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DONOR MOTIVATION OF INTER-TEMPORAL FOREIGN ASSISTANCE TO NEPAL

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Abstract: *This paper asks what motivates Western donors to provide foreign aid to Nepal. Results reveal existence of both donor interest and recipient need considerations in the disbursement of aid to this country over the period 1981 to 2005. Donors' desire for promotion of commercial opportunities, their general economic affluence, as well as Nepal's per capita GDP are all significant determinants of aid. On the other hand, neither Nepal's economic growth nor its people's political freedoms and civil liberties bear a significant relationship to the level of assistance it receives.*

JEL Classifications: F35, F14, O19

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INTRODUCTION

Located in Southern Asia between China and India, Nepal is one of the poorest and least developed countries in the world. As a result, dependence on foreign aid is high. According to the Economist Intelligence Unit (2008) almost 20 per cent of the government's annual budget and over 60 per cent of its development budget are funded externally. Although Nepal receives aid from many countries (including India and China), most of its aid in recent decades has come from the West.

In spite of being a long term recipient of aid from many sources, there is dearth of research on the economics of foreign aid to Nepal. The handful of studies that exist generally consider whether aid promotes development in Nepal or whether there are costs in terms of deterioration of local institutions. In this vein, Trevino and Upadhyaya (2003) ask whether economic growth in five Asian countries (including Nepal) can be explained by foreign aid. Using pooled time series data, they find that the answer to this question is affirmative. Concentrating on a different aspect of assistance, Bhattarai (2007) explores the revenue and expenditure of Nepalese government in the presence of foreign aid. His results reveal that aid positively affects both development and non-development expenditures. At the same time, there is evidence that aid is fungible, although there is no evidence that availability of aid makes the government lazy in terms of mobilization of domestic revenue. Turning to a possible pernicious impact of aid and focusing on a major development project in Nepal—the Arun-3 hydroelectric project, Gyawali (1997) finds that foreign assistance can lead to erosion of local institutions.

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As is evident, there are no studies linking donors' aid to economic or political conditions in Nepal, or to conditions that donors face themselves. The aim of this study is to ask what motivates Western donors to provide foreign assistance to Nepal and specifically whether donor interest and recipient need considerations guide the disbursement of such aid.

The balance of this paper is organized as follows. The next section provides a brief overview of the economy of Nepal. Section 3 reviews the foreign aid literature pertinent to this study. Data sources, sample characteristics, the empirical model, and the estimation technique are described in Section 4. Section 5 presents and interprets the results. The final section draws some conclusions.

THE ECONOMY OF NEPAL

Nepal's low GDP and relatively high population growth¹ (2.3 per cent per year on average over the past five years) have resulted in a low GDP per capita growth rate. This rate amounted to only 2.3 per cent per annum in both 2004-05 and 2005-06. There has been almost no improvement in Nepal's real GDP per capita since 2000-01. Scarcity of natural resources, remoteness, difficult terrain, lack of sea access, weak infrastructure, government corruption, civil unrest, and susceptibility to natural disaster have hindered development. Table 1 demonstrates that, even relatively speaking, Nepal is an extremely poor country as is evident by its GDP, GDP per capita, exports, imports, and external debt, compared to those of some other developing Asian countries. As a result, Nepal has traditionally relied on foreign aid for its survival and development.²

Table 1
Comparative Economic Indicators for Nepal, 2006

	<i>Nepal</i>	<i>India</i>	<i>China</i>	<i>Bangladesh</i>	<i>Sri Lanka</i>
GDP (US \$ billion)	8.0	904.2	2,688.1	60.9	27.8
GDP per capita (US \$)	291	825	2,044	421	1,327
Exports of goods fob (US \$ billion)	0.8	121.7	970.9	11.2	6.9
Imports of goods fob (US \$ billion)	2.3	186.9	793.5	13.8	9.4
External debt (US \$billion)	3.3	134.8	308.4	22	11.8

Source: CountryData, Economist Intelligence Unit (2008).

Nepal's strategic position between India and China has prompted it to conduct its external relations carefully. Thus, historically, Nepal has followed a policy of non-alignment, making it one of the few countries that has procured aid from a number of diverse sources – East and West and developed and developing countries.

Given Nepal's low level of development and location, its trade with other countries has historically been limited, with India being the leading trade partner. However, over the past three decades, Nepal has opened up substantially to trade with the rest of the world, although the variety of both its exports and imports are limited (Economist Intelligence Unit, 2008).³ Today, Nepal is heavily dependent on trade with other countries. Amongst the Western countries, Germany exports the most to Nepal.

One aim of this study is to examine whether donor country exports to and imports from Nepal affect the volume of foreign assistance donors offer Nepal. Put differently, whether

commercial imperatives are important determinants of aid to this Himalayan nation. Since aid statistics to Nepal from all donors are not available, the present study investigates the nexus between only Western aid and trade with Nepal.

THE AID LITERATURE

There is a large literature describing the recipient need (RN) and donor interest (DI) models of foreign aid. Early studies of aid motivations include Levitte (1968) and Wittkopf (1972). The RN model assumes that donors are motivated purely by humanitarian reasons and hence seek to allocate aid to a developing country based on the latter's deficiency of domestic resources or its lack of foreign exchange. Here the amount of aid given to a country is directly proportional to its need. On the other hand, the DI model suggests that donors are motivated purely by commercial, strategic, or political self-interest. Hence, the amount of aid given to a developing country is directly proportional to its political and economic usefulness to the donor.

A number of variables are used to measure RN. These include per capita GDP, life expectancy, literacy rate, and number of doctors per unit of population. Likewise, variables such as the value of arms transfers, voting patterns at the UN, and availability of strategic materials from the recipient are used as proxies for DI.

The RN and DI models have been empirically tested by a number of authors (see, for example, McKinlay, 1978, McKinlay and Little, 1979, and Maizels and Nissanke, 1984) using cross-country data covering many recipient countries, and often with a single donor such as the U.S., Britain, or Germany. The approach typically involves separate estimation of two regression equations, one solely with DI variables, and the other containing indicators of RN. The independent variables in these regressions are the proxy variables mentioned above. The conclusion from most of these studies is that aid is determined solely on the basis of DI.

An alternative approach—one that is used in our investigation—is to utilize time series data on aid by several donors to a specific recipient country.⁴ Such econometric analysis of time series data is revealing in whether aid disbursement is sensitive to the needs of an individual developing country (Nepal in our case). This question is just as valid as whether a donor's aid disbursements are sensitive to the relative needs of several developing countries at a particular point in time (or at several distinct points in time).⁵ Furthermore, there is no reason why DI and RN variables ought to be included in separate regression equations. If they are, then each equation is improperly specified due to omission of other relevant variables (DI variables in the RN regression and RN variables in the DI regression)—which will lead to invalid results.

Thus, the advances in this paper are twofold: First, we examine the allocation of aid to Nepal—an interesting under-researched economy—one that has continued to rely on aid from a number of countries over many years. Second, unlike most previous studies, we do not estimate separate RN and DI equations and consider a hybrid model of aid allocation.⁶

DATA, VARIABLES, AND THE MODEL

The OECD's annual report, *Geographical Distribution of Financial Flows to Aid Recipients*, gives disbursements of aid by recipient, donor, and year. From this source (OECD, 2008) we extract data on bilateral aid flows to Nepal from 15 developed countries for the period 1981

to 2005.⁷ While Nepal receives assistance from numerous Western donors, data limitations forced us to restrict the analysis to 15 countries.⁸ Income and population data are drawn from *World Development Indicators* published by World Bank (2008). Trade statistics are from *Direction of Trade Statistics* published by IMF (2007). All monetary figures are measured in U.S. dollars at constant prices. Finally, Nepal's democracy index is from the *Freedom in the World* database released by Freedom House (2008), which provides two sets of ratings for all countries: one on the basis of political rights and the other on civil liberties. Each of the two ratings is generated based on several freedom-related criteria. The political rights rating is based on ten questions addressing issues such as whether individuals are free from domination by powerful groups, whether they have representatives that are accountable to them, whether there are free and fair elections, and whether the government is free from corruption. Analogously, the civil liberties rating is constructed from fifteen questions incorporating considerations such as freedom of expression, existence of a free and independent media, and access to an equitable system of rule of law. Scores awarded to each question translate to a rating for each country on a 1 to 7 scale with lower values indicating *freer* societies. This study uses the average ratings of the political freedoms and civil liberties as the measure of the level of democracy in Nepal.⁹

In order to examine donors' motivations for providing aid to Nepal, we examine the relationship between donors' per capita aid to Nepal and a number of variables which include those that explain DI and RN. As is evident, our model is both cross-section (across donors) as well as time series. The obvious advantage of using panel data is that it provides a large number of data points, thereby increasing the degrees of freedom and reducing possible collinearity among the independent variables.¹⁰ The independent variables in this study include donors' exports to and imports from Nepal. The hypothesis here is that promotion of commercial opportunities through higher exports motivates donors to provide more aid.¹¹ However, it is not clear whether closer commercial relationship through higher donor imports should lead to the same conclusion. Other independent variables are: real GDP per capita of donors and its growth rate, real GDP per capita of Nepal and its growth rate, and Nepal's degree of democracy.¹² A brief justification for the inclusion of these variables is in order.

We expect a positive relationship between donors' per capita GDP and per capita aid to Nepal since a richer country is surmised to provide more aid. The same can be said about donors' growth rate. A faster growing economy is in a better position to provide more aid. These two variables are neither DI nor RN variables. They simply indicate donor generosity as reflected by a nation's ability to provide assistance depending on the health of its domestic economy. Therefore, as such, these variables can be classified as control variables. The next two variables (Nepal's per capita GDP and its growth rate) are RN variables. On the one hand, one may conjecture a negative association between Nepal's per capita GDP and donors' per capita aid. After all, a relatively richer Nepal needs less aid. However, Nepal is an extremely poor country. Thus, there may be no relationship between the two variables.

The impact of Nepal's economic growth on the aid it receives is even more complex. Most previous studies consider income growth as an indicator of need—suggesting an inverse association between economic growth and aid. However, there is no reason why growth ought to be considered a RN variable and bear a negative association with aid. To be sure, a recipient's

economic growth may be regarded as a DI variable since a donor country may benefit from the growth of the recipient, either as a result of the recipient's increased self-reliance, increased donor-recipient trading opportunities, or the accountability, democratization, good governance, and environmental responsibility, which tend to be coupled with economic stability. Indeed, over the past decade or so, many donors have begun emphasizing the need for accountability from aid recipients, rewarding those with sound fiscal management and solid economic growth. Thus, from a DI point of view, we might expect a positive correlation between Nepal's economic growth and donors' aid. An analogous argument may be made for the last variable used in our analysis: Nepal's degree of democracy. Given the emphasis donors have placed on the importance of civil society and democracy, we expect donors reward a state with more aid if it were being made more democratic.

Based on the discussion above, the empirical model in this study estimates a hybrid model of aid allocation, including both DI and RN variables. In essence, we test the relevance of DI (RN) to aid allocation, while controlling for the influence of RN (DI). The following general equation is posited:

$$A_{jt} = \chi_j + \theta_1 E_{jt} + \theta_2 I_{jt} + \theta_3 G_{jt} + \theta_4 R_{jt} + \theta_5 NG_t + \theta_6 NR_t + \theta_7 D_t + \zeta_{jt} \quad (1)$$

where the subscript j denotes each donor country in the sample and the subscript t refers to year. A_{jt} is donor per capita aid to Nepal, χ_j is the intercept term for j , θ_k ($k = 1, \dots, 7$) are the coefficients to be estimated, E_{jt} is donor exports per capita, I_{jt} is donor imports per capita, G_{jt} is donor per capita GDP, R_{jt} is donor per capita GDP growth rate, NG_t is Nepal's per capita GDP, NR_t is the Nepal's per capita GDP growth rate, D_t is Nepal's index of democracy, and ζ_{jt} is a random error term.¹³

Equation (1) is estimated using GLS with a fixed effect per country and per year.¹⁴ The fixed effect panel regression technique used here captures the structural idiosyncrasies and historical differences across donor countries by allowing each cross-section data set to have a separate intercept term.¹⁵ At the same time, the technique permits estimation of the common coefficients for the explanatory variables (Greene, 2000). This procedure is most useful in cross-country studies where the sample is not randomly drawn from the population. Our regressions of course include adjustments to the standard errors to accommodate heteroskedasticity and autocorrelation.

RESULTS

The results are first presented for the entire sample of developed countries. The sample is then divided into two subgroups: G-7 countries and other donors. The former are often viewed as leaders in the area of economic cooperation with the South and in setting the tone of policy for other donors. The data in each of the sub-samples is pooled. That is, donor countries are not studied individually.

The results of the regression of Equation (1) are presented in Table 2. As is evident from the table, even though our model incorporates fixed effects, these are not reported as there are many and are themselves uninteresting. The fixed effects merely act as controls in the model to provide reliable estimates of the determinants of donor aid to Nepal.

Table 2
Estimated GLS Results for Aid to Nepal from Western Donors–1981-2005

<i>Variables</i>	<i>All countries</i>	<i>G7 countries</i>	<i>Non-G7 countries</i>
Exports	0.031** (0.003)	0.504** (0.076)	0.016** (0.005)
Imports	-0.003 (0.028)	-0.024 (0.035)	0.022 (0.067)
GDP. Donors	141.159** (6.269)	59.683** (7.644)	147.643** (20.709)
GDP. GR. Donors	0.008** (0.003)	-0.014* (0.005)	0.005 (0.007)
GDP. Nepal	-7967.13** (433.876)	-6317.92** (969.74)	-5357.43** (1180.932)
GDP. GR. Nepal	0.006** (0.002)	0.005 (0.003)	0.005 (0.006)
Nepal Democracy	-0.0293** (0.010)	-0.019 (0.015)	-0.027 (0.029)
R ²	0.94	0.71	0.86

Notes: Standard errors are shown below the coefficients. ** indicates significance at 1% level and * at 5% level. The order of appearance of variables in the table follows that of Equation (1).

From Table 2, there is strong evidence to support the notion that donor exports are an important determinant of aid to Nepal. From the full sample and the two sub-samples, the coefficient on the export variable is positive and statistically significant. A different picture, however, emerges for donor imports where the coefficient on *I* is not statistically significant. These results are congruent with the notion that there is an element of self-interest in donor allocation of aid to Nepal. Higher exports prompt donors to be more generous with their aid.

The second column of Table 2 suggests that added prosperity at home (defined either in terms of GDP per capita or its growth rate) allows donors to loosen their purse strings in an act of increased generosity to this Himalayan country. Interestingly, a different picture emerges when the sample of donors is divided into two subgroups (see columns 3 and 4). Here, it is evident that while the coefficients on both *G* and *R* continue to be statistically significant, the sign of the coefficient on *R* for the G-7 countries is now *negative*. This implies that, unlike other donors, the G-7 countries become *less* generous with their aid when they enjoy higher economic growth. The reason for the perverse behaviour of G-7 donors compared with others is not clear and warrants further investigation.

From Table 2, it is also clear that, in spite of Nepal's status as an impoverished country, donors cut back on their aid as Nepal becomes relatively (that is, over time) "richer." This result is somewhat surprising, but is uniform across the full sample and the two sub-samples. It can only be interpreted as donors reducing aid as the recipient's relative need is diminishing.

Another remarkable result from Table 2 is lack of a robust statistically significant relationship between Nepal's economic growth and the aid it receives. Columns 3 and 4 indicate that neither the G-7 group of countries nor other donors reward Nepal with more aid when it achieves higher economic growth. A similar type of pattern emerges when one examines the importance of the level of democracy in Nepal as a determinant of the level of aid it receives. While the coefficient on D has the expected sign,¹⁶ it is not statistically significant in either of the two sub-samples. This result therefore indicates that in spite of rhetoric, Western donors do not appear to reward (punish) all states that are becoming more (less) democratic. Lastly, our results suggest that pooling donors in a broad category may generate different and possibly misleading results than when grouping them in smaller clusters.

CONCLUSION

The literature on aid motivation typically addresses the issue of stimulus by employing cross-section data on several recipients. Unlike other studies, the present paper employs time series data to investigate the issue of motivations for a specific country, Nepal, using data from several Western donors. The results, covering a quarter of a century, indicate that aid disbursements to Nepal depend on some specific features of both Nepal and donor countries that supply it with aid. Donors' desire for promotion of commercial opportunities, their general economic affluence, as well as Nepal's per capita GDP are all significant determinants of aid. On the other hand, neither Nepal's economic growth nor its people's political freedoms and civil liberties bear a significant relationship to the level of assistance it receives. These results should be of interest to policy-makers in donor countries in determining whether their aid disbursements to Nepal are determined in an optimal fashion. They also provide a picture of aid disbursement to other donors so they can address Nepal's future aid needs more effectively. For instance, multilateral donors such as the World Bank can consider supplying more aid to Nepal as it democratizes and moves towards a more civil society.

Given the Nepalese economy's past poor performance and its continued dependence on foreign aid, future donor fatigue is possible. The issue, as is common with many poor countries, is inefficiency in the use of aid. But the problem does not just lie with the recipient; donors must also share the blame since many projects are often initiated without adequate understanding of the physical and cultural environment of countries like Nepal. Regardless of who is to blame, inefficiency in the use of aid in any country, combined with political upheaval, is likely to adversely affect the disbursement of aid to the country.

Finally, it should be emphasized that this study looks at the correlation between aid to Nepal and other variables. However, there are subtle reasons why correlation need not imply causation. For instance, both aid and trade could be caused by a third factor. Studying what causes aid is beyond the scope of this study and is left for future research.

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NOTE

1. Estimates of Nepal's population in 2007 range from 26.5 million (Asian Development Bank) to 28.9 million (U.S. Central Intelligence Agency). Although infant mortality rates are extremely high, fertility rates are higher.
2. Nepal has long been dependent on assistance from other countries—a tradition that dates back to the mid 1950's. See Dharamdasani (1994) for a historical perspective.
3. Nepal's exports include mostly agricultural produce (jute, sugarcane, grain, and tobacco), but also include carpets, clothing, and leather goods. Tourism is also an important export commodity. Nepal's imports include oil, fertilizers, machinery, and equipment.
4. The critical nature of studies which employ cross-section data on several recipient countries is that they impose uniformity across a group of often diverse developing countries—which is unrealistic. There are very few studies that utilize time series data for a specific recipient. For example, Gang and Khan (1990) consider India, Gounder (1999) looks at Papua New Guinea, while Gounder and Sen (1999) examine Indonesia. However, the problem prevalent in almost all these studies is that they estimate separate DI and RN equations.
5. As is evident we consider *several* donors. However, there is a great deal of homogeneity across these donors, especially once they are grouped into a set like the G-7 countries – which share many economic characteristics.
6. Feeny and McGillivray (2002, 2004) also present a hybrid model of aid allocation with an emphasis on Papua New Guinea using time series data. See Feeny and McGillivray (2004) for a discussion of the advantages of using a hybrid model.
7. It should be clear that this study focuses on Nepal's aid relationship with *developed* countries. While Nepal receives aid from other countries, notably India and China, these are excluded from the analysis since they do not publicly reveal the magnitude of their aid to Nepal (or any other country).
8. The donor countries include *all* members of G-7, which together with other countries in our sample provide a lion's share of the total aid Nepal receives from all sources each year. Besides the G-7, the other donors in our sample are: Australia, Austria, Denmark, Netherlands, New Zealand, Norway, Sweden, and Switzerland.
9. Even though freedom and democracy are not synonymous, many of the questions that are used to generate the ratings deal with the notion of democracy directly. As the result, a number of recent studies (for example, Barro, 1996 and Arvin and Barillas, 2002) use the Freedom House ratings as their measure of democracy.
10. Hsiao (1986) and Baltagi (1995) *inter alia* discuss the advantages and shortcomings of using panel data analysis.
11. This study does not distinguish between tied and untied aid. This choice is unavoidable: While there is data on the proportion of each donor's total world aid that is tied, there is no data on the fraction of aid to a *specific* country that is tied. As a result, we cannot examine the relationship between donor exports and tied aid, nor between donor exports and untied aid.
12. We would have liked to have included a number of other explanatory variables in the analysis. These include donors' foreign direct investment in Nepal as well as a number of socio-economic variables on Nepal such as its infant mortality rate, literacy rate, etc. However, complete time series data on these variables was not available for the entire period of our study.
13. An explanation of what is meant by 'per capita' in this paragraph is in order. We use donor population to define A_{jt} , E_{jt} , I_{jt} , G_{jt} , and R_{jt} . For instance, in the case of A_{jt} , we divide a donor's aid by its population in order to bring all donors 'at par.' The reason for this is simple: using absolute aid figures without any regard to a donor's population means that larger donors like the United States cannot be compared to smaller donors like Switzerland. For example, a \$50 million aid from U.S. to Nepal does not have the

- significance of a similar size aid from Switzerland. Thus, the aid figures have to be 'deflated' by either the population of the donor, or the size of its economy (as measured by the GDP). Since GDP is already an explanatory variable in the regression, we use population of the donor instead. The same type of logic applies for variables such as donor exports to Nepal. They have to be divided by the population of the donor to signify its monetary importance to the donor. However, in the case of NG_t and NR_t we use the population of Nepal since the intent is to gauge the degree of prosperity of Nepal's economy.
14. The technical advantage of using GLS over OLS is as follows. In a GLS model, the fixed effects are estimated by weighted least squares. Under such procedure, the weight for each observation is different and is the reciprocal of the normalized standard deviation of the disturbance for the observation obtained from an OLS estimation. By contrast, OLS gives an equal weight to each observation. GLS corrects for this by giving less weight to the outliers.
 15. By controlling for country fixed effects, the problem of omitted variables bias, which seriously afflicts cross-country regressions, is reduced.
 16. Recall the inverse nature of the Freedom House democracy index. Our expectation was that a freer society (a lower value for the index) would receive more aid. Thus, the expected sign of the coefficient was negative.

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