Putting Money Where the Mouth Is: Does Aid To Nepal Finance What the Donors Say They Want To Finance?

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This paper replicates and extends a well known model of quantifying categorical fungibility of foreign aid to study the effect of aid on government consumption, magnitude and composition of government investment and revenue mobilization in Nepal. I find that aid intended for a particular sector has, by and large, been spent within that sector and, in fact, induced the government to augment its spending on that particular sector for most categories studied. This broadly corroborates the evidence on the “flypaper effect” of aid not just at the aggregate level but also at the sectoral level. I also find that aid has enhanced the government’s revenue effort but not quite to the extent that would enable the government to self-finance the inflating government consumption, which, I find, has a strong positive aid elasticity.

Introduction

When Nepal broke out of isolation and emerged as a modern state in 1951, it inherited more than the vestiges of its quasi-feudal history. The rugged terrain and highly dispersed population along with the high ethno-linguistic fractionalization would have posed significant challenges to any administration of the time and Nepal hardly even had one. Only two percent of the adult population was literate. Infant mortality was more than 60 percent, and average life expectancy was thirty-five years. Less than

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one percent of the population was engaged in modern industrial occupations, and 85 percent of employment and income came from agriculture, mostly performed by tenants using archaic methods and working under uncertain contracts. There were only around 100 kilometers of railroad tracks and a few kilometers of paved roads in the entire nation. Telephones, electricity and postal services combined served only one percent of the population and only in certain pockets. Nepali currency circulated only in and around the Kathmandu valley. Government expenditures went almost entirely for salaries and benefits for the army, police and civil servants, with any savings going to the prime minister. Health and education received less than one percent of government expenditures\(^1\).

It was against this backdrop that the United States Operations Mission (USOM) – following the doctrines of President Truman’s Four Point Program – offered to provide Nepal the technical assistance to combat malaria and to conduct a geological survey for mineral resources. Nepal could not refuse. The aid industry that started thus grew at a rapid pace throughout the 50s, 60s and the 70s. India built the international airport in Kathmandu and initiated a whole host of roads and irrigation projects. The Swiss got involved in dairy development. In line with the import-substituting orthodoxy of the time, China helped set up a number of industries most notably shoe, brick, and tile factories. The Soviet Union wasn’t far behind; it helped construct cigarette and sugar factories. Meanwhile, the United States continued to remain involved in village development, agriculture and public health (Mihaly, 2002). In the mid-eighties the multilateral entered the scene with the advent of the era of stabilization, structural adjustment and policy lending. Although the predominant nature of aid had changed, its economic importance to Nepal only increased and donors continued to jostle for space in a country that had become a hospitable laboratory to various aid experiments. Even today, Nepal continues to rely heavily on foreign assistance; two thirds of the country’s development spending or about a third of the government’s total budget is financed by foreign aid\(^2\).

It is clear from Nepal’s foreign aid history that aid has been the principal source of the country’s development finance. Additionally, because of its inchoate initial conditions, Nepal offers an ideal case study for the investigation of the development effectiveness of aid. Yet, it is surprising to note that serious empirical research aiming to establish any economic consequence of foreign aid in Nepal is practically non-existent\(^3\). This paper is a step in the effort to fill this void.
I replicate a model well known in the foreign aid fungibility literature to study the impact of aid on various fiscal and public expenditure aggregates. The motivation is two-fold. On the one hand, in view of the country-specific peculiarities overlooked by highly aggregated studies that use a heterogeneous sample of countries and donor databases like the OECD’s Development Assistance Committee (DAC) and the IMF’s GFS, this study adds to the shallow pool of literature of country-specific studies that make use of domestic data sources. Secondly, by empirically establishing a clear historical picture of how aid has affected government consumption – which I proxy in this paper with the series on regular expenditure – the magnitude and composition of investments (development expenditure) and revenue mobilization in Nepal, this study will hope to concretize implications for aid management policies in the future. The rest of the paper is structured in the following manner. Section II briefly reviews the existing aid effectiveness literature. Section III lays out the empirical strategies and summarizes key regression results. A detailed analysis of the results follows in Section IV. Section V attempts to reconcile the findings within the public expenditure context of the country and finally, Section VI summarizes and concludes.

Literature Review

Academic enquiry into the development effectiveness of foreign aid has shifted in focus in the last decade. Orthodox savings and foreign exchange gap theories that provided starting points for the early aid-growth literature – in the tradition of Chenery and Strout (1966) and Griffin (1970) – have given way to studies that focus on institutional and policy gaps (Burnside and Dollar, 2000). This move is partly a consequence of the setting in of “aid fatigue” in most rich countries. Confronted by a confluence of fiscal shocks in their own economies after the Cold War, these donor countries – with considerable squeeze in their aid budgets – were forced to bring the development performance of their outlays into closer scrutiny. Although Burnside and Dollar’s (2000) conclusion that aid is effective and growth-enhancing in countries that have “good” policy environments has been questioned on several grounds by Hansen and Tarp (2001) and shown not to be supported by an updated data set by Easterly et al. (2003), it has had a profound impact on the market for development finance and remains, quite ostensibly, the most dominant guiding principle for development interventions.
Even before one gets into the debate of whether or not good policies are a pre-requisite for aid effectiveness, however, the question as to what constitutes a “good” policy environment is itself vulnerable to subjective interpretation. While policies that ensure macroeconomic stability and promote openness in trade are universally accepted necessary conditions for growth, the extents to which factors like the quality of governance, political stability and conflict figure into the policy variable is unclear. This unresolved debate on the effect of aid on growth conditional to the quality of the policy environment notwithstanding, economists have increasingly acknowledged the fact that since “aid” is mostly given to sovereign “governments”, the effect of aid on an economy is moderated through the public sector. Hence, public expenditure pattern and the overall fiscal response to aid have started gaining acceptance as the important determinant of success or failure of development policy objectives of aid.

Studies that deal squarely with the impact of aid on the public sector fiscal behavior of the recipient government can be divided into two broad categories. The first category concerns itself primarily with the fungibility of aid. Fungibility – loosely defined as the ability of the recipient government to divert development assistance intended by donors for a specific sector towards expenditures into some other sector – is not a new concept. Donors have been concerned about it at least since the 1960s (World Bank, 1998). It is only recently, however, that this concern – that the fungibility of aid might be leading to unproductive expenditures at the margin and thereby, undermining its desired development outcome – has prompted a spate of studies aiming to establish the empirical groundings of fungibility in practice.

Feyziougolu et al. (1998) and Devarajan et al. (1999) find that most sectoral aid is at least partially fungible in a cross country context. Pack and Pack (1990), on the other hand, find little evidence to support fungibility of sectoral assistance to Indonesia. Aid to the Dominican Republic and Pakistan are evidenced to have been siphoned off to finance other less desirable expenditure headings, namely, deficit reduction, debt service and tax relief in Pack and Pack (1993) and Khiliji and Zampelli (1991) respectively. Therefore, broadly, there seems to be a general agreement in the literature that sectoral aid may, in fact, be financing something entirely different at the margin. The dominant implication for policy as expounded in Feyziougolu et al. (1998) is that aid ought to be tied to an overall public expenditure program that not only ensures sufficient funds for crucial development activities but also creates a space for the
fostering of local capacity. World Bank (1998) qualifies it further; “those (countries) with efficient public sectors can receive budget support, while those with inefficient public sectors would get relatively less money and more ideas”.

The other stream of research, popularly known in the literature as the “fiscal response” models, is more interested in how aid affects broader fiscal aggregates such as revenue mobilization, government consumption and domestic borrowing. Most fiscal response models problematize the residual treatment of domestic borrowing in country specific fungibility studies and following the methodological footsteps of Heller (1975) strive to capture the impact on domestic borrowing endogenously. Mosley et al (1987) and Gang and Khan (1991) are some early examples. Franco-Rodriguez et al (1998) further enhance these models by making aid decisions themselves endogenous (See McGillivray and Morrissey (2001) for a comprehensive review of this literature). This paper falls in the first category.

**Empirical Strategy**

**A. Setting Up**

I replicate what is perhaps the best known, yet the simplest categorical fungibility model in the literature: Pack and Pack (1990, 1993). This is not just because their model lends itself nicely to an explicit calculation of an inter-sectoral fungibility measure but also because closely following their model allows for the comparison of results with the two countries they have already studied. The government, assumed to be a “collective decision making body”, optimizes on a set of community indifference curves and a corresponding budget constraint. Various equations representing demand functions are then determined and in our case, they are as follows:

\[
DEV_i = f(GDP_i, FA_i, OFA_i) \\
REG_i = f(GDP_i, TFA) \\
REV_i = f(GDP_i, TFA, TIME)
\]

(1)

where \(DEV_i\) denotes public development investment in expenditure category \(i\), \(REG_i\) represents public consumption under the heading of regular expenditures and \(REV_i\) denotes own source revenue. Similarly,
GDP is current price gross domestic product for year \( t \), \( FA_{i,t} \) is categorical foreign aid for expenditure category \( i \), and \( OFA_{i,t} \) is “other” foreign aid and \( TIME \) is a time dummy while \( TFA_t \) is total foreign aid\(^8\).

Now, each of the equations in system (1) are related to and must satisfy the following budget identity,

\[
\sum_i DEF_{i,t} + REG = TFA_t + REV_t + DEF_t
\]

where \( DEF_t \) is the size of the deficit (or surplus) financing. Debt servicing payments, which comprise roughly about 30% of the regular expenditures are assumed to be exogenous since they depend on borrowing patterns in earlier periods. Here, I allow debt servicing payments to remain embedded in regular expenditure. Deficits are determined within the system but it is the omitted equation since system (1) is estimable in itself using seemingly unrelated regressions, SUR. SUR is preferable because it allows for the estimation of the simultaneous equations system (1) without the specification of any particular functional form.

**B. Assumptions**

Two assumptions are necessary to preclude possibilities of simultaneity bias in the above system. First, GDP is assumed to be exogenous for if it were not, and if changes in government consumption were to induce changes in GDP, then the above model would produce biased estimates for the coefficient of GDP. Second, foreign assistance too has to be exogenous of the system for the same reason. Are these assumptions tenable in the context of Nepal for the period of this study? There are reasons to believe so. First, notwithstanding some demand-side aspects in the nature of income growth in Nepal during the period covered in this study, given low levels of public saving and investment, inadequate technological innovation and persistently low productivity, government consumption demand might have contributed little to GDP growth.

Similarly, the second assumption regarding the exogeneity of foreign assistance too is plausible. Although there is no doubt that Nepal would have had to compete for funds against other similarly needy countries across the globe, the proximate factors determining these cross-country allocations, however, would be outside the purview of our model. For example, Behrman and Sah (1984) show that it is not just the size of a country’s GDP but its size relative to other countries that influences aid flows. Even if it were not, the purported impact of changes in income performance on aid flows would most likely occur with a lag further diminishing the possibility of aid being endogenous. Therefore, for our
purposes here the assumption that aid to Nepal has been fairly “easily available” and not been subject to the performance of any particular macroeconomic variable in our model is fairly robust.

C. Estimates for Nepal

Using data available from the Economic Survey of various years, time series of total foreign aid disbursed and corresponding government investments are constructed for a twenty-five year period between 1976 and 2001 for five categories: social services, rural development, infrastructure, commerce and industry and miscellaneous others. Investment in social services include spendings on such areas as education, health and drinking water facilities while rural development comprises of agriculture, irrigation and forestry related expenditures. Similarly, infrastructure contains government spending on building road networks, hydropower plants and communication facilities. Commerce and industry comprises mainly of subsidies, transfers and other investment expenditures and the remaining expenditure headings – a hodgepodge mainly constituting development expenditures in miscellaneous areas – are amalgamated in “Others”.

All variables except time are regressed in first differenced log per capita form. Table 1 summarizes key regression results. There seems to be, in general an excellent fit with adjusted R-squared values ranging from 0.53 to 0.99. The Durbin-Watson statistics for most equations – barring a couple (Others and regular expenditure) – are within acceptable bounds. As would be expected, there seems to be a significant positive impact of own foreign aid (FA) on development expenditures in all categories except “others”. This means, aid given to the social sector for example, increases the government’s own investment in the sector. Interestingly, however, three out of five OFA coefficients are significantly positive. This can be construed as evidence for the diversion of foreign aid categorically given to some development expenditure categories to others. For example, the amount the government has spent on rural development seems not only to be positively correlated with aid received specifically for rural development, but augmented by aid disbursed through other expenditure headings. Since coefficients are elasticities, the combined net effect of “own” and “other” foreign aid will determine whether for each development expenditure category aid is in fact fungible or not. I will replicate the simulation in Pack and Pack (1990, 1993) in the following section to determine exact extent of categorical fungibility.
TABLE 1--- The Estimated Model: EXPENDITURES AND REVENUE

<table>
<thead>
<tr>
<th></th>
<th>Rural Development</th>
<th>Social Services</th>
<th>Commerce Infrastructure and Industry Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.103</td>
<td>-1.016*</td>
<td>0.957</td>
</tr>
<tr>
<td>GDP</td>
<td>0.211</td>
<td>0.344**</td>
<td>-0.027</td>
</tr>
<tr>
<td>Foreign Aid (FA)</td>
<td>0.524***</td>
<td>0.359***</td>
<td>0.782***</td>
</tr>
<tr>
<td>Other Foreign Aid (OFA)</td>
<td>0.158**</td>
<td>0.323***</td>
<td>0.132*</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.97</td>
<td>0.98</td>
<td>0.97</td>
</tr>
<tr>
<td>D-W</td>
<td>1.99</td>
<td>1.78</td>
<td>2.25</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Regular EXPENDITURE</th>
<th>REVENUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-3.815***</td>
<td>-0.535</td>
</tr>
<tr>
<td>GDP</td>
<td>1.064**</td>
<td>0.687***</td>
</tr>
<tr>
<td>Total Foreign Aid (TFA)</td>
<td>0.202***</td>
<td>0.013</td>
</tr>
<tr>
<td>Time</td>
<td></td>
<td>0.054***</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.99</td>
<td>0.99</td>
</tr>
<tr>
<td>D-W</td>
<td>1.59</td>
<td>1.87</td>
</tr>
</tbody>
</table>

*** Significant at less than 1%; ** Significant at less than 5%; * Significant at less than 10%.

The last two equations for government consumption and revenue yield some interesting results as well. Positive and significant coefficients on both GDP and total foreign aid (TFA) indicate that government consumption in Nepal has had a tendency to move in the same direction as GDP and total foreign aid. The coefficient on total foreign aid in the revenue equation is positive (albeit insignificant) indicating that aid to Nepal might have provided some impetus for a greater revenue effort. While the positive coefficient on GDP is expected as the tax base plausibly broadens as incomes increase, the positive coefficient on the time variable affirms enhancement of revenue effort through improvements in administration and policy.

Interpreting the Results

Using elasticity coefficients obtained from the above regression the effect on sectoral development expenditures of a rupee change in total foreign aid, proportionally allocated according to historical averages among expenditure categories can be estimated using the following method. Disregarding other control variables,
\[ \ln DEV_i = \beta_1 \ln FA + \beta_2 \ln OFA \]
or, \[ \frac{\partial \ln DEV_i}{\partial \ln FA} = \beta_2 = \frac{dDEV_i / DEV_i}{FA} \Rightarrow \frac{dDEV_i}{dFA} = \frac{DEV_i}{FA_i} \]
The same is true for \[ \frac{\partial \ln DEV_i}{\partial \ln OFA_i} \].

Now, the effect on each development expenditure category of a rupee change in aid is given by,
\[ dDEV_i = \beta \left( \frac{DEV_i}{FA} \right) \cdot dFA + \beta_2 \left( \frac{DEV_i}{OFA} \right) \cdot dOFA, \]
where \( dFA_i \) and \( dOFA_i \) are taken to be pro-rated changes in aid to respective expenditure categories. For example, \( dFA \) for rural development would simply be the mean share of aid stipulated for rural development in total aid. Therefore, from this setup, a calculated change in an expenditure category that is smaller than the pro-rated change for a particular sector would indicate diversion of aid away from this sector. Table 2 summarizes this calculation for the five development spending categories, regular expenditures and revenue.

**Table 2---Changes in Expenditure and Revenue in Response to Prorated Changes in Aid**

<table>
<thead>
<tr>
<th>Expenditure Category</th>
<th>Prorated Change in Foreign Aid</th>
<th>Change in Expenditure or Revenue</th>
<th>Total Change in Expenditure or Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural Development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FA</td>
<td>0.242</td>
<td>0.250</td>
<td>0.325**</td>
</tr>
<tr>
<td>OFA</td>
<td>0.075</td>
<td>0.325**</td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FA</td>
<td>0.474</td>
<td>0.481</td>
<td>0.563**</td>
</tr>
<tr>
<td>OFA</td>
<td>0.081</td>
<td>0.563**</td>
<td></td>
</tr>
<tr>
<td>Social Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FA</td>
<td>0.225</td>
<td>0.220</td>
<td>0.418*</td>
</tr>
<tr>
<td>OFA</td>
<td>0.198</td>
<td>0.418*</td>
<td></td>
</tr>
<tr>
<td>Commerce &amp; Industry</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FA</td>
<td>0.055</td>
<td>0.042</td>
<td>0.02*</td>
</tr>
<tr>
<td>OFA</td>
<td>-0.022</td>
<td>0.02*</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FA</td>
<td>0.004</td>
<td>0.000</td>
<td>0.041*</td>
</tr>
<tr>
<td>OFA</td>
<td>0.041</td>
<td>0.041*</td>
<td></td>
</tr>
<tr>
<td>Regular Expenditure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TFA</td>
<td>0.415</td>
<td>0.415*</td>
<td></td>
</tr>
<tr>
<td>Domestic Revenue</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TFA</td>
<td>0.030</td>
<td>0.030</td>
<td></td>
</tr>
</tbody>
</table>

** = Significant at less than 5%; * = Significant at less than 10%
Despite evidence of some reshuffling of aid monies across sectors, in aggregate there seems to be little evidence of categorical fungibility: in all headings except commerce and industry, aid induced sectoral expenditures are larger than pro-rated ones. Rather than using aid money allocated categorically for a particular sector to finance development spending in some other development expenditure category, aggregated results show that the government has in fact augmented aided projects and sectors with its own resources. According to these results, a rupee given in aid to Nepal has increased development expenditures by Rs. 1.36. Similarly, the effect on regular expenditure – of which debt servicing payments is a component – has been an increase by 41 paisa. Aid has a positive impact on own-source revenue as well. A rupee given in aid increases the revenue effort by 3 paise. So in aggregate, out of the Rs.1.77 increase in total government spending, only 3 paisa is financed by a corresponding increase in own source (non aid) revenue! In our model, the rest is naturally being financed by a deficit. I shall return to this issue in the following section.

Speaking strictly of intersectoral fungibility then, there doesn’t seem to be much for donors to worry about as most of their project or sector aid seems to be spent on areas they intended for it to be spent. In comparison to other country specific categorical fungibility studies, this finding isn’t surprising. One of the reasons Pack and Pack (1993) attribute to the presence of fungibility is the extent of aid dependence in each country; the greater the aid component of total government expenditures the greater the ability of donors to track their outlays in the government’s spending package. This is a plausible argument and is supported by our finding here as well. For the time period analyzed in this paper Nepal’s total government spending as a percentage of GDP averages 19%. With 30% of this being financed by external assistance, Nepal’s aid dependence is higher than both Indonesia and the Dominican Republic during the time period studied by Pack and Pack (1990, 1993).

Discussion

In light of the evidence above, it is tempting to conclude that the notion of intersectoral fungibility as an explanatory factor of low effectiveness of aid doesn’t hold up to scrutiny, at least for the case of Nepal. By and large, aid allocated for a particular sector seems to have been spent within that sector. But although I have rejected categorical fungibility, the simple fact (which has been adequately established above) that a certain proportion of aid allocated purely for development
investments is channeled into financing government consumption is in itself evidence of the government treating sectoral aid as fungible as its own revenue. Furthermore, this leads to an important question that needs to be answered: Would the government have taken up some of these development projects if its “own source revenue” were the only available source of financing? In other words, yes, development expenditure in most categories has gone up in response to aid for those respective categories, but to what extent are these expenditures “owned” by the government?

As in most of the developing world, the quantity of public expenditures has hardly been an issue in the case of Nepal. Quality and ownership of development projects, on the other hand, have been instrumental to determining their success. I introduce a minor innovation to the simulation done in Section IV to make an illustration. Constraining total government expenditures (both regular and development) to remain unchanged in response to a rupee in aid, or in other words, normalizing the expenditure increases, we can calculate how that marginal rupee of aid – broken down into sectoral priorities of donors – induces changes in the composition of government spending. The result, as shown in Figure 1., offers an insight into the relative priorities accorded to each expenditure category by both the donors and the recipient government.

![Figure 1: Allocational differences between the donors and the government of Nepal](image)
Figure 1. shows the compositional change a rupee undergoes from the time it is given as aid to the time it translates into public expenditure under the restrictive assumption that there is no increase aggregate spending levels. It is clear that significant proportions are transferred from their initial allocations to rural development, infrastructure and commerce and industry to fund regular expenditures. But, we know from previous sections that the “no rise in total expenditure” assumption is not only restrictive, but untrue. I have shown that not only does every rupee in aid increase total expenditure by 1.77 paisa, but expenditure in all headings except commerce and industry go up simultaneously. This has two interrelated consequences.

First, the issue of “ownership” of development expenditure is implicated as perhaps the most important challenge to aid effectiveness. Donors have a good mechanism to track and monitor their assistance within the government’s expenditure program. But coupled with the fact that there is a clear mismatch of relative sectoral priorities between donors and the government of Nepal on how the marginal rupee of aid should be spent, the aggregate increase in sectoral spending would be an indication of donor imposition against the wishes the government. The result is a glut of projects in the infrastructure, rural development and commerce and industry sectors with little ownership of the government.

Second consequence that has similarly perverse implications for the effectiveness of public expenditures arises from the institutional incentives to use aid commitments to leverage and over-program the development portfolio. World Bank (2000) explores this aspect in a great detail. Analyzing project level allocations and spending, it finds that between projects that are entirely government initiated and owned and projects that are donor financed with about 10-20% government contribution in the form of counterpart funding, ex ante there is a clear tendency to allocate a major chunk of the local currency resources towards the latter. But when donor funded projects suffer setbacks from expected delays in disbursements and procedural factors due to weak ownership, the resources initially earmarked to finance the government’s share of these projects fall prey and succumb to political jockeying. Consequently, a large number of projects with questionable feasibility and weak monitoring and evaluation mechanisms may end up being funded in place of slow moving, albeit properly monitored donor ones. In this respect, therefore, it seems that given the realities of the expenditure management practices in Nepal, sector aid does have the ability to free up domestic resources that can then be channeled to areas that may not necessarily be
as alarming as say, military expenditures, debt and/or tax relief, as this study doesn’t distinguish among those, but can, nonetheless undermine the effectiveness of the overall spending package.

Conclusion

In this paper I have highlighted some interesting empirical implications of foreign aid in Nepal by subjecting a borrowed model to domestic data. The most striking finding is that about a quarter of a dollar received as foreign aid in Nepal has been spent on government consumption and the rest on development expenditures. This is the exact opposite of what Feyzioglu et al. (1998) find in their study of 14 developing countries – two thirds of a dollar in aid was used for government consumption in their sample. I also find strong evidence to support the flypaper effect of aid in not just aggregate public expenditures but also on most development expenditure categories I study. Considered together, increased government consumption does not seem to have come necessarily at the cost of development investment. This is contrary to popular wisdom. According to our hypothesis it is the high aid elasticity of government investment that seems problematic in the case of Nepal. This is paradoxical but plausible since on the one hand strong donor supervision in an environment of obvious misalignment of sectoral preference between donors and the government on how the marginal unit of aid should be spent, a lot of projects with weak government “ownership” end up being financed. On the other hand, aid frees up the government’s own resources allowing it to invest on projects and programs that would otherwise not have been financed and are often of low economic rates of return.

One limitation of this model is that it treats domestic borrowing as a residual and can only infer the impact of aid on domestic borrowing; it cannot establish it directly. Future empirical work could be directed at explicitly modeling and testing the impact of aid on domestic borrowing along the lines of some of the fiscal response models discussed in Section II. Additionally, combining empirics with the study of institutional arrangements surrounding disbursement mechanisms and aid related budget management processes unique to Nepal may provide fertile frontier for future research in this area and may become a useful extension of this study.
Notes

3 Joshi (1996) is an exception but is focused more on the impact of aid on macroeconomic variables like trade, savings and growth.
4 Heterogeneity arising from varying dependence on aid and the quality of budget implementation processes.
5 For example, the Millennium Challenge Account (MCA) initiative announced by President Bush at the Inter-American Development Bank in March 2002, is steeped with the Burnside and Dollar (2000) message. His call for a “new compact for global development” is predicated on “a new accountability for both rich and poor nations alike” and fittingly the MCA funds are “devoted to projects in nations that govern justly, invest in their people and encourage economic freedom”.
6 “When the World Bank thinks it is financing an electric power station, it is really financing a brothel”. Paul Rosenstein-Rodan in 1947. Quoted in Devarajan et al. (1999).
7 For example Feyzioglu et al. (1998) – in their sample of 14 countries for which aid wasn’t fungible at the aggregate level – find that earmarked concessionary loans to the agriculture, energy and education sectors are diverted to other uses while loans to transportation and communication sectors are fully spent as per the donors’ intention.
8 The “other” foreign aid, OFA_{i,t} is defined as (TFA_{i,t} – FA_{i,t}).
10 (i) Nepal Public Expenditure Review, World Bank 2000 (Pg. 13) (ii) Alesina and Dollar (2000) finds that more than just economic considerations aid flows also depend on political and strategic considerations. Although it is likely that Nepal’s transition into democratic governance in 1990 was duly supported and rewarded by donors this possibility is unlikely to affect our model.
11 Note here that all variables are used in nominal terms to make these results comparable to similar country studies in the literature.
12 This result however needs to be taken with caution for there is clear evidence in the data that the sectoral mix of the total aid basket has changed considerably in the twenty five year period being analyzed here. For example from 15% of total aid in 1976 to 31% of total aid in 2001, foreign assistance to the social services has more than doubled. Aid to commerce and industry on the other hand, has gone down from 12% in 1976 to as low as 0.1% in 2001.
13 This is evidence in support of the “flypaper effect” of foreign aid. When the government receives a dollar in aid it has the option to (i) increase spending dollar for dollar; (ii) reduce taxes dollar for dollar, and; (iii) leave spending and taxes unchanged and use the aid to reduce the deficit (World Bank 1996).
Flypaper effect of aid occurs when the government uses the aid to leverage spending.

14 Devarajan et al. (1998) find that aid to Africa increase current and capital spending in equal amounts.

15 Public expenditures were 14% and 23% of GDP and foreign aid equaled 19% and 8% respectively in Indonesia and the Dominican Republic respectively.

16 Nepal Public Expenditure Review (2000) emphasizes this point from various sectoral angles.

17 Rationing of local currency resources may seem an innocuous fiscal measure but in countries like Nepal where budget procedures are weak, and donor-government information asymmetries are high, perverse incentives arise to use “freed up” cash to finance projects with implications no other than political.


References


