that there is a wide dispersion in the behaviour of

the current account of developing countries and that this dispersion was higher in 2006 than in 2000. Data weighted by the size of the economy show lower average current account deficits (or higher average surpluses) and lower external debt ratios. This indicates that most of the surplus countries are large economies and most of the deficit countries are small economies and that there are several developing countries with a net external debt. There are also large regional differences. Countries in Asia are characterized by fairly low external debt ratios and some countries in East Europe and Central Asia are characterized by large, and in some cases, increasing external debt ratios.

The third panel of table 1 focuses on the level and composition of developing countries' total pubic debt. It shows a decrease in debt levels of approximately 5 percentage points and also a decrease in the share of public debt which is owed to external creditors. Again, this decrease was more marked in the larger economies.[2] Also in this case, there are large regional differences. In East Europe, more than 55 per cent of total public debt is owed to external creditors. In East and South Asia, external public debt is less than 30 per cent of total public debt.

Thus, a quick look at the data shows a net improvement in the external debt situation of developing countries. However, if one moves beyond averages, it becomes clear that this improvement is partly driven by the behaviour of a few large countries and by that of a few countries that in the mid 1990s had extremely high debt ratios. It is also important to recognize that improvements in debt ratios are partly driven by favourable external conditions. An economic crisis in the developed world and a sudden jump in risk aversion of international investors could reverse the current positive trend. In fact, there are already some signs of deterioration in the external situation of developing countries. During 2007, two thirds of developing countries suffered a deterioration of their current account balance, 50 per cent of developing countries closed the year with a current account deficit greater than 5 per cent of GDP, and about a quarter of developing countries ran current account deficits greater than ten per cent of GDP (World Bank, 2008). The divergence in the behaviour of the current account and external debt situation of developing countries is partly driven by increases in commodity and food prices which have benefited commodity exporters but caused serious problems to commodity importers, especially low income oil and food importers. Private flows to developing countries started to slow down in late 2007 and collapsed in 2008 and several developing countries are now having problems financing their deficits.

Data on the face value of debt can give a misleading impression on the actual change in the value of external debt of developing countries. Part of the reduction in external debt was due to debt relief under the HIPC initiative. However, some of the cancelled debt had a present value which was well below its face value. Focusing on the net present value of debt shows a smaller decline in public external debt (5 versus 10 percentage points). In fact, debt relief under the HIPC Initiative has not been fully successful in achieving long-term debt sustainability. According to the 2007 HIPC and MDRI Status of Implementation Report, more than half of the post-completion point countries are still considered as having either a moderate or a high risk of debt distress and only 10 out 22 post-completion point countries have graduated to the low risk category.[3]

The evidence summarized above points to the fact that it would be wrong to claim, as it is often done, that developing countries no longer have an external debt problem.

II. A critical review of the main documents. Is there anything missing?

The objective of this section is to review the original Monterrey Consensus together with the Report of the United Nations Secretary General on the "Follow-up to and Implementation of the International Conference on Financing for Development" and the "Summary by the President of the General Assembly of the High-Level Dialogue for Financing for Development."[4]

A. The Monterrey Consensus

In their discussion on external debt, the heads of State and Government, who gathered in Monterrey in March 2002, agreed on the following four points. (The relevant paragraphs of the Monterrey Consensus are reported in parenthesis.)

First, sustainable debt financing is an important source of resources for public and private investment, and debtors and creditors must share the responsibility for preventing debt crises (§47). As a consequence, it is necessary to put in place a set of principles for the management and resolution of financial crises. Such principles should yield a fair burden-sharing among all involved parties (§51). *Second*, debt sustainability not only requires prudent macroeconomic policies but also the ability to monitor and manage external liabilities. Thus, technical assistance for debt management should be strengthened (§47). *Third*, debt relief can play a key role in mobilizing resources that can lead to sustainable growth and thus it should be pursued "vigorously and expeditiously" (§48). The enhanced HIPC Initiative should be implemented in a speedy and effective way and should be "fully financed through additional resources" (§49). As a consequence, "donor countries [need] to take steps to ensure that resources provided for debt relief do not detract from ODA resources." (§51). *Fourth*, debt sustainability should keep into account the impact of debt relief on progress towards the Millennium Development Goals (MDGs). The procedures used to asses debt sustainability "need to be kept under review" (§49) and should keep into account external and domestic shocks (§50).

B. The follow-up document

The follow-up document provides a detailed discussion of the problems related to external debt. It starts by recognizing that even though external debt indicators of most developing countries have improved substantially (§1) there may be new vulnerabilities as a result of switching from public to private external borrowing (§7). Another problem highlighted in this document is the concentration of financial flows to developing countries, with a dozen countries absorbing 70 per cent of these flows (§2).

The document points to the positive results of various debt relief initiatives (§98 and §99) but suggests that the current approach for dealing with countries with debt servicing problems with official creditors needs to be more inclusive (§101). It also highlights the debt problems of middle income countries and casts doubt on the validity of the framework used to assess sustainability in these countries (§100). As a consequence, the document calls for further debt relief and for a "paradigm shift to debt restructuring approaches" (§102). It also points to the need for a fair mechanism for restructuring commercial debt (§107) and stresses that this topic should be discussed at the Doha conference (§108).

The main innovation of the follow-up document is its emphasis on debt composition. The document discusses the need to conduct a proper asset-liability management of sovereign debt and points to the importance of developing a domestic debt market (§103) aimed at reducing currency and maturity mismatches in a country's balance sheet (§105). The document emphasizes the interaction between foreign borrowing and the working of the domestic financial system, and highlights the need for strengthening the domestic financial system before opening the capital account (§104). It also highlights the importance of keeping track of currency and maturity mismatches in the private sector, especially in the banking system (§107).

C. The summary by the President of the General Assembly

The summary of the discussion notes shows that many countries still have serious debt problems and a group of speakers pointed to the high debt burden of some middle income countries. Some speakers argued that 100 per cent official debt cancellation should be granted to all developing countries (§51). Many participants agreed on the importance of debt management and highlighted the importance of technical assistance in this area (§56), they also praised the Debt Sustainability Framework developed by the World Bank and the International Monetary Fund (§52). However, other participants argued that this Framework should be reviewed in order to allow for more flexibility in the setting of its thresholds, to include "country-specific characteristics of sustainability," and avoid the use of subjective governance indicators (§53). Participants highlighted the interactions among domestic debt, volatility of capital flows, and problems with credit rating agencies (§54, §55). Some participants focused on currency mismatches and suggested that there should be bilateral and multilateral support for developing risk-mitigation instruments (§55). Several participants highlighted the importance of developing a sovereign debt workout mechanism (§57).

D. Where to go next?

While the Monterrey Consensus focused on some broad principles, the other two documents provide a more detailed analysis of the main challenges faced by developing countries in the area of external debt and contain a few specific proposals.

Rather than going through the tedious exercise of pointing out what is or is not missing from these documents, in the last section of this paper, I will try to write my own "consensus" paper on external debt. Clearly, this is a rhetorical exercise which has the benefit of hindsight and has the advantage of not being subject to the complicated negotiations that are at the basis of the other documents. Therefore, I can put forward ideas for which, at this stage, there is limited political support (one example is my suggestion for creating a mechanism that would work in the spirit of the defunct SDRM). Even with these caveats in mind, having such a "Shadow Consensus" can be helpful in discussing what is missing from the previous documents and where to go next.

III. Three key issues

Before getting to the seven actions of the Shadow Consensus, I would like to discuss in some detail three issues which, in my view, are at the core of the documents summarized in section III.B.[5] These issues are: (i) The World Bank/IMF Debt Sustainability Framework; (ii) The additionality of debt relief; and (iii) The need for new instruments and institutions.

A. Rethinking the Debt Sustainability Framework

The Monterrey Consensus asks to keep under review the methodology used to assess debt sustainability (§49). The standard approach for conducting debt sustainability analysis in low income countries is the Debt Sustainability Framework (DSF) jointly developed by the IMF and the World Bank. The DSF aims at detecting vulnerabilities and devising policies that can reduce the probability of a debt distress episode. In doing so, the framework is also used to guide grant allocation by the International Development Association (IDA is the concessional arm of the World Bank).

The Framework formulates long and medium-term projections on the evolution of various debt ratios and compares these projections with debt burden thresholds based on the quality of policies. Based on this comparison, countries are then classified into four groups: (i) Low Risk; (ii) Moderate Risk; (iii) High Risk; and (iv) in Debt Distress.[6] High risk IDA countries (AKA "Red Light" countries) receive 100 per cent grant financing from IDA at a 20 per cent volume discount (i.e., they receive less money but all the money they receive is in form of grants). Medium risk IDA countries ("Yellow Light" countries) receive 50 per cent grant financing at a 10 per cent volume discount. Low risk countries ("Green Light" countries) receive no grant but are subject to no volume discount (i.e., they receive more money but no grants).[7] This Framework has been the object of many criticisms based on both feasibility (Wyplosz, 2007) and fairness (Oddone, 2005) considerations.[8]

While the Bank/Fund DSF is a step in the right direction, I do think that there are serious issues with the current formulation of the Framework. First, debt thresholds are fully determined by just one criteria: the World Bank's Country Policy and Institutional Assessment (CPIA) index. Historical series for the CPIA index are not publicly disclosed; only data for IDA countries starting from 2005 are disclosed. All analyses that link debt sustainability to CPIA have been conducted by Bank/Fund staff and external researchers are not allowed to test the robustness of the links between these two variables.[9] Another issue relates to the fact that, in my view, the quantitative impact of CPIA on the probability of debt distress is not large enough to formulate debt thresholds only based on CPIA.[10] Finally, there is the issue of whether the CPIA is indeed a measure of policies or just a leading indicator of a debt crisis.[11]

Part of the problem is that CPIA is an imperfect measure of policies, but this is not the whole story. There is also the issue that we do not always know what a good policy is and, even if we knew, we would need to recognize that not all types of bad policies and institutions constrain economic development in the same way at all times or in all countries (Rodrik, 2008).

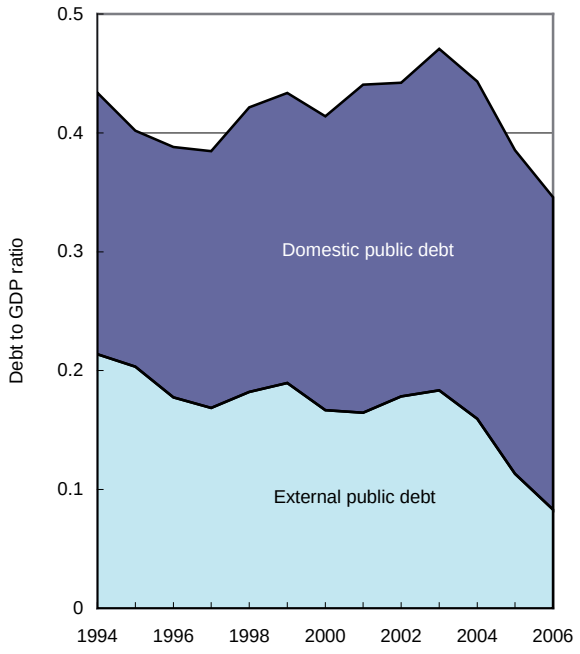
Therefore, while it is reasonable to use a measure of policies (perhaps a more transparent one) as one of the criteria used to define debt thresholds, I do not agree with the approach of using the CPIA as the *only* criterion for defining debt thresholds. The risk of doing this is to replace "the former 'one-size fits all'

approach to a 'four or five-sizes fits all' approach" (Report of the UN Secretary General on "Recent Trends in External Debt", A/62/151, §32).[12]

The second problem with standard debt sustainability analysis exercises is their insufficient emphasis on domestic public debt (this is especially a problem for the IMF debt sustainability framework for middle income countries). There are important linkages between the sustainability of domestic and external debt. The most obvious among these linkages is that about 50 per cent of developing countries' external debt is public debt and about 50 per cent of developing countries' total public debt is issued externally (figure 1). But there are also less obvious linkages. Consider, for instance, a country with no public debt but a large external private debt. The inability of private borrowers to service this debt can lead to a currency and banking crisis which can then have negative implications on fiscal sustainability. Moreover, crises can also originate in the market for domestic debt. There is, in fact, evidence that several external debt crises had their origin in the accumulation of excessive domestic public debt (Reinhart and Rogoff, 2008).

Figure 1

COMPOSITION OF PUBLIC DEBT IN DEVELOPING COUNTRIES, 1994–2006



Source: Panizza, 2008.

The most important interaction between fiscal and external sustainability has to do with the behaviour of the exchange rate. A currency depreciation is often necessary for closing a current account deficit, and thus being able to repay external debt. However, since a large share of public debt in developing countries is denominated in foreign currency, a large devaluation can lead to a sudden jump in the debt-to-GDP ratio and have a negative effect on public debt sustainability (Campos, Jaimovich and Panizza, 2006).[13]

Hence, a currency appreciation can jointly have a positive effect on the sustainability of public debt and a negative effect on external sustainability. However, if this situation is associated with a rapid deterioration of the current account, the improvement in fiscal conditions will only be temporary. This trade-off also implies that allowing for a currency devaluation in the presence of foreign currency debt may lead to a debt crisis and possibly to a costly debt default. This is why some developing countries suffer from "fear of floating" (Calvo and Reinhart, 2002; Hausmann, Panizza and Stein, 2001).

These interactions between external and fiscal sustainability point to the fact that domestic debt should be included into DSA exercises. Currently, this is not common practice for at least two reasons. The first reason has to do with the fact that it is hard to find data on the level and composition of domestic debt (even worse, we do not even have a good definition of domestic and external debt).[14] The second reason relates to the fact that different types of debt yield different vulnerabilities. Accordingly, it would be wrong to simply sum them to form a single debt ratio. Data availability problems could be solved if there were political will to do so. In fact, the League of Nations used to collect detailed data on the amount and composition of domestic public debt for both developed and developing economies and the United Nations continued to collect and publish such data until the early 1980s (Reinhart and Rogoff, 2008). The other problem could be solved by building an aggregate debt ratio which gives more weight to "riskier" (from the borrower's point of view) types of debt and less weight to "safer" types of debt. This approach would be superior to the current practice which consists of either simply summing all types of debt (the equivalent to giving the same weight to all types of debt) or of just including external debt (the equivalent to giving a weight of one to all types of external debt and a weight of zero to all types of domestic debt).

The third problem with the standard DSF is that it is based on the primacy of debt service. Thus, it does not explicitly include an evaluation of what a country needs for achieving its own development goals. Maybe "green light" countries should receive no financing because they cannot absorb the extra resources (this seems to be the case in some African countries, see Aiyar, Berg and Hussain, 2005, and also, more in general, for a vast sample of aid recipients, see Aiyar and Ruthbah, 2008) and maybe "red light" countries should receive more grant financing than what is implied by DSF. In the future, DSF should do a better job at discriminating between these types of countries and take seriously the United Nations Secretary General's suggestion that "… we should redefine debt sustainability as the level of debt that allows a country to achieve the Millennium Development Goals and reach 2015 without an increase in debt ratios." [15]

The last problem has to do with the fact that countries may borrow to accumulate productive assets. Programmes devised by the main international financial institutions often include explicit targets or limits for the primary budget deficit and, as current expenditure tends to be the most rigid component of the budget, investment is the typical adjustment variable when the deficit exceeds the target. One of the objectives of these targets is to help maintain or achieve fiscal sustainability. However, government borrowing for investment is likely to have a different impact on long-term growth, and thus tax revenues, than debt incurred to finance current expenditure. Hence, if these targets reduce productive public investment, they may have a negative effect on long-term fiscal sustainability. This suggests that an indicator aimed at stabilizing the debt-to-public-wealth ratio would be better than an indicator aimed at stabilizing the debt-to-GDP ratio.[16] Of course, such indicator is not easy to calculate and would lead to transparency issues and this problem cannot be easily addressed by eliminating investment from fiscal targets because not all types of public investment projects have the potential of improving long-run solvency. However, research has shown that countries that have good capacities of conducting ex-ante evaluation of investment projects are able to select projects that may improve solvency over the long run (Easterly, Irwin and Serven, 2008). Fiscal targets that keep into account these ex-ante evaluations and also record revenues and expenses using accrual-based accounting standards are likely to be superior to targets based on cash accounting.[17] These considerations point to the fact that debt sustainability analysis needs to be framed into an asset-liability management approach and recognize that borrowing that increases the value of a country's stock of assets is more likely to be sustainable than borrowing used to finance current expenditures or white elephant projects.

B. Additionality

Additionality of debt relief is one of the most important points raised by the Monterrey Consensus. The Consensus made it clear that debt relief should be "fully financed through additional resources" (§49). Interestingly, there is limited research on the additionality of debt relief. Four early papers (Ndikumana, 2004; Birdsall, Claessens and Diwan, 2001; Powell, 2003; and Hepp, 2005) find inconclusive evidence. Arslanap and Henry (2006) claim that debt relief has not been additional and the World Bank (2006a) claims that debt relief under the HIPC Initiative was not additional in the early years but has now become additional. The first four papers use a formal econometric analysis but are based on rather old data. The last two papers use more recent data but do not conduct a formal econometric analysis of the additionality of debt relief. The annex of this paper reports a set of econometric estimates based on recent data and shows that there is no strong evidence of additionality.

There are at least two definitions of additionality (Powell, 2003, uses three definitions). According to the first definition, debt relief is additional if it does not reduce other aid flows. According to the second definition, debt relief is additional if it increases the total resources made available to debtor countries. Satisfying the second definition of additionality is a necessary but not sufficient condition for satisfying the first definition. Some algebra may be useful to clarify the two concepts. Define total aid as:

$$AID = NETAID + DR$$

Where AID is total aid, NETAID is AID net of debt relief, and DR is debt relief.[18] We can use this equation to estimate the impact of debt relief on NETAID by using the following expression:

$$\Delta NETAID = \alpha \Delta DR$$

Where ΔNETAID is the change in aid net of debt relief, ΔDR is the change in debt relief, and the

parameter α tells us by how much debt relief affects aid net of debt relief. In other words, α tells us by how much debt relief crowds-in or crowds-out other forms of aid. If $\alpha = 0$, there is neither crowding-in nor crowding-out. This means that debt relief has no effect on other forms of aid. If $\alpha < 0$ but $\alpha > -1$, there is incomplete crowding out. This means that an extra dollar of debt relief leads to a reduction of other forms of aid but total aid (NETAID + DR) still increases (for instance, if $\alpha = -0.8$, a one dollar increase in debt relief leads to a \$0.8 decrease in other forms of aid but total aid increases by \$0.2). If $\alpha < -1$, there is full crowding out (an extra dollar of debt relief leads to a reduction in total aid). If $\alpha > 0$, debt relief crowds-in other forms of aid. In this case, a one dollar increase in debt relief leads to an increase in total aid which is greater than one dollar.

According to the first definition, aid is additional if an increase in DR does not lead to a decrease in NETAID. Hence, according to the first definition, aid is additional only if α is non-negative (i.e., $\alpha \geq 0$). According to the second definition, aid is additional if an increase in DR leads to an increase in AID (NETAID could go down, but debt relief would still be additional as long as the increase in DR is bigger than the decrease in NETAID). Hence, according to the second definition, aid is additional if $\alpha > -1$.

In discussing additionality, I will adopt the first definition which is consistent with the Monterrey request that debt relief should be "*fully* financed through additional resources" and that donors need to ensure that "resources provided for debt relief do not detract from ODA resources."

Not only there are two concepts of additionality, but additionality can be evaluated from both the donors and the recipients' side. These are different concepts. Debt relief is additional from the donors' side if debt relief does not reduce total ODA net of debt relief extended by each donor. Debt relief is additional from the recipients' side if countries that receive more debt relief do not receive less ODA net of net relief. The two definitions can differ (and, in fact, they do).[19] However, if debt relief is additional from the recipients' side and it is not additional from the donors' side, then, for any recipient of debt relief that receives constant (or increasing) ODA net of debt relief, there is a country that is not receiving debt relief and is also getting less ODA. So, in order to have full additionality, we need additionality from both the recipients and donors' side.

When we look at the problem from the donors' side, we find that an extra dollar of debt relief leads to a reduction of net aid of approximately \$0.3. Moreover, if we split donor countries into three groups: Stingy (those that give little aid), Generous (those that give a lot of aid), and Intermediate (all the other countries), we find that debt relief crowds out a lot of aid extended by generous countries (the point estimates of the regressions reported in table A1 are often lower than –1). This indicates that, for this group of countries, debt relief is not additional according to both the first and the second definition of additionality. For intermediate countries, we find a crowding out coefficient of approximately 40 per cent and for "stingy" countries we find positive (albeit not statistically significant) coefficients. This indicates that debt relief crowds-in aid only in countries that give little aid, but crowds-out aid in all other countries. My estimations show that things did not change after the implementation of the HIPC initiative.

When I focus on the recipients' side, I conduct two types of tests. First, I look at whether debt relief does liberate resources or just cancels debt in arrears and then I test additionality by using a set of regressions similar to the ones used for donor countries.

The first test suggests that more than 90 per cent of debt relief does indeed free resources. The coefficients of the arrears variables in table A2 range between 0.06 and 0.08. This is good news for debt relief. However, the importance of arrears has increased with time climbing to 15–20 per cent in the post-1998 period (table A3). Especially in recent years, arrears have been important for HIPCs, showing coefficients ranging between 14 and 40 per cent (table A4).[20]

The second battery of tests (tables A5–A7) suggests that debt relief is additional from the receivers' side. The coefficients are often non-negative and in some cases even positive (suggesting that debt relief crowds-in aid). However, when I restrict the analysis to the HIPCs and focus on the recent years, I often find negative and statistically significant coefficients indicating a small crowding out of approximately 6 per cent.

Taken together the preliminary results discussed here present evidence that debt relief has not been fully additional.[21]

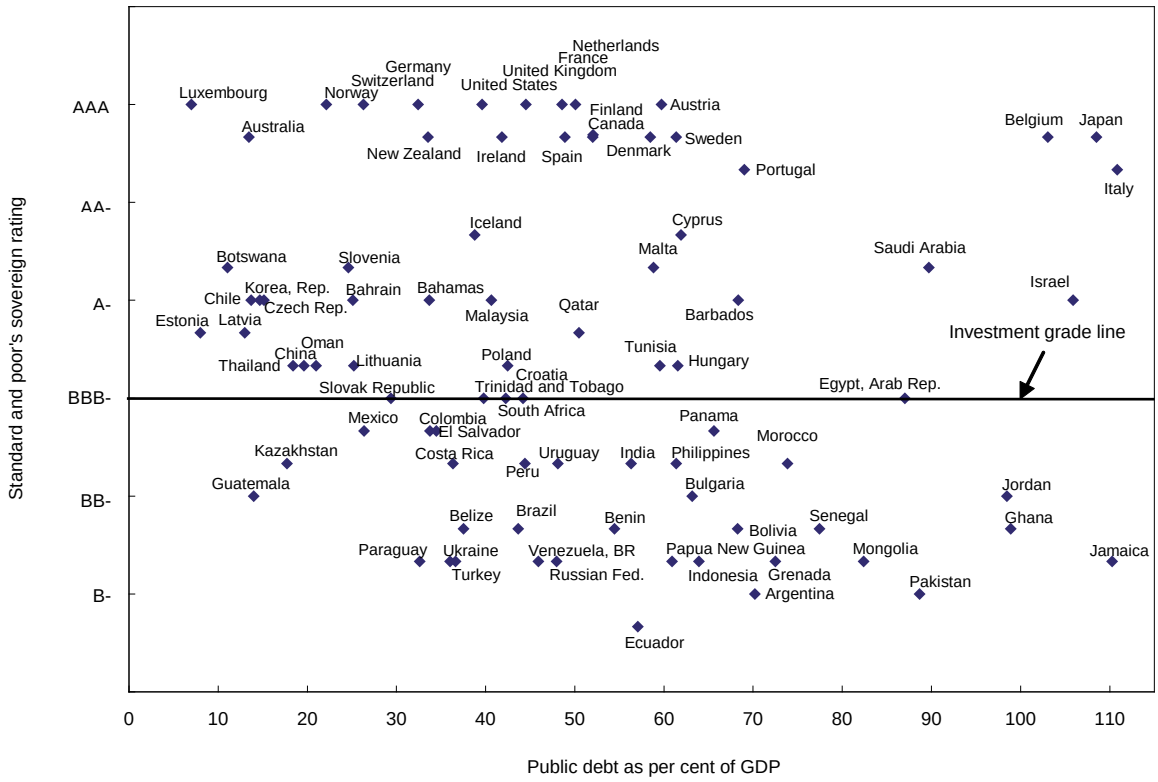
C. New instruments and new institutions [22]

There is now general agreement that debt structure is as important as the level of debt itself and that prudent fiscal policies are not enough to prevent the possibility of a debt crisis (Borensztein, Levy Yeyati and Panizza, 2006). In developing countries, debt structure is often biased towards foreign currency denominated instruments, leading to a situation in which an adjustment of the real exchange rate has a large impact on the debt to GDP ratio.[23] But real exchange rate volatility is not the only problem. Recessions, changes in commodity prices, financial contagion, and panic episodes can also turn around debt sustainability indicators very quickly. As a result, developing countries tend to face lower credit ratings, higher interest rates, and less stable financing even at levels of public indebtedness that are substantially lower than those of the advanced economies (figure 2).

This creates an argument for introducing "safer" debt instruments. Examples of such instruments are local currency bonds and financial instruments with payments indexed to commodity prices, terms of trade, or GDP growth rate. Another option is to obtain contingent coverage through the use of derivative contracts. For instance, a commodity producer could reduce uncertainty by using future, forward, and option markets on the commodity. In practice, however, there are problems with this approach. Many future and option markets lack depth and liquidity and, therefore, offer only limited scope for insurance. The lack of markets is more acute in the case of events such as fluctuations in tourism revenues, and natural disasters such as hurricanes.[24] The international community can help improving debt management by supporting the development of new markets and new instruments. Through this action, it will allow countries to minimize the risks of sovereign borrowing, keeping

Figure 2

DEBT LEVELS AND CREDIT RATINGS (1995–2005)



Source: Borensztein, Levy Yeyati and Panizza, 2006.

costs of borrowing at moderate levels, and improve the cyclical timing of fiscal policy.

There is broad consensus on the desirability of issuing domestic-currency debt but few developing countries are able to issue external debt in their own currency. A factor limiting a country's ability to issue external debt in its own currency is the small size of the market. While a few large emerging market countries may not be seriously affected, the currencies of many emerging markets are considered "exotic" and carry substantial liquidity premiums (Eichengreen, Hausmann and Panizza, 2005b). The international financial institutions (IFIs) could help broaden the investor base for local currency instruments by enlisting their own market liabilities. Several multilateral development banks have been issuing bonds denominated in emerging economy currencies with the objective to minimize their own borrowing costs. Recently, they accelerated this process because they recognized that, by borrowing in local currencies, they could support the creation of markets for such instruments. Thus they would contribute to development using both the assets (their loans) and the liabilities (their funding) of their balance sheets. An ambitious proposal along these lines is to create a synthetic unit of account that pools currency risk from a large and diversified group of emerging economies, together with steps for the international financial community to develop liquidity in this unit (Eichengreen and Hausmann, 2005).[25] Debt sustainability and risk-sharing can also be enhanced by issuing instruments with equity-like features. GDP indexed bonds, which provide for lower payments when capacity to pay is low, are of particular interest.[26]

However, creating a market in such securities poses a number of challenges. Someone has to sink the costs of designing the new instrument, and someone has to be the first to issue into a nonexistent or illiquid market. In the case of contingent bonds, the international community can provide technical assistance on instrument design and expected pricing. In the case of GDP-linked debt, for example, the international community could strengthen the quality and reliability of statistics and thus enhance the credibility of these instruments. Moreover, the international community could help in the drafting of a model contract and resolve legal uncertainties (for example, questions about the legal standing of a GDP warrant relative to other sovereign instruments) and could provide guidance on the drafting of GDP-linked clauses to ensure the reliability and integrity of their application.

The above discussion suggests that the creation of new instruments may require the intervention of the international community because of the required market size, externalities, and the need for homogenous standards. But the international community could also help addressing a more fundamental problem. Any policy aimed at lowering risk, either through derivative contracts or indexed debt, is analogous to paying an insurance premium and implies a cost that must be paid during good times. As these contracts are relatively complex, such costs can be easily misunderstood and become politically costly. This creates little incentive for politicians to enter into large scale contracts of this type. This is especially true for myopic politicians when considering that the cost is likely to be paid up front and the payoff from the insurance may accrue only years later. If the IFIs could create a critical mass of these instruments and demonstrate their benefits, it would be harder for myopic politicians to reject the use of such instruments.

Even when countries are in a sound position in terms of debt sustainability, they may face liquidity problems. Countries need to roll over maturing debt and cover their annual financing needs, which can become virtually impossible in the event of a sudden stop in global financial markets. Moreover, a liquidity crisis can trigger more fundamental insolvency problems by causing large exchange rate depreciation, recession, and/or bank failures. When debt is foreign-currency denominated, the accumulation of a large stock of international reserves can protect a country from potential liquidity crises. But the accumulation of international reserves is expensive. Reserves are held in safe liquid assets (until recently, mostly United States Treasury Bonds) which carry low interest rates. For some emerging markets, the spread of their own debt over the yield on United States Treasury Bonds can be significant. Self-insurance thus entails a "cost of carry" that the government has to pay.[27] Some authors have proposed ways of improving on this self-insurance strategy, for example by investing reserves in assets that are negatively correlated with country risk (as opposed to high-grade foreign currency assets, Rigobon, 2006; and Caballero and Panageas, 2006) or investing their reserves in assets which are less liquid than United States Treasury Bills but have a higher return. This is a sound strategy assuming that there exist assets or commodity derivatives with a reliable correlation with country risk and a sufficiently liquid market. The case for this strategy is easier to make in countries

where the volume of reserves amply exceeds what may be needed for ensuring stability in the foreign exchange market.[28]

To strengthen crisis prevention, the international community needs to implement plans to prevent or mitigate sudden hard currency liquidity shortages. A country insurance facility would consist of a liquidity window that lends short term to eligible countries at predetermined interest rates — in much the same way the central bank, acting as lender of last resort, lends to domestic financial institutions. Since rollover risk (i.e., uncertainty about access to sources of finance) is the main aspect driving liquidity runs, the availability of liquidity with certainty is a strong deterrent to the start of a self-fulfilling run. A commonly voiced concern with country insurance facilities is the potential for moral hazard. This aspect is critical because for a country insurance arrangement to be effective the availability of the funds needs to be reasonably automatic. The facility can avoid moral hazard by applying appropriate eligibility conditions, based on triggers that are exogenous to the assisted country (such as international interest rates or natural disasters), or a policy prequalification condition. A precedent in this regard is the Contingent Credit Lines (CCL) facility that the IMF implemented in 1999. Design problems made this facility unattractive to potential users and it was finally deactivated in 2003 without having ever been drawn.[29]

As a partial response to the liquidity risk, some emerging economies have started to develop regional country insurance schemes. These typically take the form of regional swap agreements under which participating countries can borrow from other members on short notice for limited periods of time. These agreements include the North American Swap Agreement, the Chiang Mai initiative, and the Latin American Reserve Fund (FLAR). While these arrangements are close in spirit to a multilateral country insurance facility, their effectiveness is hampered by their limited (albeit growing) size and, in the Latin American case, by the absence of a large country with reliable access to dollar liquidity. Notwithstanding these problems, FLAR has been able to leverage its capital by funding itself in international markets at interest rates below those of its members. This implies that this regional arrangement entails a lower insurance cost relative to what member countries would have to pay individually. The same is also observed in the rates paid by the Andean Financial Corporation (CAF), a regional development bank. This suggests that there may be efficiency gains associated with this type of arrangement, stemming from risk pooling or from the perception that they enjoy a preferred creditor status.

Contagion has raised individual emerging market crises to regional or even global events in several past episodes. While a well implemented and fully credible country-insurance mechanism could eliminate contagion episodes, regulators and supervisors could also play a role by putting in place mechanisms to limit the damage caused by disorderly markets. Although it may not be feasible for an international institution to act as a global regulator, there are proposals that could provide circuit-breaker type benefits. For example, Calvo (2005) proposed the creation of an Emerging Market Fund (EMF) aimed at stabilizing an emerging market index such as the JP Morgan EMBI+. The Fund would be endowed with G3 debt instruments and, in the event of a disturbance, could limit contagion by making a credible commitment to buy bonds from the emerging markets that are not at the centre of the crisis. The EMF could thus slow down or even stop a generalized collapse in the asset class, preventing fire sales from sending the wrong signal to investors. According to the original proposal, the EMF would not try to fight trends but only intervene in special circumstances. Action could only be triggered by a financial meltdown defined as a drop in the index by more than a certain percentage relative to a moving average. Calvo (2005) shows that creating such a Fund would require less than 1 per cent of G3 countries' public debt and could even be profitable, as long as the majority of the crises are indeed due to contagion and not deterioration of fundamentals.

IV. Conclusion: Where should we go next? A shadow consensus

I conclude by discussing what should be the focus of the external debt component of the Doha conference. I will organize my "Shadow Consensus" into three sections: Background, Definitions and Actions.

A. Background: Should we care about external debt and if so why?

Until recently, the standard view in most development and academic circles was that access to external resources was a necessary condition for igniting growth in poor countries. This view, which is consistent with the traditional developmental approach and modern neoclassic economic theory, was the main intellectual foundation of the Monterrey Consensus. However, empirical evidence has not been kind to this view. Over the last few years, several developing countries have been growing rapidly while running large current account surpluses. Econometric studies show that a reduced reliance on external capital (including both equity and debt flows) is linked to higher economic growth (Prasad, Rajan and Subramanian, 2007). As a consequence, the new orthodoxy is that external capital is at best not necessary and at worst detrimental for economic growth.

Does this mean that we need to forget everything we learned about the potential positive effects of external resources? Maybe not! A fairer view of the new evidence is that external finance is not necessary for all countries or at all times. After all, econometric estimates can only tell us what happens in the *average* country. Hence, the finding that, on average, foreign capital is bad for growth does not rule out that some countries are actually benefiting from external resources. Moreover, there are different types of inflows and each type has its costs and benefits. There are also different uses for such inflows and the effects of such inflows on the economy will depend on how these resources are used. Furthermore, the evidence shows that foreign capital does not contribute to economic growth under the current international set-up, but cannot say anything about what would happen under a revamped international financial architecture.

A key challenge for a policy agenda on external debt is to identify which countries can benefit from external resources and how these resources can be used in order to maximize growth and social development. However, this is not the only challenge. Even countries with positive net foreign assets have a gross external debt. In the presence of mismatches in the composition of gross external assets and liabilities (Lane and Milesi-Ferretti, 2001), gross external debt could still be a source of vulnerabilities.

With respect to their external financing needs, developing countries can be divided into two groups: low income countries with limited or no market access and middle income countries with market access (often referred to as emerging market countries). These two groups of countries face different problems and any consensus on what needs to be done on external debt should start by recognizing these differences. Most of the external funds that flow to the first group of countries consist of concessional loans, grants and aid. The main challenge for these countries is to obtain enough funds to finance their development needs. Of course, there are issues related to implementing safeguards so that money is not misspent or stolen. Moreover, donors need to make sure that aid flows do not cause distortions linked to Dutch-disease like phenomena and that investment projects financed with donors' resources are part of a coherent growth strategy.[30] However, international policies aimed guaranteeing debt sustainability in low-income countries often boil down to the Jerry Maguire approach: "Show me the money!"

The second group of countries, instead, can borrow in the international markets. In this case, the main challenge is to reduce the high volatility (often due to external factors but sometimes domestically generated) that characterizes private capital flows to these countries and implement policies aimed at reducing the costs of this volatility. Given that a large and increasing share of borrowing by emerging market countries originates within the private sector (table 1), these countries also need to carefully supervise the activities of private agents and ensure that private borrowing does not generate excessive vulnerabilities in the balance sheets of domestic banks and corporations.

B. Definitions: Boring but important

Before discussing what needs to be done about external debt, it is necessary to have a workable definition of external debt and ask whether it makes sense to talk about external debt without highlighting its interaction with domestic public debt.[31]

When people talk about external debt, they have in mind three possible criteria for identifying this type of debt: (i) the currency in which the debt is issued (external debt is foreign currency debt); (ii) the residence of the creditor (external debt is debt owed to non-residents); and (iii) the place of issuance and the legislation that regulates the debt contract (external debt is debt issued in foreign countries and under the jurisdiction of a foreign court).

The first definition does not seem appropriate because several countries issue foreign currency denominated debt in the domestic markets and have recently started to issue domestic currency denominated debt in international markets. Moreover, this definition is problematic for countries that adopt the currency of another country. This does not mean that countries should not report information on the currency composition of their domestic and external debt. In fact, such information is necessary for evaluating a country's vulnerability to currency mismatches and potential responses to a debt crisis. However, currency composition should not be confused with the definition of external debt.

The second definition is the one which is officially adopted by the main compilers of statistical information on public debt. The *External Debt Statistics: Guide for Compilers and Users* jointly published by the BIS, Eurostat, IMF, OECD, Paris Club, UNCTAD and the World Bank states that: "Gross external debt, at any given time, is the outstanding amount of those actual current, and not contingent, liabilities that require payment(s) of principal and/or interest by the debtor at some point(s) in the future and that are owed to non-residents by residents of an economy." This definition makes sense from a theoretical point of view because it focuses on the transfer of resources between residents and non-residents. It allows to measure the amount of international risk sharing and the income effects of variations in the stock of debt, and to evaluate the political cost of a default on public debt. However, this definition is almost impossible to apply in the current environment where most external debt due to private creditors takes the form of bonds (things were easier when most lending was channelled through syndicated bank loans). Of course, countries could try to identify the residence of whoever bought the bonds in the primary market and track what happens in the secondary market by running periodical surveys. However, few developing countries are attempting (or have the capacity) to identify the ultimate holders of their bonds.[32] Even those that try to do so cannot do anything for bonds held in offshore financial centres. As a consequence, most countries end up reporting figures for external and domestic debt by using information on the place of issuance and the jurisdiction that regulates the debt contract. This is not a problem, *per se*. The problem is that the information is misleading because it does not measure what it promises to do (i.e., transfer of resources from non-residents to residents).[33]

This discussion would be irrelevant if there were a close match between the place of issuance and the residency of the ultimate holder, as it used to be the case in the past. However, there is anecdotal evidence that more and more international investors are entering the domestic markets of developing countries and that domestic investors often hold bonds issued in international markets. For instance, a large share of domestic long-term debt issued by the Mexican government is held by the United States investors and, at the time of the Argentinean debt default, a significant share of Argentinean "external" bonds were held by residents.

As a consequence, I tend to prefer the third definition which classifies as external all debt issued under foreign law (this is the definition used in Cowan, Levy Yeyati, Panizza and Sturzenegger, 2006). While I am aware that the second definition is the one which is theoretically correct, a definition based on jurisdiction is feasible and does not give misleading information on the identity of the supposed holders of a country's debt.

In an environment characterized by open capital accounts and by the presence of foreign investors who buy domestically issued debt and domestic investors who buy debt issued in the international market, the old external/domestic debt dichotomy does not make much sense. Legislation, residence and type of holders, currency, and maturity are all characteristics which are associated with different types of vulnerabilities. Yet, excessive focus on the external/domestic breakdown led to a situation in which the maturity and currency composition of

domestically issued debt is not usually included among the vulnerability indicators used to predict financial crises.

C. Summing up: What is to be done?

The policy agenda on the "external" debt of developing countries should focus on the following seven points:[34]

(i) *Recognize* that not all countries need the same amount of external resources or are able to sustain the same amount of debt, and that debt sustainability depends on how debt is used. *Emphasize* that the ability to repay debt (which is at the core of standard debt sustainability analysis exercises) is different from the need for external resources. There are countries that face an unsustainable debt situation and need more resources. Likewise, there are countries that do not have problems sustaining a higher level of debt, but are in a situation in which a net flow of external resources could be deleterious for economic and social development (which could generate sustainability problems in the long-run). Identifying these different groups of countries should be the objective of a revamped Debt Sustainability Framework. In this vein, it should be recognized that debt sustainability analysis exercises should focus *on both assets and liabilities.*

(ii) *Recognize* that debt sustainability is an issue for both low income and middle income countries and that debt relief efforts should not, in principle, discriminate among these different groups of countries. As countries that need debt relief are also likely to need more external resources, the official sector should make sure that debt relief is truly additional, and could possibly be accompanied by an increase in other forms of aid. Evaluation of debt relief initiatives should include an explicit measure of the additionality of debt relief.

(iii) *Recognize* that past debt relief efforts have been somewhat unfair to countries with large developmental needs but low debt levels and ensure that these countries are appropriately rewarded for conducting prudent macroeconomic policies. A way to accomplish this would be to include all low-income countries in the Multilateral Debt Relief Initiative.

(iv) *Recognize* that financial crises in countries with market access are often driven by liquidity problems and not by solvency problems – even solvency problems are sometimes the outcome of a liquidity problem. *Help* developing countries create new instruments and institutions that can reduce the likelihood of a liquidity crisis. *Acknowledge* that international coordination is particularly important because some of the shocks that may lead to a liquidity crisis depend on external factors and that these shocks often originate from policy decisions of the advanced economies.

(v) *Recognize* that vulnerabilities which may lead to debt crises are related to both debt levels and debt composition, and that there are important interactions between domestic public debt and external debt. As vulnerabilities cannot be identified without prompt and reliable data on the composition of both external debt and domestic public debt, *encourage* international coordination aimed at producing and disseminating such data. Donors should support programmes aimed at improving the debt management and data collection capacities of developing countries and ensure that the various competing systems report comparable data and cover domestic public debt. *The international dialogue should move from "External Debt" to "External Debt and Total Public Debt."*

(vi) *Recognize* that, even with improved debt management and better and safer debt instruments, debt crises are bound to occur and that the lack of a mechanism for recognizing a situation of insolvency in the early stages of a debt crisis may lead to costly delays in the restructuring process.[35] It is thus unfortunate that the discussion on the possibility of creating a Sovereign Debt Restructuring Mechanisms, which had built momentum in the run-up of the Argentinean crisis, is no longer salient in political discussions. The international community should not abandon the idea of creating a debt resolution mechanism aimed at guaranteeing a speedy solution to debt crises and a fair burden-sharing among creditors and debtors. In fact, there should be two crisis resolution mechanisms: one for middle income countries with a large share of commercial debt and one for low income countries which have a large share of their debt with official creditors.

(vii) *Start* thinking seriously about the odious debt issue. This is a controversial concept on which there is a multiplicity of views. Some argue that odiousness should be defined ex-post (Eurodad, 2007), while others argue that declaring odiousness ex-post may generate some problems that could be solved by declaring odiousness ex-ante (Jayachandran and Kremer, 2006). Still others claim that, given the current state of knowledge, having an explicit odious debt policy either ex-post or ex-ante may do more harm than good (Rajan, 2004). While the new consensus should not take a position on an exclusive definition of odious debt, it should promote the creation of an intergovernmental forum for discussing issues related to odious and illegitimate debt. The lack of such a forum has led to a situation in which the debate is often dominated by participants with extreme views and in which there is no way to separate, and give legitimacy to, reasonable and feasible definitions of odious and illegitimate debt from more radical views.

Statistical annex: Is debt relief additional? [36]

This annex presents some preliminary results of a statistical exercise aimed at testing whether debt relief brings additional resources or crowds out other forms of official development assistance. These statistical tests measure additionality from the point of view of both donors and recipients.

Additionality from the donors' perspective

We start by testing whether donors who grant debt relief give less non-debt relief-related aid. We do this by estimating the following regression:

$$ODANET_{i,t} = \alpha DR_{i,t} + \beta X_{i,t} + \mu_i + \varepsilon_{i,t}$$

Where ODANET is official development assistance net of debt relief extended by country *i* in year *t*, DR is debt relief offered by country *i* in year *t* (both ODANET and DR are measured as a share of GDP of the donor country), *X* is a matrix of control variables, and μ_i is a country fixed-effect that controls for all possible donor-specific time-invariant country characteristics (we will also estimate some specifications with random effects and some specifications with time fixed effects).[37] We estimate the model using data for 21 countries which are members of the OECD-DAC and use DAC data to measure ODA and Debt Relief.[38]

Our parameter of interest is α. This parameter measures the relationship between debt relief and non-debt relief ODA. If we were to find that α is equal to zero, then we could conclude that there is no relationship between debt relief and ODANET and that debt relief is additional. A positive value of α indicates that debt relief crowds in aid. This situation, in which debt relief is more than additional, would suggest that donors realize that some countries need both debt relief *and* more resources. A negative value of α indicates that debt relief crowds out aid and that debt relief is not fully additional.[39]

The results of our model show that debt relief is not fully additional. In particular, columns 1–4 of table A1 show that each dollar of debt relief crowds out about 30 cents of non-debt relief related ODA.[40] In columns 5–10, we split the sample into three groups of countries: Stingy, Intermediate and Generous.[41] We find no crowding out for stingy countries (probably because they give so little that they could hardly reduce their net ODA). In fact, for these countries the interaction term (ST*DR) is positive (albeit not statistically significant) indicating that, if anything, debt relief crowds-in other forms of ODA. For intermediate countries (INTER*DR), we find a crowding out effect of approximately 40 per cent (one dollar of debt relief crowds out 40 cents of other forms of ODA). For generous countries (GEN*DR) we find that debt relief crowds out 100 per cent of other forms of ODA.

The second part of table A1 focuses on the post-HIPC years (starting in 1998) and shows that the HIPC initiative did not change things substantially.

Additionality from the recipients' perspective

We look at additionality from the recipient's perspective by conducting two experiments. First, we test whether debt relief does consists of cancellation of performing debt or if it is just an accounting exercise in which creditors officially recognize that their claims have no value (Depetris and Kraay, 2007, present a detailed discussion of this issue). Then, we conduct an exercise similar to that conducted in the previous section and test the relationship between debt relief and other forms of ODA.

Table A1

DEPENDENT VARIABLE: DONOR'S ODA NET OF DEBT RELIEF AS A SHARE OF DONOR'S GDP

	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
DR/Y	-0.297	-0.267	-0.293	-0.267						
	(2.06)**	(1.79)*	(2.05)**	(1.80)*						
Ln(GDPPC)	1.447	4.630	1.399	4.715	1.238	3.738	1.486	4.825	1.306	4.516
	(3.52)***	(6.28)***	(3.38)***	(6.16)***	(3.11)***	(5.36)***	(3.61)***	(6.32)***	(3.46)***	(6.49)***
RER	0.118	0.058	0.117	0.057	0.137	0.083	0.131	0.071	0.084	0.079
	(1.66)*	(0.78)	(1.67)*	(0.77)	(1.94)*	(1.11)	(1.86)*	(0.95)	(1.73)*	(1.11)
GOVBAL	-0.008	-0.010	-0.009	-0.010	-0.008	-0.010	-0.009	-0.011	-0.012	-0.011
	(4.27)***	(4.58)***	(4.57)***	(4.89)***	(4.42)***	(4.65)***	(4.70)***	(4.95)***	(6.09)***	(5.97)***
HIPC	-0.015		-0.012		-0.010		-0.016			
	(0.92)		(0.70)		(0.64)		(0.96)			
ST*DR					0.089	0.070	0.073	0.094	0.008	-0.037
					(0.38)	(0.29)	(0.31)	(0.40)	(0.03)	(0.22)
GEN*DR					-1.199	-0.838	-1.379	-0.965	-1.720	-1.482
					(2.01)**	(1.43)	(2.28)**	(1.65)*	(3.98)***	(2.63)***
INTER*DR					-0.369	-0.390	-0.413	-0.410	-0.244	-0.531
					(2.02)**	(2.11)**	(2.25)**	(2.23)**	(0.98)	(1.85)*
GENEROUS					0.627	0.611				
					(8.59)***	(7.10)***				
INTERM.					0.163	0.205				
					(2.55)**	(2.71)***				
Constant	-2.967	-10.204	-2.862	-10.407	-2.734	-8.439	-3.057	-10.656	-2.760	-10.044
	(3.14)***	(6.06)***	(3.01)***	(5.96)***	(2.97)***	(5.27)***	(3.23)***	(6.11)***	(3.17)***	(6.28)***
N. obs.	306	306	306	306	306	306	306	306	306	306
N. countries	21	21	21	21	21	21	21	21		
Estimation method	Random effects		Fixed effects		Random effects		Fixed effects		Fixed effects quantile regressions	
Year fixed effects	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

Note: * Significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Absolute values of t statistics in parentheses.

Table A1 (cont.)

DEPENDENT VARIABLE: DONOR'S ODA NET OF DEBT RELIEF AS A SHARE OF DONOR'S GDP
(Only HIPC years)

	(1)	*(2)*	*(3)*	*(4)*
DR/Y	-0.231	-0.284	-0.215	-0.278
	(1.88)*	(2.13)**	(1.77)*	(2.09)**
Ln(GDPPC)	1.550	2.077	1.423	1.297
	(3.50)***	(1.74)*	(3.20)***	(0.98)
RER	0.033	0.044	0.039	0.059
	(0.41)	(0.48)	(0.49)	(0.63)
GOVBAL	-0.005	-0.007	-0.006	-0.008
	(2.12)**	(2.57)**	(2.57)**	(2.94)***
Constant	-3.227	-4.442	-2.931	-2.636
	(3.12)***	(1.60)	(2.83)***	(0.86)
N. obs.	166	166	166	166
N. countries	21	21	21	21
Estimation method	Random effects		Fixed effects	
Year fixed effects	No	Yes	No	Yes

Note: * Significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent.
Absolute values of t statistics in parentheses.

For the first exercise we estimate the following model:

$$DR_{i,t} = \alpha ARR_{i,t-1} + \beta X_{i,t} + \mu_i + \varepsilon_{i,t}$$

Where DR is debt relief received by country *i* in year *t*, ARR are the arrears on debt accumulated by country *i* in year *t-1* (we measure DR and ARR as a share of debt and as a share of GDP of the recipient country), *X* is a matrix of control variables, and μ_i is a country fixed-effect that controls for all possible recipient-specific time-invariant country characteristics (we also estimate some specifications with time fixed effects).[42] We estimate the model using an unbalanced panel of up to 114 developing countries. We obtain data on arrears and debt relief from the World Bank's Global Development Finance Database (we define debt relief as the sum of principal forgiven and interests forgiven, we obtain the same results if we add debt rescheduling).

Again, our parameter of interest is α. This parameter measures the relationship between arrears

Table A2

DEPENDENT VARIABLE: DEBT RELIEF RECEIVED BY RECIPIENT COUNTRIES

(Fixed effects estimates)

	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*
	Debt relief as a share of PPG external debt					***Debt relief as a share of GDP***				
ARR/D t-1	0.061	0.065	0.064	0.065	0.065					
	(6.16)***	(6.08)***	(5.92)***	(5.98)***	(5.80)***					
PPG/Y t-1		0.001	0.001				-0.005	-0.005		
		(0.22)	(0.15)				(1.02)	(1.15)		
Ln(GDPPC)		-0.010	-0.009	-0.010	-0.009		-0.004	-0.001	-0.003	0.000
		(1.18)	(0.99)	(1.16)	(0.91)		(0.53)	(0.15)	(0.45)	(0.01)
SEAT UN SC		-0.003	-0.002	-0.002	-0.002		-0.006	-0.006	-0.004	-0.004
		(0.49)	(0.43)	(0.40)	(0.32)		(1.30)	(1.26)	(0.90)	(0.87)
INST		0.000	0.001	0.001	0.001		-0.000	-0.000	-0.000	-0.000
		(0.48)	(0.47)	(0.51)	(0.49)		(0.45)	(0.37)	(0.19)	(0.12)
Ln(POP)		0.021	0.033	0.020	0.034		0.022	0.040	0.020	0.042
		(1.34)	(1.18)	(1.24)	(1.12)		(1.52)	(1.59)	(1.34)	(1.57)
NPVPPG/Y t-1				0.001	0.001				-0.014	-0.015
				(0.19)	(0.23)				(2.45)**	(2.56)**
ARR/Y t-1						0.055	0.059	0.059	0.077	0.078
						(9.56)***	(7.09)***	(7.06)***	(7.27)***	(7.26)***
Constant	0.002	-0.113	-0.229	-0.105	-0.237	0.002	-0.155	-0.344	-0.140	-0.367
	(1.02)	(0.82)	(0.82)	(0.74)	(0.81)	(1.71)*	(1.26)	(1.39)	(1.12)	(1.42)
N. obs.	1586	1459	1459	1425	1425	1585	1459	1459	1424	1424
N. countries	114	111	111	111	111	114	111	111	111	111
R2	0.03	0.03	0.04	0.03	0.04	0.06	0.06	0.06	0.06	0.07
Year fixed effects	No	No	Yes	No	Yes	No	No	Yes	No	Yes

Note: * Significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Absolute values of t statistics in parentheses.

and debt relief. Table A2 suggests that about 6–7 per cent of debt relief is just the recognition of arrears.[43] Moreover, the presence of arrears is the only variable that is robustly correlated with debt relief. Table A3 splits the sample in the pre and post-HIPC period and finds that things got worse after the HIPC initiative. After 1998, about 15 per cent of debt relief is just the recognition of arrears. Table A4 restricts the sample to HIPC countries. In this case, arrears represent up to 20 per cent of debt relief! So, the HIPC initiative seems to have made things worse and not better. World Bank (2006a) claims that debt relief under HIPC was not additional in the early periods but that debt relief has become additional after 2001. We test this hypothesis in the second part of table A4 and find that when we restrict the sample to the post-2000 period, the coefficients attached to arrears increase to 40 per cent. This result is not consistent with an increase in additionality. If anything, it suggests that debt relief is less additional than it was before.

For our second experiment, we estimate the following model.

$$ODANET_{i,t} = \alpha DR_{i,t} + \beta X_{i,t} + \mu_i + \varepsilon_{i,t}$$

This model is exactly the same as the one used to measure additionality from the donors' point of view. The only differences are that all variables are now measured from the recipients' side and that the set of controls in the matrix X is different.[44] The results obtained by estimating the two equations may differ for two reasons: the unit of analysis is different and developing countries receive ODA from non-DAC donors and from the multilaterals.

The results reported in table A5 show that all coefficients are positive but rarely statistically significant. This is consistent with full additionality but no crowding-in effect. The second part of table A5 controls for outliers and find both additionality and

Table A3

DEPENDENT VARIABLE: DEBT RELIEF RECEIVED BY RECIPIENT COUNTRIES

(Fixed effects estimates)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Debt relief as a share of PPG external debt				*Debt relief as a share of GDP*			
ARR/D t-1	0.032	0.140	0.034	0.133				
	(1.55)	(7.28)***	(1.64)	(6.56)***				
PPG/Y t-1	-0.018	0.016			-0.034	-0.011		
	(2.58)**	(1.51)			(4.03)***	(1.02)		
Ln(GDPPC)	0.016	0.001	0.021	-0.000	-0.008	0.006	-0.002	0.004
	(0.60)	(0.05)	(0.80)	(0.02)	(0.37)	(0.40)	(0.11)	(0.29)
SEAT UN SC	-0.005	0.001	-0.005	0.001	-0.003	-0.000	-0.003	-0.001
	(0.55)	(0.12)	(0.59)	(0.13)	(0.38)	(0.07)	(0.41)	(0.09)
INST	-0.003	-0.000	-0.003	-0.000	0.000	-0.002	0.001	-0.002
	(1.33)	(0.05)	(1.30)	(0.04)	(0.14)	(1.08)	(0.45)	(1.02)
Ln(POP)	-0.042	0.068	-0.049	0.078	-0.032	0.105	-0.034	0.099
	(0.85)	(1.99)**	(0.98)	(2.25)**	(0.81)	(3.04)***	(0.83)	(2.86)***
NPVPPG/Y t-1			-0.016	0.018			-0.044	-0.024
			(2.39)**	(1.61)			(4.26)***	(1.82)*
ARR/Y t-1					0.058	0.164	0.082	0.178
					(3.82)***	(10.81)***	(4.27)***	(9.89)***
Constant	0.286	-0.634	0.300	-0.717	0.375	-0.984	0.338	-0.915
	(0.66)	(2.15)**	(0.70)	(2.36)**	(1.08)	(3.30)***	(0.97)	(3.03)***
N. obs.	615	844	588	837	615	844	587	837
N. countries	104	111	101	111	104	111	101	111
R2	0.02	0.07	0.02	0.07	0.04	0.15	0.04	0.15
Period	1990–1997	1998–2006	1990–1997	1998–2006	1990–1997	1998–2006	1990–1997	1998–2006

Note: * Significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Absolute values of t statistics in parentheses.

crowing in of about 8–9 per cent indicating that a $1 of debt relief brings in $0.09 of additional non-debt relief related resources. Table A6 splits the sample into periods and shows that debt relief was not additional in the pre-HIPC period (crowding out was about 25 per cent) but has become additional in the HIPC period. Table A7 restricts the sample to HIPC countries and again, finds evidence of additionality. However, when we control for outliers (second panel of table A7) and control for arrears (remember countries with arrears get more debt relief), we find some evidence of crowding out (at about 5 per cent, the value is small). The last two panels of table A7 look at HIPC countries for the post-2000 period (World Bank, 2006, claims that debt relief has become additional in this period) and find that, if anything additionality has decreased.

Summing up, we find strong evidence of no additionality from the donors' side and some evidence of additionality from the recipient side. If we accept that full additionality requires additionality form both side, then we conclude that, so far, debt relief has not been fully additional.

Table A4

DEPENDENT VARIABLE: DEBT RELIEF RECEIVED BY RECIPIENT COUNTRIES

(Fixed effects estimates; only HIPCs)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Debt relief as a share of PPG external debt					*Debt relief as a share of GDP*				
ARR/D t-1	0.185	0.209	0.204	0.205	0.201					
	(5.11)***	(5.05)***	(4.84)***	(4.46)***	(4.28)***					
PPG/Y t-1		0.015	0.017				-0.016	-0.012		
		(0.71)	(0.74)				(0.65)	(0.46)		
Ln(GDPPC)		-0.017	-0.027	-0.027	-0.040		-0.040	-0.041	-0.044	-0.049
		(0.25)	(0.38)	(0.41)	(0.58)		(0.54)	(0.53)	(0.60)	(0.65)
SEAT UN SC		-0.018	-0.019	-0.017	-0.018		-0.037	-0.040	-0.037	-0.040
		(0.63)	(0.66)	(0.61)	(0.62)		(1.18)	(1.26)	(1.20)	(1.28)
INST		-0.001	0.001	-0.000	0.001		-0.004	-0.002	-0.004	-0.002
		(0.14)	(0.18)	(0.12)	(0.19)		(0.82)	(0.48)	(0.78)	(0.44)
Ln(POP)		0.111	-0.066	0.123	-0.042		0.186	-0.007	0.176	0.009
		(1.62)	(0.35)	(1.76)*	(0.22)		(2.38)**	(0.03)	(2.30)**	(0.04)
NPVPPG/Y t-1				0.009	0.007				-0.036	-0.042
				(0.39)	(0.29)				(1.10)	(1.20)
ARR/Y t-1						0.135	0.163	0.157	0.185	0.185
						(5.92)***	(5.59)***	(5.26)***	(4.90)***	(4.75)***
Constant	-0.014	-0.917	0.766	-0.936	0.650	-0.008	-1.365	0.379	-1.248	0.316
	(1.89)*	(1.42)	(0.43)	(1.38)	(0.36)	(1.31)	(1.91)*	(0.19)	(1.69)*	(0.16)
N. obs.	277	248	248	246	246	276	248	248	246	246
N. countries	31	30	30	30	30	31	30	30	30	30
R2	0.10	0.12	0.14	0.12	0.14	0.13	0.15	0.16	0.15	0.17
Year fixed effects	No	No	Yes	No	Yes	No	No	Yes	No	Yes

Note: * Significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Absolute values of t statistics in parentheses.

Table A4 (cont.)

DEPENDENT VARIABLE: DEBT RELIEF RECEIVED BY RECIPIENT COUNTRIES

(Fixed effects estimates; only HIPCs after 2001)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Debt relief as a share of PPG external debt					*Debt relief as a share of GDP*				
ARR/D t-1	0.387	0.408	0.403	0.393	0.394					
	(11.14)***	(10.64)***	(10.25)***	(8.57)***	(7.42)***					
PPG/Y t-1		0.040	0.038				0.005	0.002		
		(1.30)	(1.12)				(0.14)	(0.06)		
Ln(GDPPC)		0.110	0.083	0.063	0.045		0.108	0.082	0.097	0.079
		(0.83)	(0.60)	(0.50)	(0.33)		(0.76)	(0.55)	(0.72)	(0.55)
SEAT UN SC		-0.001	0.004	0.003	0.008		-0.005	0.000	-0.004	0.001
		(0.04)	(0.12)	(0.10)	(0.23)		(0.14)	(0.01)	(0.11)	(0.02)
INST		0.001	0.002	0.000	0.001		-0.003	-0.002	-0.003	-0.003
		(0.21)	(0.35)	(0.06)	(0.13)		(0.44)	(0.28)	(0.51)	(0.43)
Ln(POP)		-0.013	-0.080	0.068	0.061		0.010	-0.082	0.009	-0.041
		(0.08)	(0.21)	(0.45)	(0.17)		(0.06)	(0.20)	(0.06)	(0.11)
NPVPPG/Y t-1				0.018	0.011				-0.009	-0.021
				(0.52)	(0.26)				(0.22)	(0.43)
ARR/Y t-1						0.362	0.390	0.388	0.395	0.400
						(16.57)***	(14.94)***	(14.51)***	(12.14)***	(10.73)***
Constant	-0.041	-0.765	0.033	-1.128	-0.935	-0.042	-0.894	0.129	-0.804	-0.203
	(6.43)***	(0.69)	(0.01)	(0.92)	(0.27)	(8.47)***	(0.74)	(0.03)	(0.62)	(0.06)
N. obs.	132	104	104	104	104	132	104	104	104	104
N. countries	28	27	27	27	27	28	27	27	27	27
R2	0.55	0.63	0.63	0.62	0.63	0.73	0.77	0.78	0.77	0.78
Year fixed effects	No	No	Yes	No	Yes	No	No	Yes	No	Yes

Note: * Significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Absolute values of t statistics in parentheses.

Table A5

DEPENDENT VARIABLE: ODA NET OF DEBT RELIEF RECEIVED BY RECIPIENT COUNTRIES

(Fixed effects estimates)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
DR/Y	0.128	0.024	0.029	0.028	0.028	0.077	0.008	0.017	0.007	0.011
	(2.69)***	(0.58)	(0.73)	(0.67)	(0.70)	(1.74)*	(0.19)	(0.41)	(0.17)	(0.27)
PPG/Y t-1		0.026	0.024				0.037	0.033		
		(6.93)***	(6.43)***				(7.18)***	(6.51)***		
Ln(GDPPC)		-0.100	-0.118	-0.107	-0.126		-0.099	-0.117	-0.106	-0.124
		(11.30)***	(12.80)***	(12.03)***	(13.56)***		(11.18)***	(12.69)***	(11.95)***	(13.45)***
SEAT UN SC		0.020	0.018	0.018	0.017		0.020	0.019	0.018	0.017
		(3.66)***	(3.50)***	(3.39)***	(3.19)***		(3.72)***	(3.54)***	(3.40)***	(3.20)***
INST		0.004	0.004	0.004	0.004		0.004	0.003	0.004	0.003
		(4.05)***	(3.50)***	(4.06)***	(3.43)***		(3.83)***	(3.33)***	(3.66)***	(3.08)***
Ln(POP)		-0.064	-0.196	-0.057	-0.190		-0.068	-0.199	-0.060	-0.192
		(4.04)***	(5.96)***	(3.51)***	(5.61)***		(4.28)***	(6.08)***	(3.73)***	(5.69)***
NPVPPG/Y t-1				0.022	0.021				0.045	0.041
				(5.74)***	(5.48)***				(6.89)***	(6.44)***
ARR/Y t-1						0.038	-0.028	-0.024	-0.051	-0.047
						(5.22)***	(3.02)***	(2.61)***	(4.35)***	(4.01)***
Constant	0.078	1.394	2.696	1.397	2.728	0.067	1.416	2.717	1.413	2.713
	(52.29)***	(10.44)***	(8.74)***	(10.25)***	(8.58)***	(44.39)***	(10.63)***	(8.83)***	(10.41)***	(8.59)***
N. obs.	1545	1333	1333	1309	1309	1451	1333	1333	1305	1305
N. countries	106	103	103	103	103	106	103	103	103	103
R2	0.01	0.22	0.27	0.21	0.26	0.02	0.22	0.27	0.22	0.27
Year fixed effects	No	No	Yes	No	Yes	No	No	Yes	No	Yes

Note: * Significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Absolute values of t statistics in parentheses.

Table A5 (cont.)

DEPENDENT VARIABLE: ODA NET OF DEBT RELIEF RECEIVED BY RECIPIENT COUNTRIES

(Fixed effects estimates, controlling for outliers)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
DR/Y	0.079	0.084	0.087	0.091	0.092	0.095	0.078	0.079	0.084	0.085
	(7.29)***	(8.01)***	(8.24)***	(8.87)***	(8.64)***	(8.87)***	(7.29)***	(7.42)***	(8.06)***	(7.90)***
PPG/Y t-1		0.010	0.012				0.013	0.013		
		(10.35)***	(12.01)***				(9.55)***	(9.96)***		
Ln(GDPPC)		-0.017	-0.007	-0.015	-0.009		-0.017	-0.011	-0.017	-0.012
		(7.31)***	(2.84)***	(6.67)***	(3.55)***		(7.41)***	(4.31)***	(7.58)***	(5.00)***
SEAT UN SC		0.000	-0.000	0.000	-0.000		0.000	-0.000	0.000	-0.000
		(0.15)	(0.09)	(0.26)	(0.03)		(0.04)	(0.04)	(0.25)	(0.04)
INST		0.001	0.001	0.001	0.001		0.001	0.001	0.001	0.001
		(3.92)***	(4.21)***	(3.83)***	(4.94)***		(3.25)***	(4.19)***	(4.19)***	(4.91)***
Ln(POP)		-0.042	0.013	-0.046	0.012		-0.042	0.006	-0.046	0.004
		(10.43)***	(1.50)	(11.48)***	(1.32)		(10.17)***	(0.68)	(11.27)***	(0.43)
NPVPPG/Y t-1				0.007	0.009				0.010	0.011
				(7.66)***	(9.14)***				(6.18)***	(6.65)***
ARR/Y t-1						0.010	-0.007	-0.007	-0.008	-0.007
						(5.94)***	(2.92)***	(2.72)***	(2.62)***	(2.41)**
Constant	0.002	0.488	-0.110	0.485	0.141	0.005	0.716	0.014	0.767	0.247
	(0.20)	(22.08)***	(0.91)	(21.59)***	(2.70)***	(0.56)	(13.48)***	(0.11)	(14.70)***	(5.18)***
N. obs.	1545	1333	1331	1308	1308	1451	1332	1331	1305	1303
N. countries	106	103	103	103	103	106	103	103	103	103
Year fixed effects	No	No	Yes	No	Yes	No	No	Yes	No	Yes

Note: * Significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Absolute values of t statistics in parentheses.

Table A6

DEPENDENT VARIABLE: ODA NET OF DEBT RELIEF RECEIVED BY RECIPIENT COUNTRIES

(Fixed effects estimates)

	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
DR/Y	-0.247	0.061	-0.263	0.082	-0.260	0.034	-0.238	0.057
	(2.43)**	(1.93)*	(2.43)**	(2.47)**	(2.49)**	(0.96)	(2.12)**	(1.62)
PPG/Y t-1	0.023	0.042			0.018	0.048		
	(3.24)***	(5.38)***			(1.69)*	(5.71)***		
Ln(GDPPC)	-0.202	-0.055	-0.204	-0.063	-0.204	-0.054	-0.201	-0.063
	(7.47)***	(4.31)***	(7.53)***	(4.88)***	(7.47)***	(4.30)***	(7.33)***	(4.82)***
SEAT UN SC	0.034	0.000	0.035	-0.000	0.034	0.000	0.034	-0.000
	(3.63)***	(0.01)	(3.65)***	(0.05)	(3.65)***	(0.03)	(3.62)***	(0.02)
INST	0.005	0.001	0.005	0.001	0.005	0.001	0.005	0.001
	(2.31)**	(0.62)	(2.36)**	(0.72)	(2.32)**	(0.68)	(2.29)**	(0.74)
Ln(POP)	-0.218	0.146	-0.226	0.173	-0.220	0.134	-0.221	0.164
	(4.39)***	(5.57)***	(4.49)***	(6.37)***	(4.42)***	(4.96)***	(4.35)***	(6.00)***
NPVPPG/Y t-1			0.025	0.027			0.035	0.040
			(3.69)***	(3.17)***			(2.59)***	(3.80)***
ARR/Y t-1					0.012	-0.024	-0.021	-0.031
					(0.59)	(1.89)*	(0.83)	(2.09)**
Constant	3.574	-0.840	3.672	-1.001	3.615	-0.735	3.602	-0.933
	(8.45)***	(3.85)***	(8.57)***	(4.36)***	(8.43)***	(3.27)***	(8.26)***	(4.04)***
N. obs.	565	768	547	762	565	768	543	762
N. countries	95	103	92	103	95	103	92	103
R2	0.25	0.12	0.26	0.09	0.25	0.12	0.26	0.10
Period	1990–1997	1998–2006	1990–1997	1998–2006	1990–1997	1998–2006	1990–1997	1998–2006

Note: * Significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Absolute values of t statistics in parentheses.

Table A7

DEPENDENT VARIABLE: ODA NET OF DEBT RELIEF RECEIVED BY RECIPIENT COUNTRIES

(Fixed effects estimates; the sample only includes HIPCs)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
DR/Y	0.116	0.030	0.021	0.067	0.062	0.069	-0.008	-0.014	0.023	0.022
	(1.68)*	(0.57)	(0.39)	(1.22)	(1.11)	(1.09)	(0.15)	(0.25)	(0.40)	(0.37)
PPG/Y t-1		0.070	0.070				0.081	0.081		
		(4.40)***	(4.24)***				(4.71)***	(4.50)***		
Ln(GDPPC)		-0.027	-0.028	-0.062	-0.063		-0.023	-0.023	-0.049	-0.050
		(0.54)	(0.54)	(1.23)	(1.23)		(0.46)	(0.44)	(0.97)	(0.99)
SEAT UN SC		0.023	0.024	0.025	0.027		0.025	0.025	0.027	0.028
		(1.11)	(1.13)	(1.16)	(1.23)		(1.17)	(1.16)	(1.27)	(1.32)
INST		0.008	0.007	0.008	0.007		0.008	0.007	0.008	0.007
		(2.48)**	(2.19)**	(2.35)**	(2.04)**		(2.56)**	(2.28)**	(2.38)**	(2.09)**
Ln(POP)		0.239	0.309	0.299	0.397		0.215	0.280	0.278	0.352
		(4.72)***	(2.22)**	(5.71)***	(2.82)***		(4.10)***	(2.00)**	(5.31)***	(2.51)**
NPVPPG/Y t-1				0.053	0.056				0.092	0.096
				(3.22)***	(3.20)***				(4.17)***	(4.10)***
ARR/Y t-1						-0.009	-0.036	-0.033	-0.070	-0.069
						(0.44)	(1.66)*	(1.50)	(2.60)***	(2.52)**
Constant	0.149	-1.944	-2.578	-2.207	-3.083	0.141	-1.761	-2.359	-2.124	-2.782
	(36.60)***	(4.13)***	(1.97)*	(4.34)***	(2.31)**	(23.68)***	(3.66)***	(1.79)*	(4.22)***	(2.10)**
N. obs.	310	248	248	246	246	276	248	248	246	246
N. countries	31	30	30	30	30	31	30	30	30	30
R2	0.01	0.23	0.25	0.20	0.22	0.01	0.24	0.26	0.23	0.25
Year fixed effects	No	No	Yes	No	Yes	No	No	Yes	No	Yes

Note: * Significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Absolute values of t statistics in parentheses.

Table A7 (cont.)

DEPENDENT VARIABLE: ODA NET OF DEBT RELIEF RECEIVED BY RECIPIENT COUNTRIES

(Fixed effects estimates, controlling for outliers; only HIPCs)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
DR/Y	0.091	0.076	0.072	0.104	0.081	0.044	-0.056	-0.053	-0.024	-0.033
	(2.96)***	(2.66)***	(2.44)**	(3.48)***	(2.54)**	(1.34)	(1.75)*	(1.77)*	(0.74)	(1.03)
PPG/Y t-1		0.034	0.017				0.062	0.050		
		(4.62)***	(2.15)**				(7.23)***	(5.97)***		
Ln(GDPPC)		0.012	-0.018	0.011	-0.023		-0.091	-0.080	-0.099	-0.094
		(0.47)	(0.69)	(0.43)	(0.86)		(3.41)***	(3.17)***	(3.68)***	(3.65)***
SEAT UN SC		-0.012	-0.010	-0.012	-0.010		-0.009	-0.007	-0.009	-0.006
		(1.15)	(0.91)	(1.12)	(0.86)		(0.83)	(0.66)	(0.80)	(0.57)
INST		0.003	0.001	0.003	0.001		0.003	0.001	0.002	0.001
		(1.70)*	(0.83)	(1.69)*	(0.60)		(1.61)	(0.84)	(1.35)	(0.49)
Ln(POP)		0.013	0.225	0.026	0.233		0.113	0.313	0.147	0.352
		(0.55)	(3.40)***	(1.03)	(3.47)***		(4.29)***	(4.88)***	(5.52)***	(5.42)***
NPVPPG/Y t-1				0.033	0.010				0.071	0.064
				(4.37)***	(1.15)				(6.40)***	(5.78)***
ARR/Y t-1						-0.043	-0.088	-0.082	-0.115	-0.110
						(4.58)***	(7.84)***	(7.81)***	(7.85)***	(7.83)***
Constant	0.095	-0.141	-1.757	-0.224	-1.784	0.097	-0.377	-2.162	-0.591	-2.388
	(10.43)***	(0.62)	(2.95)***	(0.94)	(2.91)***	(10.36)***	(1.55)	(3.75)***	(2.34)**	(4.05)***
N. obs.	310	276	276	272	272	304	276	276	272	272
N. countries	31	30	30	30	30	31	30	30	30	30
Year fixed effects	No	No	Yes	No	Yes	No	No	Yes	No	Yes

Note: * Significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Absolute values of t statistics in parentheses.

Table A7 (cont.)

DEPENDENT VARIABLE: ODA NET OF DEBT RELIEF RECEIVED BY RECIPIENT COUNTRIES

(Fixed effects estimates; only HIPCs after 2000)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
DR/Y	0.046	-0.028	-0.042	0.033	0.038	0.021	-0.011	-0.030	0.027	0.027
	(0.81)	(0.67)	(1.02)	(0.74)	(0.86)	(0.37)	(0.24)	(0.66)	(0.59)	(0.60)
PPG/Y t-1		0.080	0.105				0.077	0.101		
		(2.58)**	(3.18)***				(2.44)**	(3.02)***		
Ln(GDPPC)		-0.059	-0.138	-0.085	-0.177		-0.043	-0.125	-0.090	-0.199
		(0.44)	(1.04)	(0.67)	(1.38)		(0.32)	(0.93)	(0.70)	(1.55)
SEAT UN SC		0.002	0.016	0.009	0.024		0.002	0.016	0.008	0.024
		(0.06)	(0.47)	(0.26)	(0.73)		(0.07)	(0.47)	(0.25)	(0.73)
INST		0.005	0.010	0.006	0.011		0.005	0.010	0.006	0.013
		(0.74)	(1.56)	(0.96)	(1.78)*		(0.82)	(1.58)	(0.96)	(1.97)*
Ln(POP)		-0.005	-0.978	0.243	-0.599		0.017	-0.939	0.244	-0.690
		(0.03)	(2.71)***	(1.60)	(1.82)*		(0.10)	(2.55)**	(1.60)	(2.06)**
NPVPPG/Y t-1				0.094	0.117				0.104	0.156
				(3.03)***	(3.41)***				(2.80)***	(3.50)***
ARR/Y t-1						0.042	0.024	0.016	-0.015	-0.045
						(1.37)	(0.87)	(0.61)	(0.47)	(1.35)
Constant	0.159	0.514	9.910	-1.540	6.764	0.152	0.199	9.464	-1.526	7.726
	(38.66)***	(0.46)	(2.96)***	(1.23)	(2.14)**	(20.60)***	(0.17)	(2.75)***	(1.22)	(2.40)**
N. obs.	161	104	104	104	104	132	104	104	104	104
N. countries	29	27	27	27	27	28	27	27	27	27
R2	0.00	0.11	0.22	0.14	0.23	0.02	0.12	0.22	0.14	0.25
Year fixed effects	No	No	Yes	No	Yes	No	No	Yes	No	Yes

Note: * Significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Absolute values of t statistics in parentheses.

Table A7 (cont.)

DEPENDENT VARIABLE: ODA NET OF DEBT RELIEF RECEIVED BY RECIPIENT COUNTRIES

(Fixed effects estimates, controlling for outliers; only HIPCs after 2000)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
DR/Y	0.134	-0.067	-0.073	-0.041	0.165	-0.045	-0.060	-0.069	0.055	0.155
	(4.55)***	(2.23)**	(2.22)**	(1.38)	(4.84)***	(1.41)	(1.88)*	(1.98)*	(1.94)*	(4.77)***
PPG/Y t-1		0.033	0.058				0.063	0.068		
		(1.88)*	(2.89)***				(3.57)***	(3.39)***		
Ln(GDPPC)		0.012	-0.098	0.001	-0.205		0.065	-0.042	0.031	-0.230
		(0.18)	(1.37)	(0.02)	(3.11)***		(1.05)	(0.63)	(0.57)	(3.73)***
SEAT UN SC		-0.002	-0.004	-0.001	-0.001		-0.002	-0.002	0.001	-0.003
		(0.12)	(0.20)	(0.07)	(0.06)		(0.10)	(0.08)	(0.06)	(0.18)
INST		-0.002	0.003	-0.002	0.007		-0.002	0.000	-0.001	0.008
		(0.57)	(0.85)	(0.74)	(1.91)*		(0.57)	(0.13)	(0.52)	(2.37)**
Ln(POP)		0.023	-0.732	0.061	-0.639		-0.013	-0.679	0.002	-0.723
		(0.32)	(3.51)***	(0.87)	(3.35)***		(0.17)	(3.36)***	(0.03)	(3.96)***
NPVPPG/Y t-1				0.036	0.066				0.059	0.108
				(2.23)**	(3.45)***				(3.14)***	(4.43)***
ARR/Y t-1						0.014	-0.077	-0.086	-0.099	-0.044
						(1.04)	(5.05)***	(5.26)***	(5.93)***	(2.18)**
Constant	0.425	0.105	7.427	-0.125	7.305	0.427	0.036	6.617	0.128	8.171
	(40.40)***	(0.18)	(4.04)***	(0.21)	(4.22)***	(39.33)***	(0.06)	(3.72)***	(0.24)	(4.98)***
N. obs.	160	132	132	131	132	159	131	132	131	131
N. countries	29	27	27	27	27	28	27	27	27	27
Year fixed effects	No	No	Yes	No	Yes	No	No	Yes	No	Yes

Note: * Significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Absolute values of t statistics in parentheses.

Table B1

VARIABLE DEFINITIONS AND SOURCES, DONORS

Variable	*Variable Name*	*Definition*	*Source*
ODA	Official development assistance	Net ODA including debt relief; US$, current prices, millions	OECD-DAC
DR	Debt relief given by donors	Debt forgiveness total; current US$, net disbursements, millions	OECD-DAC
GOVBAL	Fiscal balance	Budget balance as share of GDP	OECD
Ln(GDPPC)	logarithm per capita GDP	Logarithm of per capita GDP in US$	OECD
RER	Real exchange variation	Deviation of the real exchange rate from its long-run average	IMF, *International Financial Statistics*; and JP Morgan

Table B2

VARIABLE DEFINITIONS AND SOURCES, RECIPIENTS

Variable	*Variable Name*	*Definition*	*Source*
ODA	Official development assistance	Net ODA from all donors including debt relief	OECD-DAC
DR	Net debt relief	Net debt relief from all donors	OECD-DAC
DR1	Debt relief received by recipients	Principal forgiven + interest forgiven; US$	WB / GDF
Ln(GDPPC)	logarithm per capita GDP	Logarithm per capita GDP; PPP (constant 2000 international $)	WB / WDI
PPG	Public and publicly guaranteed external debt	Public and publicly guaranteed external debt; total	WB /GDF
GDP	GDP	GDP; current US$	WB / WDI
	Exports	Exports of goods, services and income; US$	WB / GDF
ARR	Arrears	Principal arrears on LDOD + Interest arrears on LDOD	WB / GDF
Ln(POP)	Logarithm population	Logarithm total population	UNCTAD Glob Stat / demographic and social indicators
INST	Freedom House Index	Freedom measure, measured on a zero to twelve scale, with zero representing the lowest degree of freedom, and twelve the highest	www.Freedomhouse.org
SEAT UN SC	UN Security Council Seat	UN security council seat, with zero representing no security council seat, and one representing security council seat	http://www.un.org/sc/members.asp
HIPC	HIPC	HIPC countries, with zero representing no HIPC, and one representing HIPC	World Bank classification

Notes

1 From now on I will use the term "developing countries" to identify both developing countries and transition economies.

2 The weighed average indicates a 10 percentage points decline in external debt share. This corresponds to approximately 25 per cent of the original share. The simple average shows a 5 percentage point decline, corresponding to approximately 9 per cent of the original share.

3 International Development Association (IDA) and International Monetary Fund (IMF) (2007) "Heavily Indebted Poor Countries (HIPC) Initiative and Multilateral Debt Relief Initiative (MDRI) -- Status of Implementation".

4 The three documents are available at the following websites (all accessed on 6/2/2008): http://www.un.org/Docs/journal/asp/ws.asp?m=A/CONF.198/11; http://www.un.org/Docs/journal/asp/ws.asp?m=A/62/217; http://www.un.org/Docs/journal/asp/ws.asp?m=A/62/550.

5 The fact that I focus on three issues out of seven does not mean that the other four are less important. The choice of these three topics was jointly dictated by my comparative advantages and the need of keeping the paper brief.

6 Countries are classified as *Low Risk* if all debt indicators are below the debt burden threshold and will remain below this threshold even if the countries suffer a relatively large negative shock. Countries are classified as *Moderate Risk* if debt indicators are below the debt burden threshold but the country could breach the threshold in case of negative shock. Countries are classified as *High Risk* if the baseline projections indicate that the country will breach the threshold. Countries are classified as *In Debt Distress* if their debt ratios are in breach of the thresholds. For more details, see World Bank (2006b).

7 Of course, they benefit from the concessional element which is part of all IDA loans.

8 Sachs (2000) criticizes the Framework on both grounds: "The current targets of debt reduction are based on an utterly phony "Debt Sustainability Analysis" that couldn't pass muster in a first-year economics class. Indeed, the phrase "debt sustainability analysis" is truly Orwellian in scale of distortion. The IMF and World Bank procedures for measuring sustainability have absolutely nothing to do with ability to pay, and 100 per cent to do with the arbitrary limits on debt relief laid down by the G-7 at the Cologne Summit. The IMF and World Bank documents should be re-labeled as "Debt Relief Allowed by the G-7," rather than "Debt Sustainability Analysis." At least the world would complain less about the roles of the IMF and World Bank in this sham, and turn the spotlight on the creditor countries instead."

9 The intellectual foundation for the link between the CPIA Index and debt sustainability is a well-known paper by Aart Kraay and Vikram Nehru (2006). While this is an excellent paper, it is peculiar that an institution that preaches transparency bases such important policy decisions on an index that is not fully disclosed to the public. Thomas (2007) argues that the CPIA has been subject to detailed testing which has generally ruled out any bias in the construction of the index. But again, to the best of my knowledge, these tests have been run inside the Bank and by Bank staff and not by external evaluators.

10 Kraay and Nehru (2006) show that, compared to a "naïve model", the three variables included in their model increase the success rate in predicting a crisis by about 20–25 per cent. It is open to discussion whether this is a lot or a little. However, I think that the comparison with the naïve model is misleading. Assume that one regresses debt distress episodes over the level of debt, GDP growth and, say, inflation and then computes by how much this simple model improves her ability to predict a debt crisis. This researcher would probably get some improvement with respect to a naïve model. Yet, most people would find objectionable the formulation of debt thresholds only based on the level of inflation. But inflation, while less sexy than an overall measure of policies, is more transparent, less subjective, and easier to measure than the CPIA.

11 Kraay and Nehru (2006) do an excellent job in trying to establish a causal relationship going from policies to the probability of a debt distress episode. However, I am not convinced that they are 100 per cent successful in establishing this link. When one looks at the list of questions included in the CPIA one finds: (i) debt burden indicators that do not signal a reasonable risk of debt servicing difficulties and (ii) terms of new borrowing conducive to long-term debt sustainability. (Thomas, 2007). Any good country economist who has been following a country for a few years will probably know whether his/her country is at an increasing risk of a debt crisis (it is not necessary to predict the crisis with probability one, just have a sense if the risks are increasing). If this is the case, the CPIA can be interpreted as a good leading indicator of a crisis (a sort of credit rating), but not as a factor causing the crisis.

12 I should acknowledge that the various DSF documents state that "These debt-burden thresholds are not to be seen as rigid ceilings but as guideposts for informing debt sustainability assessments" (IMF, 2007: 5). In practice, however, in presence of well-defined thresholds, the bureaucracy of the institutions tends to have strong incentives to adhere to them.

13 As the external debt of developing countries tends to be in foreign currency, a country's ability to repay its debt will depend on the behavior of the real exchange rate which, in developing countries tends to be very volatile (Hausmann, Panizza and Rigobon, 2006). There should be no vulnerabilities for countries, like the United States, that can borrow abroad in their own currency (or better in a currency they can print). For a discussion of original sin and currency mismatches see Eichengreen, Hausmann and Panizza (2005a).

14 See section IV.B.

15 http://daccessdds.un.org/doc/UNDOC/GEN/N05/270/78/PDF/N0527078.pdf?OpenElement. Page 18.

16 Buiter (1985) suggests such and indicator of sustainability, defined as: $SUS = ps - (g - r)\frac{W}{GDP}$, where W is public sector net worth, ps is the primary surplus, r is the real interest rate, and g is the economy's growth rate.

17 Estimating the value of a country's assets is a complicated exercise which requires several, sometimes unrealistic, assumptions. However, some countries do publish figure for both public debt and public assets. The most interesting example is New Zealand which, in compliance with its 1989 Public Finance Act, reports figures for all government owned financial and physical assets (including roads, bridges, and schools).

18 Things become more complicated if one recognizes that not all debt relief has to do with the cancellation of performing

debt. In some cases, creditors cancel debt because they recognize that the debtor will never pay. While this is counted as debt relief, conceptually it is not debt relief because it does not liberate any resource. A better definition would be: AID=NETAID+EDR, where EDR is effective debt relief (i.e. debt relief that reduces transfers from debtors to creditors).

19 Composition effects due to the unit of analysis can play an important role. Consider the following example: in the world there is only one donor and there are ten recipients. In year t the donor gives $1,000 million of aid net of debt relief and no debt relief, in year t+1 the donor gives $970 million of aid net of debt relief and $100 million of debt relief. When we evaluate additionality from the donor's point of view, we find $\alpha = -0.3$ (1 dollar of debt relief crowded out $0.3 of other forms of aid). Now let's look at the recipients and assume that there is one large recipient and ten small recipients. In year t, each of the small recipients gets $10 million of aid and the large recipient gets $910 million of aid and nobody gets debt relief. In year t+1, each of the small recipients gets $10.1 million of aid net of debt relief and the large recipient gets $879.1 million (879.1 = 970–90.9) of aid net of debt relief. Moreover each small recipient receives $1 million of debt relief and the big recipient receives $91 (91 = 100–9) million of debt relief. Hence, the small recipients have $\alpha = 0.1$ and the big recipient has $\alpha = -0.34$ ($-0.34 = (879.1-910)/91$). Since there are 9 small recipients and one big recipient, the average value of α is 0.056.

20 The fact that the coefficient has increased in the recent years contradicts the World Bank's (2006a) finding that debt relief under HIPC has become more additional in recent years.

21 This is not surprising if we consider that some multilateral agencies (like the Inter-American Development Bank) have been asked to participate in the MDRI without receiving additional resources.

22 The discussion in this section is based on joint work with Eduardo Borensztein, Barry Eichengreen and Eduardo Levy Yeyati.

23 Campos, Jaimovich and Panizza (2006) show that recorded deficits explain a small variance of debt growth in developing countries (the share of variance explained by recorded deficits ranges between 3 and 23 per cent).

24 Countries are, however, starting to issue catastrophe (CAT) bonds. For a discussion of the benefits of country catastrophe insurance, see Borensztein, Cavallo and Valenzuela (2007).

25 The plan has four steps: (i) development of a basket of inflation-indexed currencies of emerging market countries (the "EM index"); (ii) issuance of debt denominated in the EM index by multilateral development banks, to fund lending in the same exotic currencies; (iii) have G-10 sovereigns do the same, issuing a portion of their debt in this index and swap their currency exposure with the countries in the EM index; (iv) encourage institutional investors and mutual funds to create products that add credit risk to the index. Hausmann and Rigobon (2005) have instead a proposal for de-dollarizing concessional lending.

26 For discussions of GDP-Indexed Bonds, see Borensztein and Mauro (2004); and Griffith-Jones and Sharma (2006).

27 This is not true for all countries. In some cases, notably China, reserve accumulation has been financed largely by issuing domestic currency (a non-interest bearing debt) or bonds that carry a low interest rate. However, even in this case there could be a cost of carry linked to the depreciation of the United States dollar vis-à-vis the local currency.

28 Summers (2006) suggests that reserves exceeding the Guidotti-Greenspan rule (stating that reserves should be enough to cover one year of capital account liabilities) should be invested in stocks rather than industrial countries' treasury bills.

29 There are now proposals for a revamped CCL which would go under the name of Reserve Augmentation Line (RAL). Kregel (2007) provides a discussion of the RAL and its antecedents.

30 This is easier said than done. William Easterly has accumulated an impressive amount of evidence showing that foreign aid has not been very effective in promoting economic growth in receiving countries and that some countries have been able to jump-start growth without receiving foreign aid. However, the fact that aid has not been effective in the past is no proof that aid *cannot* be effective.

31 The following discussion is based on Panizza (2008).

32 IMF staff members tried to estimate the participation of nonresident in the domestic capital markets of emerging market countries and found it that it was often impossible to obtain data (see IMF, 2006: 95–96).

33 IMF (2006, 2007) reports that while debt sustainability analysis exercises claim to use an external debt definition based on the residency of the ultimate holder, for the majority of countries there is no information on the residency of ultimate holders and hence external debt is set to be equal to debt issued in the international market.

34 The first three points are of particular relevance for low income countries, the fourth point is of particular relevance for middle income countries with market access, and the last three points apply to both group of countries.

35 For a discussion see Borensztein and Panizza (2008); and Panizza, Sturzenegger and Zettelmeyer (2008).

36 This annex is based on joint work with Matthias Rau. I would like to thank Mareen Buschmann for excellent research assistance.

37 The control variables include the log of GDP per capita of the donor (lnGDPPC), the real exchange rate of the donor (RER), the budget deficit of the donor (GOVBAL), and a dummy variable that takes value 1 during the years of the HIPC initiative (HIPC).

38 Our sample does not include Luxembourg (the 22nd DAC country) because some of the control variables are missing.

39 See section III.B for a definition of additionality.

40 Column 1 presents random effects estimates without year fixed effects, column 2 reports random effects estimates with year fixed effects, column 3 reports fixed effects estimates without year fixed effects, and column 4 reports fixed effects estimates with year fixed effects.

41 Stingy countries are those in the bottom quarter of the distribution of aid as a share of GDP, generous countries are those in the top quarter, and the intermediate countries are the remaining 50 per cent. Columns 5–8 use the same estimation techniques used in columns 1–4. Columns 9 and 10 reproduce the estimates of columns 7 and 8 by using a median regression with bootstrapped standard errors (this estimation method puts less weight on outliers).

42 The control variables include the log of GDP per capita of the donor (lnGDPPC), a measure of institutional quality (INST), a dummy variable that takes value one when the recipient has a seat in the UN security council (SEAT UN SC), the log of population (lnPOP), face value of PPG

external debt over GDP (PPG/Y), and net present value of PPG debt over GDP (NPVPPG/Y).

43 In tables A2–A4 debt relief and arrears data are from GDF. The results change if we measure arrears from GDF and debt relief from OECD-DAC data.

44 We obtain data on ODANET by subtracting all donors net debt relief (source OECD-DAC) from all donors total net ODA (source OECD-DAC).

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