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Working Paper

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WIDER Discussion Paper, No. 2003/04

Provided in Cooperation with:
United Nations University (UNU), World Institute for Development Economics Research (WIDER)

Suggested Citation: Odedokun, Matthew (2003) : Economics and politics of official loans versus grants: Panoramic issues and empirical evidence, WIDER Discussion Paper, No. 2003/04, ISBN 9291903892, The United Nations University World Institute for Development Economics Research (UNU-WIDER), Helsinki

This Version is available at:
https://hdl.handle.net/10419/53050

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World Institute for Development Economics Research

Discussion Paper No. 2003/04

Economics and Politics of Official Loans versus Grants

Panoramic Issues and Empirical Evidence

Matthew Odedokun *

January 2003

Abstract

The paper examines a wide range of issues relating to the mix between loans and grants as well as the degree of concessionality of loans. A number of empirical tests are carried out based on annual panel data over 1970 to 1999 for 22 donor countries and 72 recipient countries. Based on the tests, we are able to identify a number of economic and political factors that have influenced donors' past decisions on the grant-loan mix. We also observe that for bilateral donors, past grant-loan mix (and, hence, reflows from past transfers) do not influence the volume of current resource transfers. In addition, we find that loans are better suited than grants in promoting recipient governments budgetary discipline, as is commonly understood in fiscal reform literature. Our tests also show that the rate of official borrowing by the recipients (and, by deduction, the extent of their past debt burden) is positively influenced by the extent of the concessionality of such loans—irrespective of whether it is in the form of subsidized interest rates or longer grace periods. The paper concludes with a review of the circumstances in which grants, soft loans and non-concessional loans might have their respective comparative advantage, as well as a discussion of the need, so as to overcome the negative incentive problems of soft loans, for a typical concessional loan package to be separated into two constituent parts. This would enable the recipient to be given the grant component and the option to take from the non-concessional loan component as much as desired.

Keywords: aid, ODA, grants, official loans, soft loans, grant element, grace period, bilateral aid, multilateral aid

JEL classification: F34, F35

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This study has been prepared within the UNU/WIDER project on the Sustainability of External Development Financing, which is directed by Matthew Odedokun.

This paper was presented at the project meeting in Helsinki, 23-24 August 2002.

UNU/WIDER gratefully acknowledges the financial contribution to the project by the Ministry for Foreign Affairs of Finland.

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UNU World Institute for Development Economics Research (UNU/WIDER)
Katajanokanlaituri 6 B, 00160 Helsinki, Finland

Camera-ready typescript prepared by Liisa Roponen at UNU/WIDER
Printed at UNU/WIDER, Helsinki

ISSN 1609-5774
ISBN 92-9190-388-4 (printed publication)
ISBN 92-9190-389-2 (internet publication)

1 Introduction

Development assistance has traditionally been provided in the form of a mix of grants and (usually concessional) loans, with the mix varying among donors. However, development assistance in the form of grants only began to gain prominence from March 2000 as a result of the publication of Meltzer's Report—a controversial right-wing oriented report prepared for the US Congress by its International Financial Institution Advisory Committee (IFIAC), under the chairmanship of Professor Allan Meltzer. One major recommendation of the committee is that the support of the multilateral development banks should not only be re-focused in scope, but should henceforth be provided almost exclusively in the form of grants.[1] According to the IFIAC report (2000: Executive Summary):

> For the globe's truly poor, the provision of improved levels of health care, primary education and physical infrastructure, once the original focus for development funding, should again become the starting point for raising living standards. Outright grants rather than loans provide a realistic vehicle for poverty alleviation.

The report also recommends grants at the bilateral level, urging rhetorically that:

> More generally, the United States should be prepared to increase significantly its budgetary support for the poorest countries if they pursue effective programs of economic development. This support should come in several forms: debt reduction, grants channelled through the multilateral development agencies, and bilateral grant aid.

However, the left-wing oriented pre-2001 administration of the United States was opposed to the suggestion. Specifically, the US Treasury Department contended in 2000 that this would limit the overall availability of financial resources to the poorest countries and eliminate the reflows arising from the repayment of concessional loans, especially as it would be difficult to obtain legislative approval in the respective donor countries for the increased replenishment necessary to compensate for the loss of reflows. It also argued that the reality of eventual repayment provides an added incentive for judicious, selective and wise utilization of the proceeds by the recipients—in other words, outright grants appear more prone to being squandered.[2]

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1 The report also recommends, 'Lending for institutional reform in poor countries without capital market access…' (IFIAC: Executive Summary).

2 These two left-wing arguments had also been adduced in the 'dissenting statement', issued as the minority report by some IFIAC members. They have also been the centre of the points being subsequently raised by donors and concerned international NGOs on the other side of the Atlantic. The IFIAC main report, too, explicitly recognizes these two concerns, especially on the part of multilateral development banks, and agrees on the existence of one of the two, for it states (IFIAC: Chapter 3) that:

> The development establishment resists grant-funding on two counts. First, they claim, the borrower would have no obligation to repay, leading to a lack of discipline … Second, for multilateral development banks, grant-funding is a less certain source of funds than current arrangements that are based to a much greater extent on permanent capital commitments. As the share of grants rises, the development agencies would have to ask the legislatures of the donor countries for increased support. The risk exists that legislatures would reduce funding.

While this all-grant recommendation was rejected by the US administration in 2000, the successor right-wing oriented administration that came to power in early 2001 came out strongly in support of an all-grant bilateral aid as well as a predominantly grant-based multilateral support through the multilateral development banks under US influence, including the World Bank (WB). The post-2000 administration has adduced a number of arguments for pressing relentlessly for the immediate replacement by grants (up to 50 per cent) of concessional loans of the WB's most concessional lending window—International Development Association, IDA.[3] In addition to resuscitating the earlier pro-grant arguments of IFIAC, one of the reasons adduced is that loans would saddle recipients with the burden of eventual repayment. Another reason addressed is that grants are the most appropriate for financing most of the projects (e.g., health, education and social services) that are pressing to the recipients who, as a pre-qualification, are very poor. However, this post-2000 US position did not find favour on the other side of the Atlantic with other financiers of the IDA. Opposition, led by the UK, has been repeating and even expanding the arguments put forward earlier by the pre-2001 US administration. Various economic and political issues related to the proposal that IDA shift to grant-giving are further discussed in Sanford (2002).

But the issue of loans versus pure grants transcends the IDA institution. First, IDA is not the only concessional lending window of a multilateral financial institution—similar soft windows exist with the regional development banks, just as it does at the International Monetary Fund (IMF) in the form of the fund for Poverty Reduction and Growth Facility (PRGF). Whatever pro- and anti-grant arguments exist for IDA should largely apply to all these as well. Second, the regular or relatively non-concessional lending of the multilateral development banks—for example, the World Bank's International Bank for Reconstruction and Development (IBRD)—is also concessional to a degree (see IFIAC 2000: Chapter 2). Third, bilateral official assistance too often (albeit with a decreasing relative importance recently) takes the form of soft loans and the case for and against all-grant assistance from multilateral sources should largely apply here also.

In addition, the loan versus pure grant issue also applies to the distinction between soft or concessional loans versus non-concessional loans. A concessional loan (which is the one that is currently in vogue) is a subsidized credit and, by definition, has a grant element built into it and can therefore be conceptualized as a grant when it is being

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Another argument that has been adduced by the critics of grant-funding is the so-called 'mission creep', whereby IDA and regional equivalents would end up competing, possibly unfairly, with various smaller and inherently grant-giving-based UN agencies (see Salazar 2002). Some critics also want to see IDA become in the near future financially insulated and independent from donors and their politics, and they see the reflows being generated in the future through current lending as a way of achieving this (see Salazar 2002). Further analysis of all-grant IDA resource transfers is discussed by Sanford (2002).

3 Established in 1961, the IDA is the most concessional lending window of the World Bank Group. Except for the 0.75 per cent service charge, an IDA loan is interest-free, grace period is 10 years, and it is to be repaid within 40 years. The grant element is thus estimated to be almost 70 per cent. It lends to countries with a per capita income of less than US$ 885 at 2000 value and without the financial capability to borrow from the World Bank regular loan window. The fund is being partly (about 40 per cent) financed from reflows from past lending and partly from contributions from developed country donors, who appoint IDA deputies. Every three years, these deputies negotiate fresh contributions and a two-thirds vote is needed before reaching replenishment decisions—the latest of which is the ongoing 2002 IDA-13.

compared with a non-concessional loan. Thus, a discussion of pure grants versus loans should not be divorced from the related issue of concessional versus non-concessional loans.

Following from the above and based mainly on the debates that have arisen on the argument of loans versus grants since the beginning of twenty-first century consequent to the release of the IFIAC report and the post-2000 position of the US administration, the paper addresses a number of issues below:

i) *Political economy of aid giving*: whether the provision of loans is likely to be easier for donor governments to justify before their parliaments and taxpayers than implied grants, as contended by left-wing advocates.

ii) *Implication for sustainability of aid volume*: whether donors, by switching from subsidized loans to outright grants, would continue to give the same volume in the form of pure grants as the concessional loans they have been giving in the past so as not to reduce the volume of external finance available to many recipient countries who do not have access to international capital markets.

iii) *Efficiency and financial discipline on the part of recipients*: whether, in the same manner that a subsidized resource tends to reduce its efficiency of utilization at the margin, financial discipline on the part of recipients is encouraged by loans than outright grants in their programme/project selection and implementation, as suggested by economic theory and argued by the left-wing.

iv) *Implications for future debt burden*: whether, in the same manner that subsidization of commodities encourages their increased consumption or usage, there is a tendency to over-borrow on the part of recipients when a loan is subsidized (as predicted by economic theory) and, hence, whether softness of such loans could partly explain the official accumulation of debt over time, especially by poor countries. This is to test prediction of the theory and it has no ideological connotation, as such.

v) *Identification of cases where pure grants, soft loans and non-concessional loans* are supposed to have their respective comparative advantages, especially in achieving donor objectives.

vi) *Given the inefficiency of both pure grants and subsidized credits* in general cases, a reconciliation of grant and loan-giving through an appropriate unbundling of a soft loan whereby, instead of the subsidized loan, there is a split of the amount into the implied pure grant (for pro-poor spending) and free access to an appropriate volume of non-concessional credit facility.

Given the past lack of interest in the literature concerning grant versus non-grant forms of resource transfers (with the exception of the largely political analysis of the subject recently by Sanford 2002), the extensiveness of issues covered in the present paper, as listed above, is warranted and there is no apology for this. It is, however, hoped that each of the various aspects would be the subject of more detailed and specialized research endeavours by future researchers.

The rest of the paper is organized into six sections. The first two (relating to donors) of the above six issues are taken up sequentially in sections 2 and 3; the next two issues (on the recipients side) are addressed in sections 4 and 5, and the last two in sections 6 and 7. To the extent possible, attempts are made to shed light on most of the issues with empirical tests, based on multi-country data for donors and recipients. Finally, in section 8, we present the summary and conclusion.

2 Donors' possible motivation in choosing between grants and loans

The choice and mix between grants and loans on the part of donors have hardly been an issue until recently. As a result, there have been virtually no previous theoretical or empirical studies on the subject to fall back on. What is done below is to explore the directions that future theories can take and to provide an exploratory 'pragmatic' pioneering empirical evidence on the factors that have shaped the grant-loan mix of the aid given by donors in the past.

2.1 Possible theoretical frameworks

At a theoretical level, one is inclined to analyse the bilateral donors' motivations for choosing between grants or loans by having recourse to existing theories of gift-giving *versus* informal credit schemes that seek to explain the risk-aversion behaviour in peasant societies. While sovereign state donors and recipients cannot be described as peasants, the ensuing relationships between these actors share a number of features common to such peasant theories—for example, imperfect and informal credit markets, non-profit motives, informal but effective enforcement of reciprocity (including credit repayment), etc.

One line of thought seeks to explain reciprocity and gift-giving in terms of morality, to assist the poor (e.g., Scott 1976). Others invoke the related concept of altruism whereby gift-giving is posited to raise the level of utility of the giver (e.g., Ravallion and Dearden 1988; Foster and Rosenzweig 1995). Still related to these is the theory of social exchange (see Heath 1976) that postulates that givers give because of the intangible counter-exchange or benefits derived, such as respect, status, avoidance of guilt, etc. All these would support a form of what is termed *generalized* reciprocity, whereby the counter-flow or counter-obligation in a tangible form, if it exists, is definite neither in magnitude nor timing. This would be equivalent to pure grants in a bilateral foreign aid situation.

On the other hand, there is (following Malinowski 1978) also what is called *balanced reciprocity*, which is the one characterized by tangible *quid pro quo*, sometimes contemporaneously as in normal exchange transactions and sometimes taking the form of a gift with a firm understanding of reciprocation of roughly equal value within a reasonable timespan (e.g., see Platteau 1997 and Fafchamps 1999). A number of explanations of balanced reciprocity could also apply to pure grants, those characterized by covert commercial and tangible political and related *quid pro quo,* for example, procurement-tied as well as strategic, political and other self-interest motivated types. But, in the main, such theories would apply to virtually all types of bilateral official loans, concessional or not. So, factors influencing donors' choice between pure grants

and aid can be found by examining the differences in the explanations put forward in the theories of *generalized* and *balanced* forms of reciprocal exchange. As rightly observed by Thomas and Worrall (2002: 5), balanced reciprocity in the form of credits would be inappropriate when the receiving household's deprivation is likely to persist for some time with series of adverse shocks in succession, as the recipient would not be in a position to meet the counter-obligation within the envisaged timespan. But, 'had it received a gift without counter-obligation after the first shock, it is in no worse position when the second shock hits, and provided another gift is made, it will be able to maintain its consumption'. The authors then provide the rationale why, despite this flexibility of *generalized* reciprocal exchange or gift-giving, *reciprocal* exchange in the form of credit or quasi-credit arrangements still thrives. According to Thomas and Worrall (2002: 5):

> … we shall argue that quasi-credit components arise quite naturally when reciprocity is voluntary rather than enforced and is based on rational action. ... The problem with a pure insurance/gift arrangement, where the only counter-obligation on the receiver is the general obligation to respond likewise if the giver is in need in the future, is that this counter-obligation may not be sufficient to induce the giver to part with resources today. This can be seen if the giver is confident that he or she will not be in need of help in the immediate future, so that the general counter-obligation has little value. On the other hand, if there is a credit element to the transaction, the giver will expect some future reward—repayment on the loan—over and above any reciprocal insurance promise, and this may provide sufficient incentive to induce the giver to part with resources today.

The above propositions can arguably be applied, with appropriate modifications and extension, to explain the rationale why bilateral donors *should* or *do* give loans, instead of pure grants. But the rationale applies to only bilateral aid. It can hardly provide an explanation of the choice between grants and loans by multilateral donors like, say, the World Bank. For this, a different theoretical framework would be needed. In this context, using the World Bank as an illustration, a multilateral development bank can be viewed as an agent while the donor countries are the principals. This means that the principal-agency theories seeking to describe the common agency problem (interactions of many principals with one agent) and explaining the behaviour of a national aid agency serving principals with conflicting interests (e.g., as put forward by Murshed and Sen 1995), may also be applicable to a multilateral development bank. The typical concessional loan window of a multilateral development bank (e.g., IDA of the World Bank) is akin to a national aid agency that is responsible to principals with conflicting interests. As pointed out earlier, the US and donors from the other side of the Atlantic have conflicting interests as to whether the World Bank should give out more resources in the form of grants, which the World Bank dreads as being a way of reducing its size. Within such a framework, a theory can be developed to explain the choice and mix between multilateral grants and loans, but this is outside the limited scope of the present paper.

2.2 Empirical tests

We seek to explain the differences in the temporal and cross-donor country mix between loans and pure grants observed in past aid allocations, by using annual panel data between 1970 and 1999 pooled across 17 member countries of the Development Assistance Committee (DAC) of the OECD.[4] We are guided in our choice of explanatory variables by general economic logic, as no definite theory as such exists. Thus, we test for the effects of the following:

i) *Level of donors' per capita income*: The higher the level of per capita income of the donor country, the easier it should be for the donor to transfer resources without any *quid pro quo* vis-à-vis expectations of future reverse flows. Hence, we expect a higher level of per capita income to increase the share of grants in total aid.

ii) *Economic (real GDP) growth*: For the same reason and due to the fact that economic growth increases donor's resources, we expect high-income growth to increase the preponderance of pure grants in the composition of aid.

iii) *The phase of economic cycle*: Also, following the above reasoning, donors are expected to find it more affordable to give more aid in the form of grants during a rising phase of the economic cycle than during a recession.[5]

iv) *Size of government—government expenditure in relation to GDP*: The size of government captures (and is a proxy for) many factors regarding the orientation and disposition of that government. While this overall effect is unlikely to be neutral, its direction is not posited to be either way but remains an issue to be determined only empirically.

v) *Ideological leaning of the donor government*: As discussed earlier, there is controversy as to whether multilateral development banks should give grants or loans. The controversy is along the ideological line in the US (with left-wing Democrats supporting *status quo* and right-wing Republicans agitating for all-grants aid). Here, we seek to test whether this is an isolated case or a distinguishing feature between left- and right-wing governments. To do this, we test for the effects of two related ideological variables—first, the impact of the executive arm being right-wing and second, the extent of both the executive and legislative arms being right-wing. If the current pattern in the US is the norm, we expect these two variables to have a positive effect on the share of aid given in grant form over the years.[6]

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4 The 17 DAC member countries covered by the study are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, Netherlands, New Zealand, Norway, Sweden, Switzerland, UK and USA. The five new members (Greece, Ireland, Luxembourg, Portugal and Spain) are excluded because of few data points available for their aid allocations, the amounts involved are also relatively very small.

5 The phase of economic cycle is computed as the residuals obtained by regressing the logarithm of index of real GDP on a time trend, so that positive values correspond to rising phase of the cycle.

6 According to the data source, the executive and legislative (majority) arms are each characterized as being right-wing, central and left-wing and we assigned these values of 1, 0 and –1 respectively. For the variable denoting the extent of both arms being right-wing, we simply add the extent of each arm being right-wing so that its value ranges between –2 (if both arms are left-wing) and 2 (if both are right-wing).

vi) *Political constraints and checks and balances against executive arm of government*: As discussed in section 1, those opposed to the switch by multilateral development banks to a higher proportion of grants have expressed the fear that the legislative approval needed to replenish the resources of the development banks might not be forthcoming. If this is correct, it can also be inferred that the proposal to make grants directly available to recipient countries would encounter similar objections from legislators. We attempt to validate this notion by testing whether the extent to which the executive arm is subject to checks and balances or constraints affects the mix between loans and grants. Thus, we include two alternative indicators of the degree of checks and balances in the political system as regressors in the equations. We also include two alternative indicators of degree of political constraints on the executive arm.[7] Based on the aforementioned notion, a high value in each of these is expected to reduce the share of grants in total aid volume.

vii) *Trend variable*: As shown in Figure 1, there is an overall upward trend in the share of aid given in form of grants. Here, we seek to test for whether the positive trend still exists after controlling for the other explanatory variables being discussed here.

viii) *Dummy variable for post-1990 period*: As can be seen from Figure 1, the upward momentum in the share of aid given as grants ceased after the mid-1990s. This dummy variable is to control for the factors that are responsible for this trend and we expect it to exhibit a negative effect.

As can be seen from Figure 1, the share of grants in total ODA is lower for direct (bilateral) allocations to recipient countries than that of combined aid (direct and indirect through multilateral donors like the WB, IMF, etc.). This is due to the fact that almost all donor contributions to multilateral institutions are in the form of grants. But the co-movements in the two charts are broadly the same—both rose more or less steadily until around the mid-1990s and started declining thereafter.[8] Despite this co-movement, we still estimate separate regression equations for each. Table 1 gives the regression results for the non-political explanatory variables, while Table 2 gives the estimates that include the effects of political factors.[9]

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7 The checks-and-balances indicator records the number of veto players in a polity and it indicates the extent of formal constitutional control on political decisionmakers. The difference between the two alternatives (which have a simple correlation coefficient of 0.767) is technical and its description as given in the data source runs into pages. The political constraint indicator, on the other hand, tries to measure the extent to which a change in the policy preferences of a veto player (independent arms of government—executive, upper and lower legislative arms) may be frustrated in leading to a change in government policy and it takes into account party composition of each arm of government and degree of homogeneity within the ruling party as well as within the opposition. Again, the difference between the two alternatives employed in the study (which have a simple correlation coefficient of 0.423) is technical and its description as given in the data source runs into pages. In a sense, the two alternatives have much in common with the two alternative indicators of checks and balances and the simple correlation coefficients between its two alternatives and those of checks and balances range between 0.165 to 0.349.

8 The data source for ODA allocation is the OECD's IDS (online) while the source on the political ideology as well as checks and balances in the political system is Beck *et al.*(2000), available through the World Bank Economic Growth Research website. The data on the indicator of political constraints are from Heinz (forthcoming), also available online. All other variables are from World Bank (2001).

9 Because the panel data are unbalanced in the sense that there are missing values for countries in a non-uniform manner, we include only few explanatory variables (such as the trend and per capita income)

Table 1
Estimates of determinants of preponderance of grants in ODA:
Effects of economic or non-political factors

Trend variable	Post-1990 dummy variable	Per capita income (log)	Govt. expd. as ratio of GDP	Real GDP (economic) growth	Upward swings in economic cycle	No. of obs	Adj. R^2
Dependent variable: combined bilateral and multilateral grants in relation to combined bilateral and multilateral aid							
0.017	-0.063	-0.378	-0.005	–	–	527	0.667
(9.4)	(-4.6)	(-6.3)	(-4.2)	–	–		
0.013	-0.049	-0.292	–	0.665	–	575	0.672
(10.6)	(-3.9)	(-6.2)	–	(3.1)	–		
0.013	-0.046	-0.312	–	–	0.199	576	0.666
(10.5)	(-3.5)	(-5.9)	–	–	(1.8)		
Dependent variable: bilateral grants in relation to bilateral aid							
0.022	-0.085	-0.485	-0.006	–	–	526	0.712
(9.6)	(-4.7)	(-6.2)	(-3.3)	–	–		
0.019	-0.066	-0.395	–	0.007	–	574	0.719
(11.9)	(-4.0)	(-6.7)	–	(3.0)	–		
0.019	-0.062	-0.423	–	–	0.235	575	0.715
(11.4)	(-3.7)	(-6.1)	–	–	(1.6)		

Notes: (i) The dependent variable in the first three equations is the share of grants in ODA with respect to combined multilateral and bilateral aid while the dependent variable in the last three equations is the share of grants in ODA with respect to bilateral aid only;

(ii) The estimates are based on panel data for the 22 DAC donors and are derived through fixed-effect (OLS) method;

(iii) The numbers in parentheses below the parameter estimates are the t-values. A parameter estimate is statistically significant at 1%, 5%, and 10% levels if its t-value is, in absolute sense, not less than 2.6, 2.0, and 1.6, respectively.

As it can be seen from the tables on the empirical results, the regression equations have a good fit or explanatory power, judging by the high values of the adjusted R^2. In all cases, the results are the same for the two types of equations: combined grants (bilateral and multilateral) in relation to combined aid (bilateral and multilateral), as well as bilateral grants in relation to bilateral aid. The signs of the coefficients of the explanatory variables are in line with our expectation, except those of the level of per capita income. Specifically, the coefficients of the level of per capita income are negative and statistically significant in all equations, suggesting that the higher the level of donor income, the smaller the fraction of their aid given as grants. This is contrary to expectation. Economic growth and upturn in economic cycle are all positive and statistically significant in most cases, suggesting that higher values of these two variables would cause donors to increase the share of their aid given as grants. But the coefficient of government expenditure-GDP ratio is negative and statistically significant, suggesting that high size of the (donor) government reduces the fraction of aid given as grants.

that are available for all countries for all or almost all years in all the equations estimated while other explanatory variables are included just one at a time. We employed OLS technique (correcting for possible existence of heteroscedasticity through the method of covariance matrix correction suggested by White, 1980) and also fixed-effect method that permits intercept to vary across countries in deriving the panel data estimates.

Table 2
Estimates of determinants of preponderance of grants in ODA:
Effects of political factors

Trend	Post-1990 dummy variable	Per capita income (log)	Having right-wing in: Govern-ment	Having right-wing in: Both executive and legislature	Extent of checks and balances: 1st type	Extent of checks and balances: 2nd type	Political constraint: 1st type	Political constraint: 2nd type	No. of obs	Adj R2
Dependent variable: combined bilateral and multilateral grants in relation to combined bilateral and multilateral aid										
0.013	-0.044	-0.333	0.008	–	–	–	–	–	423	0.693
(5.9)	(-3.0)	(-5.0)	(1.7)	–	–	–	–	–		
0.013	-0.045	-0.332	–	0.005	–	–	–	–	421	0.694
(6.0)	(-3.1)	(-5.0)	–	(2.0)	–	–	–	–		
0.013	-0.040	-0.379	–	–	-0.004	–	–	–	440	0.684
(6.2)	(-2.7)	(-5.8)	–	–	(-1.1)	–	–	–		
0.013	-0.038	-0.392	–	–	–	0.003	–	–	440	0.671
(6.2)	(-2.6)	(-6.1)	–	–	–	(0.7)	–	–		
0.012	-0.050	-0.246	–	–	–	–	-0.085	–	575	0.666
(10.5)	(-4.0)	(-5.5)	–	–	–	–	(-1.6)	–		
0.012	-0.050	-0.247	–	–	–	–	–	-0.487	575	0.666
(10.5)	(-3.9)	(-5.5)	–	–	–	–	–	(-1.4)		
Dependent variable: bilateral grants in relation to bilateral aid										
0.018	-0.058	-0.409	0.014	–	–	–	–	–	422	0.724
(7.1)	(-3.1)	(-4.8)	(2.1)	–	–	–	–	–		
0.018	-0.059	-0.407	–	0.009	–	–	–	–	420	0.726
(7.1)	(-3.2)	(-4.8)	–	(2.5)	–	–	–	–		
0.018	-0.050	-0.491	–	–	-0.001	–	–	–	440	0.713
(7.1)	(-2.7)	(-5.7)	–	–	(-0.3)	–	–	–		
0.018	-0.049	-0.501	–	–	–	0.006	–	–	440	0.702
(7.1)	(-2.6)	(-6.0)	–	–	–	(1.0)	–	–		
0.018	-0.067	-0.345	–	–	–	–	-0.113	–	575	0.714
(11.6)	(-4.1)	(-6.0)	–	–	–	–	(-1.5)	–		
0.018	-0.067	-0.346	–	–	–	–	–	-0.638	575	0.714
(11.6)	(-4.1)	(-6.0)	–	–	–	–	–	(-1.2)		

Notes: (i) The dependent variable in the first three equations is the share of grants in ODA in relation to combined multilateral and bilateral aid while the dependent variable in the last three equations is the share of grants in ODA in relation to bilateral aid only;

(ii) The estimates are based on panel data for the 22 DAC donors and are derived through fixed-effect (OLS) method;

(iii) The numbers in parentheses below the parameter estimates are the t-values. A parameter estimate is statistically significant at 1%, 5%, and 10% levels if its t-value is, in absolute sense, not less than 2.6, 2.0, and 1.6, respectively.

On the domestic polity front, the coefficients of the indicators for the executive arm of donor government and the combined executive and legislative arms being ideologically right-wing are positive and statistically significant in all cases. This evidence suggests that support for grants instead of loans is generally characteristic of right-wing governments and that the recent event in the US in connection with the multilateral

Fig. 1: Grants in relation to overall ODA net disbursements of the DAC member donors, 1970-2000

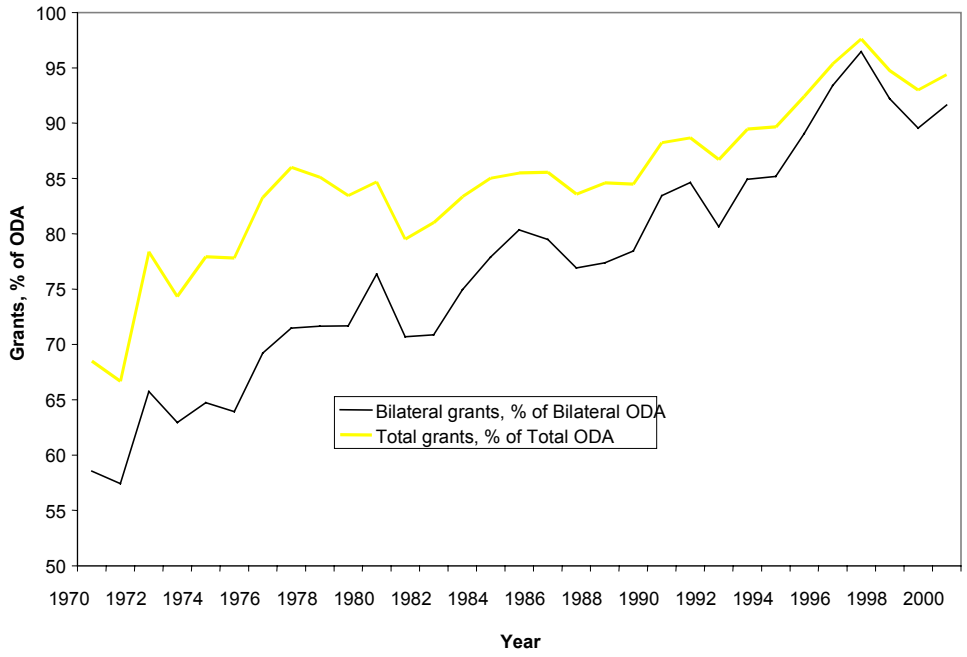
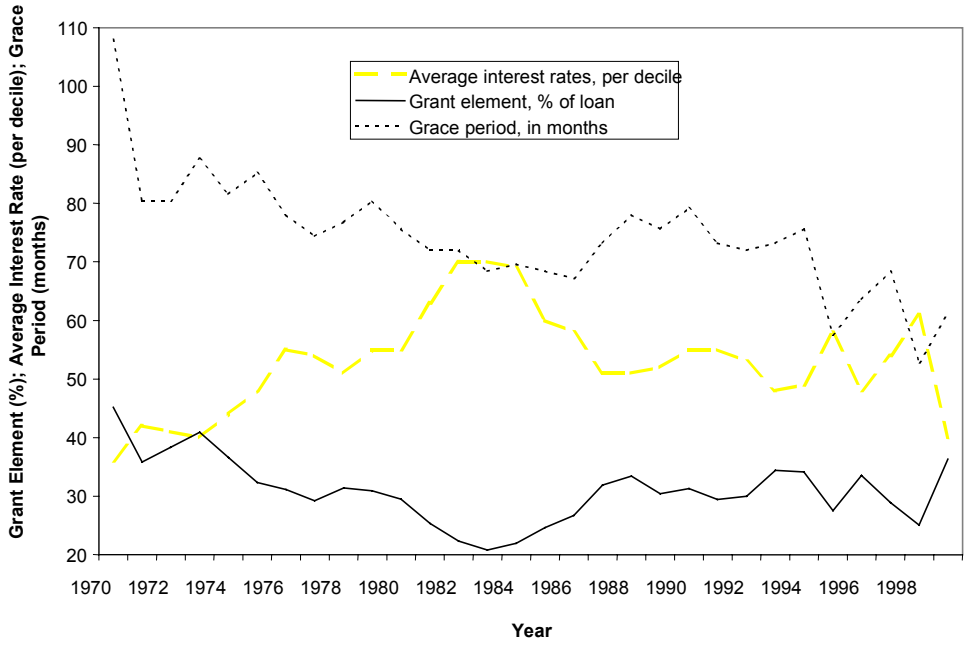


Fig. 2: Concessionality of official loans: grant elements (% of loans); average Annual interest rate (per decile); and grace period (in months), 1970-99



Note: The average interest rate is expressed in per decile, which is percentage rate multiplied by 10.

development banks is not an isolated case. But the results on the effects of checks and balances as well as political constraints are not as robust because their coefficients miss statistical significant test and, contrary to expectation, even one of the two alternative indicators of checks and balances has a positive coefficient. Although the balance of

evidence still indicates that the extent of checks and constraints on the preference of executive arm (and, hence, aid agency) reduces the fraction of aid given as grants, the evidence is weak, if not fragile.

The coefficients of the trend variable are positive and statistically significant in all cases, in line with the apparent positive trend in Figure 1. Conversely, the coefficients of the post-1990 dummy variable are negative and statistically very significant in all equations, indicating that after controlling for other factors (including the continuing rising trend in the fraction of aid given as grants in the preceding two decades), the post-1990 period actually witnessed a decrease in donor inclination towards grants vis-à-vis loans.

3 Possible repercussion of a switch from soft loan to grants on the aid volume

As discussed in section 1, a major premise of those opposed to the inclusion of grants in the aid given by multilateral development banks (which, within the present context, refers to only their soft lending windows, like the IDA of the World Bank group) is that this would reduce the volume of aid through these banks. As argued, this is especially so in subsequent years after the grant-induced cessation of replenishments or re-cycling of current resource transfers begins to take its toll. A logical extension of this line of thought is that the volume of aid given by bilateral donors would also be adversely affected if these favoured a higher proportion of grants in their resource transfers to recipients. This follows from the fact that these banks are the multilateral equivalents of the national aid agencies being used as the vehicles or 'intermediaries' of donor countries in giving aid. A corollary of this is that the resources available in the future to multilateral 'aid agencies' for disbursement may or may not be affected by their current grant-versus-loan policy, depending on whether the past grant-loan mix of the national aid agencies affects the size of resources currently available to these aid agencies for transfer.

3.1 Design of an econometric test

Based on the above logic, we conduct an econometric test to determine whether, and to what extent the preponderance of grants in total aid in the past affects the current volume of aid. Based on panel data derived from pooling annual data over the 1970-99 period across the 22 DAC bilateral donors, the test uses a fixed-effect method.[10] This enables us to infer the implications of the current grant-loan mix being adopted by bilateral and, hence, multilateral donors on their respective future aid volumes. The empirical test is carried out by including the current and lagged values of grants in relation to total aid (ODA) as regressors in an equation for aid effort, defined as aid-GDP ratio. Having controlled for the effects of the donor's per capita income level and population size as well as the trend factor and the post-1990 period, we continue to increase the lag length specification from just the contemporaneous year to a maximum

10 The methodology is exactly as used for the results in Table 1, and the same data sources apply. We could not test directly whether the past grant-loan mix of the developments banks affects the volume of their current disbursable resources (and, hence, whether their current grant-loan mix would affect their disbursable resources in the future) because banks hardly give grants.

of a 5-year lag. If reflows are being re-cycled as new resource transfers, we not only expect the share of grants in total aid to exhibit a negative sign but also the cumulative negative effects to increase as we increase the lag specification. In other words, the reducing-effect of grants on resources currently available for donor transfers should continue to build up the more we consider the past grants-total aid ratio.

3.2 Empirical results—general

The empirical results which are reported in Table 3, show that the equations have a fairly good fit (judging by the moderately high adjusted R^2 values). Also, the coefficients of most regressors are statistically significant. Those of per capita income are positive, suggesting that a high level of per capita income increases aid effort. The coefficient of population size is negative, suggesting the presence of economies of scale in aid giving. Also, the coefficients of the post-1990 dummy variable are negative while those of the trend factor are positive, suggesting that the trend increase in the generosity ratio over the years was tempered during post-1990 period.

3.3 Empirical results on effects of past grant-loan mix on current aid effort

The coefficient of contemporaneous grant-total aid ratio is negative and statistically significant, suggesting that a high ratio of grants in total aid reduces the aid volume during the same period. This is understandable since the present value or opportunity cost to the donor of a dollar grant (which, by definition, has no chance of generating any future financial reflow) should exceed that of a dollar loan (which may generate some reflow in the future as interest payments and/or principal repayment). Donors, as rational economic agents seeking to maximize whatever benefits are being sought through the resource transfers, will have factored this into their calculus with regard to their decision on the volume of aid. For this same reason, one should similarly expect an immediate reduction in the aid volume given by development banks, should they shift to grants. In principle, shifting from a soft loan scheme with x% grant element to a pure grant scheme would be expected to reduce the volume of resource transfers to x% of the former level.

However, the results do not show that resource transfers are influenced at present by reflows currently generated from past loans—and, hence, by reflows that are today being forgone because of past transfers in form of grants. This is because the observed cumulative negative effects of an earlier high grant ratio cease to increase after the second year, and may even appear to decrease. One explanation for this is that donor countries probably do not often finance new transfers from the proceeds of reflows. Another explanation is that past loans do not, in practice, generate significant reflows in subsequent years due to debt and/or interest rescheduling and refinancing on the part of debtor countries so that current reflows being sacrificed because of past pro-grant policy would be minimal.

Given this observation whereby the current resource transfer decision by individual donors appears to be immune from reflows currently generated from past loans (or, conversely, currently being forgone from a preponderance of grants in past transfers), one can ask whether the same inference can be extended to multilateral development banks—which have not had the experience of giving grants in the past. The answer

depends on the existence and extent of the fallacy of composition. On one hand, one can contend that the same should be applicable to the multilateral banks. Institutionally, the benefactors of the banks (who ultimately make the resources available) are essentially the same donor countries that, at the individual level, do not allow reflows from past loans to influence the transfers they are making bilaterally. Since they also ultimately control the multilateral banks and, hence, take final responsibility for the banks' accomplishments or failures, the benefactors collectively would probably make the banks do what they do bilaterally with respect to national aid agencies. Arguably, it can be assumed that if a particular development bank is about to be incapacitated because its resources are becoming depleted due to inadequate reflows, the benefactors would make more resources available through consultations, lobbying, politics, or whatever other means they can adopt to mount pressure among themselves—as they have often done in connection with past IDA replenishment negotiations.

On the other hand, however, this line of reasoning is flawed if a fallacy of composition exists whereby individual decisions (in connection with bilateral resource transfers) of the donor countries controlling the multilateral banks are at odds with the collective decision concerning the banks. The possibility of a fallacy of composition is enhanced because resource transfers via development banks do not confer self-interest on the donor countries in the same manner and to the degree that bilateral transfers do. For example, procurement-tying of aid is not feasible with transfers through multilateral channels. In addition, it is possible that the inability of the grant-loan mix of national aid agencies to affect the volume of currently disbursable resources is due to loan default or rescheduling and refinancing by debtor nations. This is a feature less applicable to multilateral lending since, unlike national donors, multilateral institutions are preferred creditors (or are almost preferred creditors, as in the case of the IDA). Also, to the

Table 3
Estimates of effects of preponderance of grants in ODA on aid volume
(ODA aid/GDP ratio)

Trend variable	Post-1990 dummy variable	Per capita income (log)	Popula-tion size (log)	Cumulative effects of grants/ODA ratio during: First year	First 2 yrs	First 3 yrs	First 4 yrs	First 5 yrs	First 6 yrs	No. of obs	Adj. R^2
0.0001	-0.0005	0.003	-0.008	-0.0010	–	–	–	–	–	576	0.812
(2.1)	(-3.0)	(4.2)	(-5.7)	(-2.6)	–	–	–	–	–		
0.0001	-0.0005	0.003	-0.008	–	-0.0015	–	–	–	–	554	0.824
(2.1)	(-2.8)	(3.8)	(-5.1)	–	(-2.9)	–	–	–	–		
0.0001	-0.0004	0.003	-0.008	–	–	-0.0014	–	–	–	533	0.838
(1.7)	(-2.4)	(3.8)	(-4.9)	–	–	(-2.6)	–	–	–		
0.0001	-0.0003	0.003	-0.008	–	–	–	-0.0012	–	–	512	0.850
(1.4)	(-2.0)	(3.6)	(-4.7)	–	–	–	(-2.1)	–	–		
0.0001	-0.0002	0.003	-0.008	–	–	–	–	-0.0011	–	491	0.864
(0.9)	(-1.2)	(3.6)	(-4.7)	–	–	–	–	(-1.9)	–		
0.0000	-0.0001	0.003	-0.008	–	–	–	–	–	-0.0011	471	0.875
(0.3)	(-0.6)	(3.7)	(-4.3)	–	–	–	–	–	(-1.6)		

Notes: (i) The dependent variable is the aid effort, defined as aid volume as a fraction of GDP;

(ii) The numbers in parentheses below the parameter estimates are the t-values. A parameter estimate is statistically significant at 1%, 5%, and 10% levels if its t-value is, in absolute sense, not less than 2.6, 2.0, and 1.6, respectively.

extent that the clients of the multilateral lenders graduate to a status that classifies them as fairly rich or less poor, they become ineligible borrowers. This makes refinancing (borrowing to repay maturing loans) less damaging to the volume of reflows to multilateral banks than is the case with national aid agencies. All these factors may, in the case of multilateral development banks, temper the applicability of our empirical observations, which are based on the statistics for bilateral donors.

4 Effects of grant-loan mix on financial discipline adopted by recipient governments

As pointed out in section 1, one of the argument against IFIAC's (2000) recommendation of grant-funding by multilateral development banks is that the inevitability of loan repayment helps to build financial discipline and efficient utilization of funds in the borrowing countries. This is another way of stating the economic theory that free commodities (and, hence, pure grants) would be used up to the point where its marginal productivity or utility is zero and, hence, with less efficiency than subsidized commodities which have positive opportunity costs. However, this analogy is tempered by the fact that pure grants are not free as such, since they are being rationed (presumably, more than subsidized or concessional loans) among recipients on the basis of economic, political and other conditionalities. The question, therefore, arises as to whether concessional loans, in practice, are being more efficiently utilized by recipient governments than grants.

4.1 Design of empirical test

This is an empirical issue which, however, is not straightforward to test, especially when it comes to determining what is an appropriate indicator of efficiency in government spending. Nevertheless, we make an attempt by examining the effects of foreign grants in relation to current net receipts of foreign loans on other state-budget items; specifically, capital and current expenditure as well as tax revenue and domestic sources of financing deficits in relation to both the GDP and total government expenditure. In this regard, the only previous study we know which has examined the relative effects of grants and loans on the state budget and, hence, on the recipients is that of Khan and Hoshino (1992). Their empirical analysis suggests that grants and loans have different effects on recipient government's investment and taxation behaviour.

Within the context of the study, we take efficiency to mean the enhancement of government capital (or investment) spending and tax revenue as well as reduction of each of the following: the budget size (or total spending), current (or consumption) spending, and domestic sources of financing fiscal deficits. While these are controvertible as indicators of fiscal efficiency or the lack of it, this is in line with conventional wisdom in the fiscal reform literature, where reduced government size, recurrent spending, and domestic sources of deficit financing are typically characterized as being 'good' policies, just as are the promotion of government investment spending (e.g., on infrastructure) and tax revenue effort. So, if the hypothesis that grants are prone to be less efficiently utilized than loans is correct, one would expect grants in relation to total aid (i.e., combined grants and loans) to have negative effects on capital expenditure

and tax revenue as well as positive effects on total expenditure, current expenditure and domestic sources of deficit financing.

We carry out the tests by estimating regression equations with annual panel data over periods that fall within 1970-99, pooled across 72 developing countries that have not been significant petroleum oil exporters.[11] We also report separate estimates for 42 of them that are low-income countries and 30 high-income.[12] We control for the effects of a number of other factors that could also have affected the budgetary items by including these in the estimated equations. These other factors are the trend variable, level of per capita income (in logarithm), and the overall aid volume (combined loans and grants) in relation to the gross national income. The estimated equations, in effect, can be regarded as modified reduced-form equivalents of Heller (1975) type of fiscal response model framework. The OLS technique is applied to the panel data, using the fixed-effect method as well as the technique suggested by White (1980) for heteroscedasticity correction. However, the appropriateness of the OLS method would be compromised to the extent that the volume (and grant-loan mix) of foreign assistance is, in turn, determined by the spending, taxing and domestic financing of deficit decisions, in which case these regressors would be endogenous. While this is possible to an extent, the effect would be limited if the government is faced with binding constraints in receiving foreign grants and concessional loans, as has often been the practice (particularly, with respect to grants). Another reason why the effect would be limited is due to the fact that it takes time before a decision to seek a foreign loan or grant translates into an actual disbursement by the donor. Despite this, we still allow for such endogeneity by including, instead of contemporaneous, 1-year lagged values of both grants-total aid ratio and overall aid volume in relation to gross national income.

4.2 General observations from the empirical results

The empirical results are reported in Table 4, which indicates that the equations have a good fit in most cases, judging by the generally high values of the adjusted R^2. Also, based on the statistical significance of the coefficients of the trend variable, the share of total government expenditure in the GDP has, after controlling for the effects of various regressors, been on the increase over the decades, as a result of an even faster rate of increase in the share of government consumption expenditure that has been tempered by a falling share of capital expenditure in the GDP. Similarly, the tax revenue-GDP ratio exhibits a rising trend while no specific trend movement is discernible in the ratio of

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11 Petroleum exporting countries are excluded not only because grants do not constitute large items in their budgets but also because their fiscal behaviour might have been overshadowed with vagaries of petroleum export-based government revenue.

12 The threshold per capita income which classifies a country as high-income is US$ 1,000 (1995 dollar value) per annum, averaged over 1970-99 period. The 30 countries belonging to this category are Argentina, Barbados, Botswana, Brazil, Bulgaria, Chile, Colombia, Costa Rica, Dominican Republic, Fiji, Guatemala, Hungary, Jamaica, Jordan, Korea, Malaysia, Mauritius, Morocco, Panama, Paraguay, Peru, Philippines, Poland, Romania, South Africa, Swaziland, Thailand, Tunisia, Turkey, and Uruguay. Low-income countries, on the other hand, are Bangladesh, Benin, Bhutan, Bolivia, Burkina Faso, Burundi, Central African Republic, Chad, China, Democratic Republic of Congo (Zaire), Côte d'Ivoire, Egypt, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, India, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Nepal, Nicaragua, Niger, Pakistan, Papua New Guinea, Rwanda, Senegal, Sierra Leone, Sri Lanka, Syria, Togo, Uganda, Yemen, Zambia, and Zimbabwe.

domestic deficit financing sources to GDP. While consumption expenditure has been rising faster than total expenditure, tax revenue and domestic sources of deficit financing appear to be rising at about the same pace as total expenditure.

Also, in both groups of countries, a high level of per capita income is found to reduce the share of government consumption spending in GDP (and also in total expenditure). It is also found to increase the share of government investment spending. The overall result is that it has no effect on the share of total spending in GDP. A high level of per capita income also increases tax revenue in relation to both GDP and total government expenditure, but has the opposite effect on domestic sources of deficit financing. The volume of aid received in relation to gross national income, on the other hand, is found to have a positive effect on the share of government capital spending in GDP, with the effect on consumption spending share in GDP being practically flat. Thus, an overall positive effect on total spending-GDP ratio (and, hence, negative effect on government consumption-total spending ratio) is recorded. Consistent effects of aid-national income ratio on either tax-GDP ratio or tax-total expenditure ratio are not discernible, in view of statistical insignificance of the coefficients. The same is true of its effects on the domestic sources of deficit financing in relation to GDP—and, for the high-income countries, in relation to total expenditure also whereas it is found to reduce it in the low-income country group. Except the case just mentioned, the results discussed so far are the same for the high- and low-income country groups.

4.3 Specific observation: effects of ratio of grants to total aid

The effects of the grant-total aid ratio differ in most cases substantially between the low- and high-income country groups. While it increases the share of both total and consumption expenditures in GDP in high-income countries, its effect is flat in the low-income countries. It exhibits negative effect on the share of government capital spending in GDP, with the effect being statistically significant for the high-income group but misses significance test for the low-income group. Consequently, a high grant-total aid ratio also records a positive effect on the share of government consumption spending in the total budget and this is statistically significant for both the low- and high-income groups. Thus, based on all the evidence here, grants, more than official loans, promote consumption spending and retard investment spending in relation to GDP (in high-income developing countries) and in relation to total budget size in both high- and low-income developing countries.

Its effect on tax revenue in relation to GDP is positive and statistically significant in high-income countries while the opposite is the case for low-income countries, where it is found to have a statistically significant negative effect. Concerning tax revenue in relation to total expenditure, the grant-total aid ratio is found to have a negative effect in both high- and low-income countries. Thus, while the evidence on tax effort is mixed for the high-income countries (where it increases the tax-GDP ratio but reduces tax-expenditure ratio), a high preponderance of grants in total aid is found to reduce both tax-GDP and tax-expenditure ratios in low-income countries.

Table 4
Estimates of effects of grants on 'efficiency' in the recipient government sector

		Trend variable	Per capita income (log)	Aid/national income ratio in previous year	Ratio of grants to total aid in previous year	No. of obs	Adj. R^2
Govt. expd./GDP ratio	All	0.0013	-0.0007	0.150	0.0003	1,291	0.748
		(4.4)	(-0.6)	(2.4)	(9.0)		
	Low income	0.0017	-0.0133	0.127	-0.0060	668	0.711
		(3.4)	(-0.7)	(1.7)	(-0.3)		
	High income	0.0009	0.0060	0.173	0.0003	623	0.827
		(3.3)	(0.7)	(2.6)	(9.1)		
Govt. capital expd./ GDP ratio	All	-0.0009	0.0228	0.139	-0.0001	1,186	0.707
		(-7.8)	(5.3)	(5.0)	(-2.3)		
	Low income	-0.0006	0.0255	0.114	-0.0068	575	0.706
		(-2.6)	(3.3)	(3.6)	(-1.0)		
	High income	-0.0011	0.0253	0.227	-0.0001	611	0.657
		(-8.6)	(5.6)	(4.8)	(-2.0)		
Govt. consumption expd./ GDP ratio	All	0.0020	-0.0232	0.014	0.0004	1,186	0.743
		(7.5)	(-2.3)	(0.3)	(14.9)		
	Low income	0.0018	-0.0296	0.029	0.0084	575	0.667
		(4.3)	(-1.8)	(0.5)	(0.5)		
	High income	0.0020	-0.0198	-0.055	0.0004	611	0.841
		(9.0)	(-2.4)	(-0.8)	(15.0)		
Tax revenue/ GDP ratio	All	0.0012	0.0153	0.030	0.0001	1,303	0.832
		(7.8)	(2.5)	(1.6)	(6.1)		
	Low income	0.0013	0.0177	0.028	-0.0239	681	0.812
		(5.4)	(1.7)	(1.2)	(-2.9)		
	High income	0.0011	0.0126	0.026	0.0001	622	0.845
		(6.6)	(1.9)	(0.5)	(6.7)		
Domestic sources of financing deficit/ GDP ratio	All	0.0001	-0.0346	-0.067	0.0001	1,126	0.341
		(0.5)	(-3.7)	(-1.5)	(1.6)		
	Low income	0.0004	-0.0422	-0.100	-0.0036	588	0.282
		(1.1)	(-2.8)	(-1.9)	(-0.3)		
	High income	-0.0001	-0.0235	0.034	0.0001	538	0.405
		(-0.6)	(-2.9)	(0.6)	(1.7)		
Govt. consumption/ total govt. expd. ratio	All	0.0041	-0.0886	-0.358	0.0004	1,186	0.689
		(11.9)	(-7.1)	(-5.8)	(3.9)		
	Low income	0.0025	-0.1071	-0.287	0.0435	575	0.694
		(4.8)	(-6.0)	(-4.7)	(2.0)		
	High income	0.0052	-0.0942	-0.507	0.0004	611	0.680
		(11.9)	(-5.6)	(-3.8)	(3.5)		
Tax revenue/total govt. expd. ratio	All	-0.0007	0.1053	-0.126	-0.0003	1,275	0.617
		(-1.2)	(4.9)	(-1.4)	(-5.3)		
	Low income	-0.0015	0.0878	-0.105	-0.0558	656	0.555
		(-1.7)	(2.9)	(-1.0)	(-1.8)		
	High income	0.0002	0.0991	-0.045	-0.0003	619	0.443
		(0.3)	(3.3)	(-0.2)	(-5.8)		
Domestic sources of financing deficit/total govt. expd. ratio	All	-0.0008	-0.0902	-0.342	0.0003	1,123	0.434
		(-1.1)	(-3.1)	(-3.5)	(1.5)		
	Low income	0.00002	-0.0719	-0.395	0.0016	585	0.434
		(0.02)	(-1.7)	(-3.5)	(0.1)		
	High income	-0.0011	-0.0943	-0.160	0.0003	538	0.377
		(-1.3)	(-2.8)	(-1.0)	(1.5)		

Notes: (i) Ratio of grants to aid is computed from the OECD's IDS (online), while other variables are from the World Bank (online);

(ii) The numbers in parentheses below the parameter estimates are the t-values. A parameter estimate is statistically significant at 1%, 5%, and 10% levels if its t-value is, in absolute

sense, no less than 2.6, 2.0, and 1.6, respectively.

Its effect on domestic sources of financing deficit in relation to both GDP and total expenditure is positive but statistically significant only at the margin for high-income countries, whereas it is not statistically significant at all for the low-income group. Thus, one can infer that there is some weak evidence that a high ratio of grants in total aid volume increases domestic financing of deficit in relation to both GDP and total government spending in high-income countries but has practically no effect on this source of deficit financing in low-income countries.

The conclusion from the above findings is that, to the extent that increased government size, increased share of government consumption spending in the budget and in GDP, as well as reduced share of government investment spending in GDP and in total budget can be said to be inefficient, grants are being utilized less efficiently than official loans. This same inference is valid with respect to the relative effect of grants and loans on the tax effort, especially in low-income countries. In high-income countries, the corresponding inference is mixed, as the tax-GDP ratio in these nations is favoured by grants more than by loans but not enough to match the higher favourable effect on government total expenditure. While a high preponderance of grants in total aid is observed to have no effect on the domestic financing of deficit in low-income countries, the balance of evidence indicates that it has a positive impact in high-income countries. This, again, is anti-efficiency, as has generally been perceived in fiscal reform literature. Thus, the left-wing argument seems to have been supported.

5 Effects of degree of subsidy on loans on rate of debt accumulation and efficient loan use

Concessional or soft loans are simply an alternative way of referring to loans which should technically be called subsidized. Thus, the effects of different degrees of softness or concessionality can be analysed and theoretically predicted on the basis of the economic theory on subsidy of a commodity or factor input. Accordingly, one can theoretically predict that, similarly to the manner in which the subsidization of commodities and resources encourages their increased consumption or usage, there is a tendency on the part of the recipients to over-borrow when a loan is subsidized, as in the case of ODA. Therefore, the softness of these loans can partly explain the official accumulation of debt over time, especially by poor countries. Furthermore, if it can be established that the high degree of softness has a positive effect on the rate of borrowing, then it can also be inferred that this fact would also retard the efficient use of such loans. Determining empirically whether the above theories are true in real life is the attempt being made here.

The degree of concessionality of a loan is measured by the implied grant element in relation to the face value of the loan. This indicator takes due cognizance of both the average rate of interest on the loan as well as the grace period, which is the timeframe before repayment of the principal (and, possibly, interest payments as well) commences. The lower the loan rate or the longer the grace period, the higher the grant element. Fluctuations in the grant element (percentage), average interest rates (decile or per cent multiplied by 10), and grace period (in months) over the 1970-99 period are presented in Figure 2. As can be seen, movements in the grant element are mainly due to opposite

fluctuations in loan rates while the effect of grace period movement on the grant element is much less obvious.

5.1 Design of the econometric test

The study attempts to test whether the degree of loan subsidy (or grant element in relation to a loan's face value) with respect to official loans has any (positive, presumably) effect on the rate of official borrowing, as economic theory would have us believe. We also test whether the effect of grant element reflects the recipient government's response to a lower interest rate, longer grace period, or both. For this, we again utilize a regression analysis framework. We estimate equations for the volume of (gross) official loans raised in relation to GDP and separately include the grant element percentage; the average interest charged on the loans, and the average grace period on the loans as the explanatory variables of interest. But we also control for the effects of other factors likely to determine the volume of official loans. Specifically, these other factors are the trend variable, economic (real GDP) growth, and existing total debt stock in relation to GDP. Similar to the results given in Table 4, the equations are estimated with annual panel data over periods that fall within 1970-99, pooled across the same 72 developing countries while also deriving separate estimates for the 42 low-income and 30 high-income countries. Also, as before, the OLS technique is applied to the panel data, using fixed-effect method and the technique suggested by White (1980) for heteroscedasticity correction.

5.2 General observations from the empirical results

The resulting estimates are presented in Table 5, which shows that they have fairly a high goodness of fit, as indicated by the values of their adjusted R^2. In all cases, the coefficients are statistically very significant for both the high- and low-income country groups. The exception is the coefficient of total debt stock-GNP ratio, which is not significant in the equations for low-income countries. But, while the coefficients of the trend variable are positive for low-income countries, they are negative for the high-income ones. This suggests that while the volume of official loans in relation to GDP shows an upward trend in the low-income countries, the opposite is true for the high-income countries. This is probably a reflection of the fact that high-income countries have relatively ever-improving access to the alternative of raising loan finance from foreign private capital markets.

A high level of per capita income is also observed to have reduced the rate of official borrowing, whereas high economic growth is seen to have increased it. The coefficients of per capita income are negative, while those of economic growth are positive. The existing level of total debt stock in relation to GNP has a positive effect on current borrowing in high-income countries (presumably, for refinancing maturing debts) but has no statistically significant effect on current borrowing in low-income countries.

5.3 Specific observation effects of degree of concessionality and its components on borrowing

The empirical results are straightforward. The coefficient of the grant element percentage is positive and statistically very significant, just as is the coefficient of the

grace period, while the coefficient of the average interest rate is negative and statistically very significant. The results are the same for the high- and low-income countries and, hence, for the combination of the two country groups.

What this evidence suggests is that a high degree of concessionality on official loans is an incentive for the recipient governments to borrow more and they respond equally to both types of incentives—low interest rate and long grace period. This suggests that recipients have a high rate of intertemporal substitution elasticity or time preference. Could this have been an explanation of the high and often unsustainable debt burden in many of these countries in the past—a phenomenon that triggered the palliative HIPC debt relief?

The observation that recipients respond to the incentive of a longer grace period by borrowing more has a particular implication for the Meltzer Report's recommendation (IFIAC 2000) which concerns performance-based grants for recipients that the report refers to as 'the globe's truly poor'. These grants, in effect, boil down to subsidized loans without a grace period. This is because the 'globe's truly poor' would have to co-finance projects (to the tune of between 10-90 per cent, depending on how 'truly poor' the recipient is) with the multilateral donors and this requires an up-front cash outlay on the recipient's part. Based on the specific example used in the report whereby the recipient co-finances 30 per cent of the cost of vaccination of the country's

Table 5
Estimates of effects of degree of softness of official loans on rate of debt accumulation

	Trend	Per capita income (log)	Economic (real GDP) growth	Total debt/GNP ratio	Grant elements in relation to the official loan	Average interest rate on official loan	Average grace period (in yrs) on official loans	No. of obs	Adj. R^2
All	0.0009	-0.0358	0.0278	0.0011	0.0356	–	–	1,831	0.528
	(8.2)	(-8.3)	(2.0)	(0.7)	(5.3)	–	–		
Low-income	0.0013	-0.0382	0.0375	0.0008	0.0323	–	–	1,088	0.426
	(9.1)	(-5.5)	(1.8)	(0.6)	(3.1)	–	–		
High-income	-0.0002	-0.0121	0.0206	0.0165	0.0235	–	–	743	0.565
	(-3.8)	(-4.0)	(1.7)	(4.7)	(4.9)	–	–		
All	0.0010	-0.0384	0.0338	0.0010	–	-0.2079	–	1,831	0.522
	(8.6)	(-8.7)	(2.5)	(0.7)	–	(-4.6)	–		
Low-income	0.0014	-0.0399	0.0428	0.0007	–	-0.1897	–	1,088	0.422
	(10.0)	(-5.7)	(2.1)	(0.5)	–	(-2.3)	–		
High-income	-0.0002	-0.0129	0.0222	0.0168	–	-0.1659	–	743	0.561
	(-4.1)	(-4.2)	(1.8)	(4.7)	–	(-5.0)	–		
All	0.0010	-0.0376	0.0330	0.0012	–	–	0.0023	1,831	0.524
	(8.7)	(-8.3)	(2.4)	(0.8)	–	–	(3.6)		
Low-income	0.0014	-0.0403	0.0395	0.0008	–	–	0.0020	1,088	0.424
	(9.8)	(-5.7)	(1.9)	(0.6)	–	–	(2.4)		
High-income	-0.0002	-0.0124	0.0262	0.0150	–	–	0.0014	743	0.546
	(-3.2)	(-4.0)	(2.1)	(4.3)	–	–	(3.3)		

Notes: (i) The dependent variable is official loans received in relation to GDP;
(ii) All variables are from the World Bank (online);
(iii) The numbers in parentheses below the parameter estimates are the t-values. A parameter

estimate is statistically significant at 1%, 5%, and 10% levels if its t-value is, in absolute sense, no less than 2.6, 2.0, and 1.6, respectively;

(iv) The coefficients and t-values of the grant element and average interest rate regressors are for their respective contemporaneous and 1-period lagged values.

children against measles, this is equivalent to financing the entire project with a concessional loan with a 70 per cent grant element, but with no grace period, so that the 30 per cent effective loan is to be repaid upfront. As observed, recipients react to a longer grace period by borrowing more (suggesting a high rate of discount or time preference), and the implication here is that they would be less than enthusiastic to such a co-financing grant arrangement. Recipients—typically liquidity- or foreign exchange-constrained—are unlikely to be excited by an offer that would require them to co-finance such projects.

Following from the above evidence is a somewhat corollary issue—whether high concessionality generally reduces the efficiency of the use of loan proceeds. In this case, we need not resort to empirical tests, since a deductive approach can provide an answer. If recipient governments are induced by concessionality to borrow more than what credit market conditions suggest, they would be prone to finance and implement projects and programmes beyond what market-determined criteria permit and would thereby undertake those that miss normal efficiency criteria. However, this conclusion is limited or qualified by non-efficiency factors identified in section 6 below.

6 Donors' choice between grants, soft loans and non-concessional loans: some evidence and suggested guiding criteria

The evidence reported in the previous two sections seems to suggest that grants are being utilized relatively inefficiently vis-à-vis official loans, and loans with greater concessionality are prone to be over-borrowed and, hence, less efficiently used than loans with lesser concessionality. But this generalization has a number of caveats. First, efficiency should not be the only guiding factor for donors and, second, even efficiency-wise, there are many recipient-specific circumstances where grants would do better than loans, and loans with a greater degree of concessionality do better than other loans. Within the constraint dictated by space, we shall briefly allude to a number of such instances in this section. These instances constitute circumstances in which grants, soft loans and non-concessional loans have their respective comparative advantage—factors that donors should take into consideration in splitting their overall envelope of planned resource transfers between the three categories.

6.1 Recipient-specific factors affecting donors' grant-loan mix and the nature of loan concessionality

Before identifying such circumstances, we want to examine the evidence on the recipient-specific factors that donors have taken into account in the past in deciding their grant-loan mix and the extent and type of concessionality (i.e., lower interest rate *versus* longer grace period) on their lending. For this, we follow the earlier regression analysis technique by estimating a type of implied donor 'reaction function' equations. In this regard, donors are posited to react to certain recipient-specific circumstances and factors in deciding the mix between grants and official loans, and also the degree of concessionality as well as the interest rate and grace period combination to achieve a

certain degree of concessionality.[13] These equations are estimated with annual panel data over the 1970-99 period, pooled across the same 72 recipient countries covered in connection with Tables 4 and 5. The econometric methodology adopted earlier is also applied here. There are five equations, each for a separate dependent variable. The first is pure grants in relation to total net volume of aid; the second is pure grants in relation to gross volume of aid (i.e., volume of aid before deducting loan repayment); the third is the grant element in relation to the face value of official loans; the fourth is the average interest rate on the loans, and the fifth is the grace period on the loans. These five equations have a common list of four regressors, which are the trend variable, recipient country's per capita income level, the recipient country's economic (real GDP) growth, and the recipient country's existing total debt stock in relation to GNP. These latter three regressors are the factors we want to test with regard to their impact in shaping the decisions of the donors with respect to the grant-loan mix and loan concessionality. While we expect greater grant-loan ratio and higher loan concessionality to be given to countries with lower per capita income, we are not positing a definite direction of the effects of economic growth and existing total debt-GDP ratio.

The empirical results are reported in Table 6. Judging from the values of the adjusted R^2, the equations have a good fit, except in the case of the equation for grant-net aid volume ratio. Based on the statistical significance of the coefficients, the following donor reactions with regard to the grant-loan mix and loan concessionality were observed in the factors tested:

i) *Grants in relation to total net aid volume*: Donors' grant-net loan mix given to (or obtained by) the recipients, although showing a rather feeble upward trend in favour of grants, is not influenced by the recipients' level of per capita income, economic growth performance, or existing stock of debt in relation to GDP.

ii) *Grants in relation to total gross aid volume*: Although the grant-gross loan mix records an upward trend over the decades in favour of grants, it is not influenced by the recipients' economic growth performance. There is some evidence, however, that donors give countries with lower per capita income (or countries with lower per capita income obtain) a greater preponderance of grants. That per capita income is not a relevant factor in the case of the grant-net loan situation above has to be due to the fact that lower-income recipients use a higher proportion of their gross loan proceeds than the higher-income recipients to repay existing official debt stocks about to mature. Also, the fact that donors are now found to give a higher grant-gross loan ratio the higher the existing level of total debt stock/GNP ratio (as reported in the Table) can be easily reconciled with the evidence in (i), since much of the new gross lending has often been mutually agreed to be used for servicing and refinancing the existing debt stock.

[13] The assumption here is that the observed grant-loan mix and concessionality on loans are as determined by the donors. While this is normally expected to be true in most cases, the observed volume of concessional loans (and, hence, the observed grant-loan mix) might have actually been jointly decided by recipients and donors. This possible exception should be borne in mind in interpreting the observed grant-loan mix as portraying the donors' observed reaction to recipient-specific economic circumstances.

iii) *Grant element ratio on official loans received*: This exhibits an increasing trend over the decades.[14] Also, donors give greater loan concessions to countries having lower per capita income, higher economic growth performance, and lower external debt stock/GNP ratio.

iv) *Average interest rate on official loans*: This exhibits a decreasing trend over the years. Also, it follows that the greater concessionality in (iii) above is partly effected by reducing the interest rate charged on loans to countries with lower per capita income, higher economic growth performance, and lower external debt stock/GNP ratio.

v) *Grace period on official loans*: The grace period allowed by donors shows the same rising trend as the grant element ratio and donors are observed to be influenced by the same set of factors and along the same directions as reported in (iii) above for the grant element ratio.

6.2 Respective comparative advantages of grants, soft loans and non-concessional loans

At the national level all over the world, governments offer some sort of subsidy on selected commodities, resources and public enterprises, as well as provide some commodities and resources free of charge. Ideally, such subsidies and grants should be based on certain principles that have been long established in public finance theory. We identify some of these principles and extend them to the realm of official transfers by donor governments. Due to space limitations, a more formal expositions is not possible, and we offer only an 'intuitive' presentation.

i) *Externality*: If the benefits accruing to the recipient governments from undertaking or financing certain activities are less than the total benefits to the whole world, such activities, in the absence of foreign assistance, would not normally be undertaken to the optimal extent. Many instances of such activities can be mentioned and one special case is the global public goods provision (which, at the same time, confers substantial benefits to the recipient country).[15] To encourage such activities, a grant is likely to be better than a non-concessional loan.

ii) *Self-interest of donors*: This is similar to (i) above, but also different. Here, the activities to be financed are not necessarily beneficial to the whole world. The activity only needs to be beneficial to the donors and, possibly, to the recipients, but nothing prevents the activity from being detrimental to the

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14 The rising or falling trend being reported here and in other tables on the empirical results is after controlling for a number of factors (namely, other regressors in the equation estimates). This should not be confused with the trend movements in Figures 1 and 2, which reflect no controlling measures for other factors.

15 It should be borne in mind that foreign resource transfers for financing truly global public goods are not aid (and should not be regarded as such) since the benefit is not exclusively, mainly or even preferentially for the (usually, developing) country where the provision takes place. This explains the proviso of simultaneous presence of 'substantial benefits to the recipient country'—e.g., eradication of an epidemic originating in a particular country might benefit that country more than the rest of the world.

global community. As such, it mainly applies to bilateral resource transfers. Military and strategic assistance is a case in point, just as procurement-tied aid. Again, to encourage recipients undertake such activities, grants would be more suitable than non-concessional loans. Such a resource transfer already has an implied non-financial forbearance or *quid pro quo* on the part of the recipients and, simultaneously, an implied non-financial advantage to the donors.

iii) *Encouraging or cajoling recipients to 'behave' or undertake action as donors feel they should be done*: This is an amalgam of (i) and (ii) above. In a number of cases, donors have their peculiar idiosyncrasies and may see things differently than the recipient governments perceive them and the former may wish to use their financial power to leverage, cajole, induce, or 'bribe' (if not 'intimidate') the latter to 'behave'. Many social, political and economic conditionalities that accompany resource transfers fall into this category, e.g. gender issue, democratization, fighting corruption, privatization and commercialization of public enterprises, macroeconomic reforms (that have nothing to do with capacity to repay loans), etc. No specific self-interest of the donor is obvious and it mainly (though not exclusively) applies to multilateral transfers. No doubt, a number of such conditionalities are genuine attempts to induce and encourage recipients to help themselves. But donors, for effectiveness, have to pay a price to induce the recipients to manage their affairs as the benefactors would like to see them and, hence, non-concessional loans would not be appropriate.

iv) *Temporary economic shocks versus long-lasting downturn*: The ultimate benefit of loans to the recipients is to enable them smoothen their consumption over a feasible time horizon. So, if a potential recipient's problem is just a temporary, reversible 'liquidity' shortfall and possible future recovery is supported by the fundamentals being in place, loans would be more appropriate than grants. But if a potential recipient is having a protracted 'solvency' problem that is likely to be long lasting, providing loans may worsen the country's situation. As reviewed in section 2.1 in connection with gift-giving at the household level, Thomas and Worrall (2002) averred that, 'Should it (i.e., the household suffering from an economic shock) then immediately suffer another adverse shock, it is in a worse position than after the first shock as it has repayment obligations on the borrowing already made, and being less willing to accumulate even more debt, it will be forced to cut consumption'. The same applies to sovereign recipient states.

v) *Altruistic and compassionate transfers:* Transfers to low-income countries to assist them in attaining certain standards of living would fall under this category and should be distinguished from transfers to encourage recipient governments to behave in a certain manner as mentioned in (iii) above. The well-recognized principle of gift-giving (reviewed in section 2.1) suggests that this aid should be in form of grants.

vi) *Correction of and 'atonement' or 'reparation' for past misdeeds*: Examples of this might include any bilateral transfer to correct for the past adversities from colonization and slavery in Africa, or the writing-off of dubious loans that had propped-up tyrants in developing countries during the cold war era, etc. Again,

the well-recognized principle of gift-giving suggests that this should be in form of grants.

vii) *Purpose for which transfers are being sought:* If a recipient government is seeking aid transfers to assist the poorer segments of the population (e.g., safety nets, scholarships to the poor, etc.), again, the principle of gift-giving suggests that grants would be more appropriate. But if the transfers are being sought for allocation to the recipient's private sector (as part of private sector development assistance), a case can be made for non-concessional loans, so as not to compromise resource allocation efficiency. In this connection, it is relevant to refer to the right-wing political argument of the IFIAC (2000) report that the provision of infrastructure, etc. has a long gestation period before yielding compensatory returns and hence should not be financed by multilateral development banks through loans but through grants. Technically, this is a faulty argument as loans can be appropriate and do not even need to be concessional; only the grace period needs to be sufficiently long for this type of transfer.

The discussion so far has centred on the comparative advantage of grants versus (presumably, non-concessional) loans. We now want to see how concessional loans can fit into the picture. The justification for concessional loans can unambiguously be made in connection with some special cases of (i) to (iii) above, namely, to encourage recipients to undertake more activities with positive externalities; to further donors' self-interests, and to encourage recipients to behave or undertake certain measures in a donor-preferred way. In the first case, positive externality may not be sufficient to justify pure grants, thus requiring a form of 'co-financing' on the part of the recipients. Such co-financing may be implemented better in the form of subsidized loans. These co-financing or concessional loan arrangements may be suitable if a donor's self-interest is not intense enough to warrant a pure grant. For example, if a bilateral donor wants to give procurement-tied aid to promote its exports, giving a $x million grant may not go far enough compared with giving $4x million soft loan with a 25 per cent (i.e., $x million) grant element. Regarding the appropriateness of soft loans as an instrument of inducing the recipient to manage its affairs in a certain, donor-preferred manner, Meltzer's Report (IFIAC 2000) rightly gives this implicit recognition and approval in its recommendation of 'institutional reform loans'. While the report frowns on loans in general, it makes an exception here. In recommending a soft loan arrangement, the report (IFIAC: Chapter 3) states that, 'developing and emerging countries need incentives to continue long-term reform programmes until they achieve sustainable results'. It then details how the reform incentive loan, the concessionality of which would be tailored for the successful implementation of a reform programme, is to be implemented. According to the report (IFIAC: Chapter 3):

> Loans would be conditional upon a precise set of reforms, and disbursement would begin after legislative enactment, the first step in the process. If performance is positive, repayment of the entire principal schedule would be deferred for one year. Interest would be on a current basis – Eligibility for deferrals, based on continuing implementation, would be renewable each year for (say) up to ten years. Continued execution can thus transform (say) a 10-year loan with repayment spread over (say) years 1 to 10 into (say) a 20-year loan with repayments in (say) years 11 through 20. Failure to meet standards in any year would

trigger a mandatory start on repayment of principal and elimination of the interest subsidy.

Another instance where subsidized loans would be 'optimal' is when there is the need to exploit the vulnerability of voters and pressure groups, etc. to the illusion of subsidized loans. At times, donor governments may be justifiably inclined to provide grants (say, $x million) for a specific purpose but may be handicapped by domestic opposition from voters, pressure groups and, possibly, the legislators. Such opposition would probably be weakened if these transfers were made by changing the grants into soft loans (say, $4x million loans with a 25 per cent grant element). In such situations, soft loans (in form of subtle or disguised grants) might be more suitable than outright grants.

Except in cases similar to those identified above, concessional loans may be sub-optimal vis-à-vis outright grants and non-concessional loans. Unfortunately, not many of the past aid decisions on the grant-loan mix have consciously been made on the basis of such criteria.

Table 6
Estimates of effects of per capita income and economic growth on grants-loans mix and degree of concessionality of loans received

	Trend variable	Per capita income (log)	Economic (real GDP) growth	External debt/GNP ratio	No. of obs	Adj. R^2
Grants in relation to total net ODA	0.0370 (1.7)	0.3711 (0.3)	-10.6896 (-0.5)	0.0060 (1.5)	2,002	0.008
Grants in relation to total gross ODA	0.0040 (8.9)	-0.0384 (-1.8)	-0.0596 (-0.8)	0.0048 (3.9)	2,017	0.487
Grant elements in relation to the official loan received	0.0036 (7.6)	-0.1486 (-7.1)	0.3490 (5.0)	-0.0029 (-3.0)	1,969	0.659
Average interest rate on the official loan	-0.0004 (-7.9)	0.0131 (5.8)	-0.0364 (-5.1)	0.0001 (1.3)	1,955	0.631
Grace period (years) on the official loan	0.0179 (2.7)	-1.3377 (-4.9)	3.3701 (30.4)	-0.0643 (-3.9)	1,972	0.448

Notes: (i) Ratio of grants to aid is computed from the OECD's IDS (online), while other variables are from the World Bank (online);

(ii) The numbers in parentheses below the parameter estimates are the t-values. A parameter estimate is statistically significant at 1%, 5%, and 10% levels if its t-value is, in absolute sense, not less than 2.6, 2.0, and 1.6, respectively.

7 Unbundling of subsidized loans into constituent pure grant and non-concessional loan parts

What the foregoing discussion suggests is that with the exclusion of the exceptional circumstances identified above, subsidized loans vis-à-vis non-concessional loans and outright grants are generally inefficient in accomplishing donor objectives. As also suggested by economic theory and our empirical findings, subsidization tends to encourage over-borrowing by recipients. This leads to greater accumulation of debt over time, which makes loan subsidization a disadvantage compared to non-concessional loans or pure grants. The past debt overhang of many poor countries could partly be explained by earlier inducements to borrow through high concessionality. Also, financial discipline would ordinarily be less with soft loans than with non-concessional

loans. With soft loans, project and programme selections are likely to be less prudent (with those having low combined private and social rates of return being included) and their implementation less efficiency-conscious.

The relative disadvantages of concessional loans are made worse by the adverse 'push' incentives. Donors (particularly, multilateral development banks) actively encourage (and possibly intimidate) the recipients to borrow more, and by this, fail to process to promote efficient utilization of the loan proceeds. A multilateral development bank often measures its progress mainly in terms of loan volumes and often also links the evaluation and progress of its staff to this target. This is a known fact but Wapenhans Report (1992) and Meltzer's Report in particular (IFIAC 2000) are probably among the first to highlight it and bring it into the fore, using World Bank lending as illustration. According to the IFIAC report (Chapter 3):

> The (Wapenhans) report said the (World) Bank had developed a lending culture. Rewards were closely related to the volume of lending, not to a project's value or program accomplishments. Subsequently, an Asian Development Bank portfolio review found that dedication to client interest was undermined by an 'approval culture' aimed at achieving yearly lending targets. Incentives to lend for lending's sake are built into the structure of the Banks. Internal budget resources are awarded where loan volumes are high, not where the number of worthwhile projects is highest. … Often the staff is rewarded on the amount of funds disbursed.

With pure grants, such an incentive problem would not arise. Also, in case of non-concessional loans, the incentive may exist but it would be much more difficult to persuade recipients to borrow more. Soft loans are the most vulnerable in this regard. As opined by the IFIAC (Chapter 3), 'The burden of irresponsible (loan) programmes is unfortunately borne by taxpayers—by the poor recipient-country citizens if loans are repaid or by donor member constituencies if the debt is forgiven'.

But despite these shortcomings, much of the official loans still continues to be concessional. This is particularly so with resource transfers by multilateral development banks through even their so-called non-concessional windows (IBRD, in the case of the World Bank group). As asserted in Meltzer's Report (IFIAC 2000: Chapter 3) on the basis of their computations, 'The (multilateral development) Banks divide their lending into market-based and concessional loans. Both are subsidized'.

Concessional loans are, in effect, grants and non-concessional loans bundled together and given to the recipient in a 'take it or leave it' manner. The question that arises is whether it would not be more efficient and beneficial if the soft loan is unbundled into two constituent parts and the recipient is given the grant component and a choice to take (without further questioning or additional conditionality) as much as it wishes from the non-concessional loan component.

For example, let us consider the case of a $4x million soft loan with 25 per cent (or $x million) grant element. This is, in effect, a combination of an $x million grant and $3x million non-concessional loan. The recipient either takes the whole $4x million or nothing (or, possibly, a rigid 1:3 combination of grant and non-concessional loan if the amount needed is less than $4x million). Since the effective generosity (or opportunity cost to the donor) is $x million, the donor would have nothing to lose if it offers an $x million outright grant, coupled with free access ('no-further-conditionality') to the

implied $3x million non-concessional loan component. There is no disadvantage to the donor in granting this option and the recipient is likely to exhibit greater discipline in project/programme selection and implementation in utilizing the $3x million loan element. The recipient may abstain from drawing the entire amount or a part of it if its utilization is not justified by the anticipated combination of private and social benefits (or rates of return). This option also minimizes the recipient's future debt burden. For the multilateral development banks (and, to some extent, national aid agencies), the arrangement would also allay their fears that continued political will for sustaining or increasing future volumes of resource transfers might not be forthcoming. In the illustration, it is only the $x million grant which would not generate future reflows—the $3x million will, even at non-concessional higher interest rate and/or shorter grace period which would provide the needed replenishments.

8 Summary and conclusion

The issue of whether official assistance should be given in the form of loans or grants has recently started to attract policy attention, particularly after Meltzer's Report (IFIAC 2000). But there have been no attempts at an academic level to examine the various issues entailed by a shift in the grant-loan policy mix and the associated issue of soft versus non-concessional loans. The present study constitutes an exploratory attempt to fill this vacuum. The pioneering nature also prompted us to examine broad and panoramic problems related to the issue.

Specifically, we empirically examined, among others, factors that have historically affected the mix between loans and grants at the bilateral level. We observed that donor countries' high economic growth and an upturn in their economic cycles tend to raise the mix in favour of grants, while the donors' high per capita income level and ratio of donor government spending to GDP has the opposite effect. The trend increase in the ratio of grants to total aid in the past decades is also observed to have levelled off in the 1990s, after controlling for the effects of a number of other factors. It was also observed that the preference for grants was characteristic of right-wing donor governments. Finally, although the extent of checks and balances and political constraints on the executive arm of government seems to reduce the fraction of aid given in the form of grants, the evidence is weak, if not fragile.

We also examined on the basis of past bilateral aid allocations the implication of a switch from loans to grants. Our empirical tests suggest that the immediate effect is a reduction in the volume of aid—presumably and understandably, because the grant-equivalent of a dollar loan is less than 1. But there is no evidence that current resource transfers are influenced by reflows currently generated from past loans and, hence, by reflows currently being forgone because past transfers have been in grant form. To the extent that the experience of the bilateral aid agencies can be extrapolated and extended to multilateral donors, one can also infer that a switch today from loans to grants is unlikely to affect the volume of their disbursable resources in the future. But this inference is vulnerable to the fallacy of composition concept and should therefore be treated with caution.

We also analysed the implications to recipient governments of changes in the grant-loan mix, as well as the degree of concessionality on the loans. First, the effect on recipient

government efficiency was examined by empirically testing for the relative effects of grants versus loans on other budget components. According to one of our observations, grants—more than loans—promote government consumption spending and retard investment spending. Also, while the evidence of the effect on tax effort is mixed for relatively high-income recipients, a high preponderance of grants in total aid is found to reduce tax effort in relatively low-income countries. In addition, while it has practically no effect on domestic sources of deficit financing in low-income countries, there is some evidence (albeit weak) that a high ratio of grants in total aid volume increases deficit financing by the relatively high-income recipient governments. On the whole, the evidence suggests that grants are less efficiently utilized by recipient governments than loans, if the efficiency indicators are to imply—as is being done in fiscal reform literature—high government investment spending in relation to consumption spending, higher tax effort and reduced domestic financing of fiscal deficits.

In addition, we examined whether and how the extent of loan concessionality affects the volume of official borrowing by the recipients. There is robust evidence from our empirical test that a high degree of concessionality on official loans is an incentive for recipient governments to borrow more and they respond both to subsidized interest rates and long grace periods.

The study also examined factors which have influenced donors' decisions in the past regarding the mix between grants and loans, as well as the degree of loan concessionality (and how this was being effected between subsidized interest rate and longer grace period). Not many systematic factors are observed to have an influence on the grant-loan mix given to recipients. But a high degree of concessionality—both in the form of reduced interest rates and longer grace periods—is found to be awarded to recipients with low per capita income and high economic growth.

Based on these findings, we also discussed the circumstances under which grants, soft loans and non-concessional loans should have a comparative advantage, depending on the objectives donors want to achieve. We remarked that criteria similar to those being discussed in the paper do not appear to have been applied often by donors in the past in the allocation of resource transfers between grants, soft loans and non-concessional loans.

Finally, we concluded the paper by suggesting the necessity for, and modality of, separating concessional loans into two constituent parts: pure grants and non-concessional loans. This would entail the recipient being given the grant component, coupled with the option to take as much as it wishes from the non-concessional loan component. We discussed how this would overcome many of the adverse incentives and related problems of concessional loans.

References

Beck, T., G. Clarke, A. Groof, P. Keefer, and P. Walsh (2000). 'New Tools and New Tests in Comparative Political Economy: The Database of Political Institutions', The World Bank Economic Growth Research Website www.worldbank.org/research/ growth/political_datal.htm.

Fafchamps, M. (1999). 'Risk Sharing and Quasi-Credit'. *Journal of International Trade and Economic Development*, 8 (3): 257-78.

Foster, A., and M. Rosenzweig (1995). 'Imperfect Commitment, Altruism and the Family: Evidence from Transfer Behaviour in Low-income Rural Areas'. Philadelphia: University of Pennsylvania. Unpublished manuscript.

Heath, A. (1976). *Rational Choice and Social Exchange: A Critique of the Exchange Theory*. Cambridge: Cambridge University Press.

Heinz, W. J. (forthcoming). 'The Institutional Environment for Infrastructure Investment'. *Industrial and Corporate Change*, 11 (2).

Heller, P. S. (1975). 'A Model of Public Fiscal Behaviour in Developing Countries: Aid, Investment and Taxation'. *American Economic Review*, 65: 429-45.

IFIAC (International Financial Institution Advisory Committee Report to US Congress). (2000). Available at: *www.house.gov/jec/imf/meltzer.htm* .

Khan, H. A., and E. Hoshino (1992). 'Impact of Foreign Aid on the Fiscal Behaviour of LDC Governments'. *World Development*, 20 (10): 1481-88.

Malinowski, B. (1978). *Argonauts of the Western Pacific*. London: Routledge.

Murshed, M., and S. Sen (1995). 'Aid Conditionality and Military Expenditure Reduction in Developing Countries: Models of Asymmetric Information'. *Economic Journal*, 105: 498-509.

OECD's International Development Statistics, IDS (online). Paris: OECD.

Platteau, J. P. (1997). 'Mutual Insurance as an Elusive Concept in Traditional Rural Societies'. *Journal of Development Studies*, 33 (6): 764-96.

Ravallion, M., and L. Dearden (1988). 'Social Security in a 'Moral Economy': An Empirical Analysis of Java'. *Review of Economics and Statistics*, 70: 36-44.

Salazar, V. C. (2002). 'Taken for Granted? US Proposals to Reform the World Bank's IDA Examined'. Bretton Woods Project. March. Available at: brettonwoodsproject.org/topic/reform/takenforgranted.doc.

Sanford, J. E. (2002). 'World Bank: IDA Loans or IDA Grants'. *World Development*, 30 (5): 741-62.

Scott, J. (1976). *The Moral Economy of the Peasant*. New Haven. Yale University Press.

Thomas, J. P., and T. Worrall (2002). 'Gift-giving, Quasi-Credit and Reciprocity'. Edinburgh: Dept. of Economics, University of St. Andrews. Mimeo.

White, H. (1980). 'A Heteroscedasticity-consistent Covariance Matrix Estimator and Direct Test for Heteroscedasticity'. *Econometrica*, 48: 817-38.

World Bank (1992). 'Wapenhans Report: Effective Implementation: Key to Development Impact'. Washington, DC: World Bank.

World Bank (2001). *World Development Indicators*, *2001*. Washington, DC: World Bank.