Effectiveness of Foreign Aid and Human Development

NASIM SHAH SHIRAZI, TURKHAN ALI ABDUL MANNAP, and MUHAMMAD ALI

1. INTRODUCTION

Foreign aid has been contributory towards fostering broad-based development and complementing national development initiatives in the recipient countries. Pakistan, like other capital-scarce nations, conspicuously relies on foreign aid to finance savings-investment gap and trade gap. The overarching aim of aid is to realise the national development strategy and prevail over the capacity gaps in effective public service delivery.

The development aid by the donors[1] to the developing world is expected to bring forth economic growth, reduced poverty and better living standards. Foreign aid is transferred to recipient countries in the form of programme loan, project aid, commodity aid, technical assistance, emergency relief etc.

Pakistan, since its inception, has been relying on foreign aid to support its development programmes. At the outset, the pivot of foreign assistance was on grants in order to rationalise fiscal strain and increase economic growth thereof. Down the road, however, the composition of aid changed from grants and grants-like-assistances to hard loans that leaned Pakistan's tax-to-GDP ratio alarmingly and led the country to a severe debt-servicing crisis.

Pakistan need foreign aid to meet its two-gaps, to meet the public expenditure, to get technical assistance and capacity building of institutions. It is also required for infrastructure development and for stimulating economic growth.[2]

The aid effectiveness literature in the context of growth is exhaustive and the researchers have explored the effects of foreign aid on economic growth or per capita income in great detail [see Papanek (1973); Chenery and Carter (1973); Boone (1996); Dollar and Easterly (1999); Knack (2000); Gounder (2001, 2002); Mosley and Hudson (2001)and Ishfaq (2004)]. It is believed that traditional income based measures of well-

Nasim Shah Shirazi <nasimss@iiu.edu.my> is Professor and Turkhan Ali Abdul Mannap <turkhan@iiu.edu.my> is Assistant Professor, Department of Economics, Faculty of Economics and Management Sciences, International Islamic University, Malaysia (IIUM). Muhammad Ali <madmg7@gmail.com>, District Management Group, Government of Pakistan.
Authors' Note: This paper is based on MPhil thesis of Muhammad Ali.

[1]Generally, the terms 'donors' and 'development partners' are used euphemistically for lenders.
[2]Taken from the official presentation by Economic Affairs Division, Pakistan (2008).

being such as per-capita-income mask the real impact of foreign aid on development outcomes and requires a broader measure. Until quite recently, the literature has not addressed the impact of aid on development and only a handful of researchers highlight the correlated impacts of aid on social indicators such as health, education, fertility, sanitation and poverty.

In the realm of history, the question of economic growth and social welfare has been addressed diversely. Most recently, the gamut of development was broadened by enveloping social indicators such as literacy, infant mortality, life expectancy, access to water and sanitation etc. The adoption of Millennium Development Goals[3] (MDGs) at the Development Summit of the United Nations in 2000[4] was an upshot to this agenda and furthered the scope of development.

With this broader perspective, MDGs outlined the eradication of extreme poverty and hunger; achievement of universal primary education; promotion of gender inequality and empowerment of women; reduction of child mortality; improvement of maternal health; combating HIV/AIDS, malaria, and other diseases; ensuring environmental sustainability; and development of global partnership.

Today, development effectiveness insinuates achieving these goals and economic literature has riveted focus on the expression in social context. With this object, the study analyses the question of effectiveness towards the achievement of goals in the special context of a set of social outcomes in Pakistan. More specifically, the paper will focus the core question that 'how' and 'how far' foreign aid has affected the 'health', 'education', and overall 'human development index' in Pakistan. The rest of the paper is organised as follow.

Section 2 reviews the selected literature on aid-development nexsus, Section 3 discusses the methodology applied and data sources, Section 4 analysis the results while Section 5 concludes the paper.

2. REVIEW OF SELECTED AID-DEVELOPMENT LITERATURE

The literature expositing the impact of foreign aid on growth through income based approach is prolific but aid-development relationship is still in embryo. The literature addresses the question of aid and growth in three generations. The 'first generation' maintains that aid increases savings directly and not through consumption or investment, which serves as an increment to the capital stock and, in effect, stimulates growth. The second generation, however, asserts that investment is the major 'direct' determinant of growth and aid and investment make positive contribution to growth. Finally, the third generation finds direct impact of foreign aid on economic growth.

---

[3]According to UN Statistics Division, Pakistan has to report on 51 out of 61 indicators for MDG. Unfortunately, we have no data on 9, little or no capacity to monitor 12, weak monitoring capacity for 16, reasonable capacity to monitor 5 indicators and good capacity to monitor 9 indicators. Pakistan has chosen 34 indicators to monitor for the Pakistan Millennium Development Goals Report. [Pakistan (2006)].

[4]MDGs were developed out of the eight chapters of the United Nations Millennium Declaration, signed in September 2000. The eight goals and 21 targets include (i) Eradicate extreme poverty and hunger, (ii) Achieve universal primary education, (iii) Promote gender equality and empower women, (iv) Reduce child mortality, (v) Improve maternal health, (vi) Combat HIV/AIDS, malaria, and other diseases, (vii) Ensure environmental sustainability, and (viii) Develop a global partnership for development.

Aid effectiveness has also been subjected to good economic policies. Like aid fungibility theory maintains that aid finances projects and programmes, which in the absence of aid, might have been financed by the partners themselves, thus freeing resources for other (perhaps less beneficial) purposes. According to the displacement theories, however, the increase in aid inflows is not necessarily proportionate to increase in investment, and therefore it may not lead to growth. This is because aid displaces domestic savings and/or crowds out private investment.

The dimensions and implications of aid-development bond examined in the literature provide a useful insight on the subject. The findings of some important studies analysing the social effects of aid are tabulated at Table 1.

Table 1

Impact of Aid on Social Indicators

Researcher	Key Findings
Boone (1996)	Aid does not promote economic development for two reasons: poverty is not caused by capital shortage, and it is not optimal for politicians to adjust distortionary policies when they receive aid flows.
Pedersen (1996)	Foreign aid distorts development.
Burnside and Dollar (1998)	Aid reduces infant mortality under good economic management.
Collier and Dollar (2000, 2001)	The impact of aid on poverty depends on its impact on per-capita income growth; and impact of per-capita income growth on poverty reduction.
Mosley, *et al.* (2004)	Foreign aid has an indirect impact on poverty and the well-being of recipient countries.
Morrissey (2003)	Aid has either a direct effect on welfare or increases welfare via an effect on growth. Public spending (on social services) does not appear to be effective (except perhaps in middle-income countries).
Feeny (2003)	Foreign aid has led to small increases in investment expenditures but to minor reductions in health and education expenditures.
Gomanee (2003)	Aid contributes to development even if it does not add to economic growth.
Ishfaq (2004)	Foreign Aid, though in a limited way, has helped in reducing the extent of poverty in Pakistan.
Addison, *et al.* (2005)	Aid increases pro-poor public expenditure and has positive impact on growth. Aid broadly works to reduce poverty, and poverty would be higher in the absence of aid.
Fielding, *et al.* (2006)	There is straightforwardly positive effect of aid on development outcomes.

Table 1 shows that aid-development relationship is also not well grounded and the findings are diverse. Some researchers maintain that aid has a significantly positive impact on development while some find it as an impediment to development outcomes. Most important, perhaps, are the findings by Gomanee (2003) and Ishfaq (2004) which have analysed the effect of aid on both 'growth' and 'development' thereby drawing a redline between them. They hold that "aid contributes towards development or poverty reduction without increasing economic growth".

Fielding, *et al.* (2006) explored a new avenue in aid effectiveness literature by assessing the impact of aid on diverse human development indicators, including 'measures of health, education and fertility'. They held that "these dimensions of wellbeing are likely to interact with each other". Nevertheless, study finds positive effects of aid on many development outcomes. In another study, Fielding, *et al.* (2005) established the link of foreign aid with Millennium Development Goals (MDG) targets including 'health, wealth and wisdom'. They explored the extent to which aid affects MDG related variables and provides substantial perspective on social aspect of aid. They concluded that aid can be expected to improve outcomes across a wide variety of development indicators, including sanitation and child health and basic household assets along with schooling. However, the size of the predicted effect varies across countries, across quintiles and across the indicators, but in almost all cases they found an improvement.

The impact of aid on human development index (HDI) has also been discussed in the literature, which contrast the findings of aid-growth literature. McGillivary, *et al.* (2004) examined the 'impact of foreign aid on HDI and found that both conflict and aid are negatively associated with HDI levels'. Besides, aid does not offset the negative impact of conflict on human development. He determined that aid effectiveness is neither more nor less, in terms of its impact on human development, in conflict scenarios.

Three recent cross-country econometric studies have looked at possible links between aid and HDI. Kosack (2003) looked at links between aid, democracy and HDI and reported a 'positive link between aid and HDI that could only be noticed via its interaction with various measures of democratisation. Otherwise, aid alone was typically judged to be negatively associated with HDI values'. He maintains that "both foreign aid (ODA) and Foreign Direct Investment (FDI) have played a significant role in the economic growth and human development in developing countries. Aid, he asserts, is less effective in development *vis-à-vis* foreign direct investment as it ends up largely substituting for government spending that would have occurred anyway".

Gomanee, *et al.* (2003a) looked at links between aid, pro-poor government expenditure and HDI. Both studies found that aid was associated with higher levels of HDI via positive association with pro-poor government expenditure. Gomanee, *et al.* (2003b) found that 'this link was stronger in countries with low HDI values'. Moreover, Feeny (2003) evaluated the 'impact of foreign aid on HDI in Papua New Guinea during the 1990s'.[5] He analysed the 'sectoral allocation and geographic distribution of aid and held that owing to huge grant for budgetary support, the isolated impact of aid on social sector is hard to ascertain'. Moreover, a "fiscal response model for Papua New Guinea

---

[5]Feeny (2003) followed the conceptual framework of Le and Winters (2001) who evaluated the impact of aid policies on poverty in Viet Nam.

indicates that foreign aid has led to small increases in investment expenditures but to minor reductions in health and education expenditures".

Some other studies Mosley and Hudson (2001); Verschoor and Kalwilj (2002) and Gomanee and Morrissey (2002) who used cross country data with the head count index, the Human Development Index (HDI) and infant mortality as measure of poverty and well-being, have found evidence of indirect impact of foreign aid on poverty and well-being through its impact on pro-poor expenditures of recipient countries.

The general picture that emerges from the above studies is that impact of aid on growth and development is not conclusive. However, aid effects growth with some degree and also effects development directly and indirectly. The literature showing link between aid and *education index, human development index and economic growth* is not much discussed with respect to Pakistan, therefore this study is devoted for the purpose.

3. METHODOLOGY AND DATA SOURCES

3.1. Methodology

The vector error correction model is employed to infer cointegration (that is long run relationship between the variables involved) among the series. According to the 'Granger Representation Theorem' not only does cointegration imply the existence of an error correction model but also the converse applies, that is, the existence of an error correction model implies cointegration of the variables. Recent developments in cointegration and error correction model as pointed by Pesavento (2004) suggest that the Johansen's test for cointegration has low power in both large and small sample compared to the error correction model. In fact, Kremers, *et al.* (1992) have argued that the standard *t*-ratio for the coefficient on the error-correction term in the dynamic equation is a more powerful test for cointegration. Banerjee, *et al.* (1986) and Kremers, *et al.* (1992) show that standard asymptotic theory can be used when conducting the test in the context of an error correction model; specifically, the *t*-statistics on the error correction term coefficients have the usual distribution.

Since our task is to determine the causal direction between the two variables in question, we estimate the following vector error correction model and for a two variable case, we specify the following bi-variate vector error correction models (VECM) as.[6]

$$\Delta y_t = \alpha_0 + \sum_{i=1}^{p} \alpha_i \Delta x_{t-i} + \sum_{i=1}^{p} \beta_j \Delta y_{t-j} + y_1 ecm_{t-1} + \varepsilon_{1t} \qquad \ldots \qquad \ldots \quad (1)$$

where ecm_{t-1} is the lagged residual from the cointegration between y_t (say, ODA) and x_t (EI) in level. Granger (1988) points out that based on Equation (1), the null hypothesis that x_t does not *Granger* cause y_t is rejected not only if the coefficients on the x_{t-j} are jointly significantly different from zero, but also if the coefficient on ecm_{t-1} is significant. The VECM also provides for the finding that x_{t-j} *Granger* cause y_t, if ecm_{t-1} is significant even though the coefficients on x_{t-j} are not jointly significantly different from zero. Furthermore, the importance of α's and β's and represent the short-run causal impact,

---

[6]We do recognise that model with only two variables may suffer from model misspecification. However, given limited data, we want reserve for degree of freedom rather than complicate the model. Multivariate model will be undertaken in the future research.

while γ's gives the long-run impact. In determining whether y_t *Granger* cause x_t, the same principle applies with respect to Equation (2). Above all, the significance of the error correction term indicates cointegration, and the negative value for γ's suggest that the model is stable and any deviation from equilibrium will be corrected in the long-run. Given the nature of the data under investigation, we do not expect the coefficients of the x_{t-j} are jointly significantly differently from zero. This is because it takes time for the aid to show any effect if there is any.

3.2. Data and Source of Data

The analysis in the study is based on five annual time-series. The missing value for GDP per capita for year 2006 was computed using moving average method. Other data are obtained from various resources, including: (1) Economic Survey of Pakistan, various issues, (2) Annual Statistical Books of Federal Bureau of Statistics, various issues. (3) World Development Indicators, 2007, the World Bank, (4) UNESCO institute of Statistics (Online database), and (5) UNESCAP (United Nations Economic and Social Commission for Asia and Pacific) Online Data Centre etc.

It includes the yearly net flows to Pakistan over a thirty-one-year period from 1975 to 2006 in US $ billions and then converted into the percentage of GDP. ODA consists of concessional loans and grants by official agencies of the members of the Development Assistance Committee (DAC), by multilateral institutions, and by non-DAC countries to promote economic development and welfare in recipient countries and territories. ODA is included in the model to capture the influence of aid on social indicators and to see whether it affects the above four endogenous well-being variables. The implicit assumption in the model is that aid affects Human Development, Life Expectancy Index, Education Index and GDP Index[7] either directly, through projects by affecting the allocation of government spending or indirectly through growth. It is also possible that ODA may increase the non-income welfare especially health and education, but may not have any impact on growth or vice-versa.

ODA accelerates development process through "Financial-Gap-Filling Process" i.e., it generates additional domestic savings as a result of the higher growth rates. Secondly, ODA affects the level of human development through "Labour-Gap-Filling Process" i.e., technical assistance in the form of high-level worker transfer and institutional capacity building to ensure effective utilisation of aid and generate economic growth.

In this regard, reference is invited to Fielding, *et al.* (2006) who assessed the impact of aid on diverse human development indicators, including measures of health, education and fertility. Besides, McGillivary, *et al.* (2004) examines the impact of foreign aid on HDI finding that aid is negatively associated with HDI levels. Gomanee, *et al.* (2003a, 2003b) found that aid is associated with higher levels of the HDI via a positive association with pro-poor government expenditure.

---

[7]The calculations were done in Microsoft Excel using the following formulas:

HDI = [(Life expectancy index + Education Index + GDP Index)/3];
Where Life expectancy index = (Life expectancy at birth –25)/ (85–25);
Education Index =[2/3(Adult literacy rate)/100]+[1/3(Combined gross enrolment ratio) /100);
GDP Index =[Log(GDP per capita at PPP US$)–Log(100))/(Log(40000)–Log(100).]

4. EMPIRICAL RESULTS AND DISCUSSIONS

Before testing for causality test bases on Equations (1) and (2), it is essential to determine the order of integration for each of the variables under consideration. In literature, standard tests for unit root such as the Augmented Dickey-Fuller (ADF) and the Phillips-Perron (PP) tests proposed by Dickey and Fuller (1979) and, Phillips and Perron (1988), respectively are generally used. Following this practice, we use both test to conduct the unit root test. The test results are shown in Table 2. Table 2 shown that all the variables are not stationary in levels but it turn to be stationary at the difference.

Table 2

Unit Root Test

	ADF Test		PP test	
	Level	Difference	Level	Difference
EI	0.956	−4.165**	0.898	−4.615**
GI	−2.212	−2.11**	−3.599	2.507
LODA	−2.182	−6.018**	−1.865	−2.028
HDI	−1.051	−5.338**	−1.496	−5.657**
LEI	−1.262	−1.255	−1.659	−12.308**

Having determined all the variables under consideration are integrated of order one, that is they are I(1). We proceed for the testing of *Granger* causality by using the vector error correction framework. As we discussed in the previous section, according to Pesavento (2004) that the Johansen's test for cointegration has low power in both large and small sample compared to the error correction model. In fact, Kremers, *et al.* (1992) have argued that the standard *t*-ratio for the coefficient on the error-correction term in the dynamic equation is a more powerful test for cointegration. Banerjee, *et al.* (1986) and Kremers, *et al.* (1992) show that standard asymptotic theory can be used when conducting the test in the context of an error correction model; specifically, the *t*-statistics on the error correction term coefficients have the usual distribution. Therefore, our results are based on the testing the significance of *ecm* terms of Equation 1.

Table 3 presents the results of estimating of Equation (1). In our study, we can also determine whether two variables are related in the long run and when these variables are related or exhibit lon-run relationship, we would expect the estimated parameters of the error correction terms of Equation (1) are statistically significant from zero. From the VECM results in Table 3, we presented the *t*-statistics of error corrections term, ecm_{t-1}, where we can infer the long run granger causality between the variables. The significant (at least one) of error correction term implies cointegration or exhibit long-run relationship between two variables.

Table 3

Results of Long Run Causality from the VECM Models (VAR=2)

	Dependent Variable	t-statistics of ECM Term from VECM Model (Ecm_{t-1})	Implication of Direction of Granger Causality
ODA vs. GI	ΔGI	–2.68**	ODA=>GI
	ΔODA	–2.19**	GI=>ODA
ODA vs. EI	ΔEI	–0.361	ODA≠>EI
	ΔODA	–2.0*	EI=>ODA
ODA vs. LEI	ΔLEI	–2.61**	ODA=>LEI
	ΔODA	–1.36	LEI≠>ODA
ODA vs. HDI	ΔHDI	–2.10**	ODA=>HDI
	ΔODA	0.351	HDI≠>ODA

Notes: Asterisk * and ** denotes 10 percent and 5 percent level of significance. The symbol denotes Granger cause direction.

Generally, results in Table 3 indicate that there are cointegration between ODA and all other variables under consideration. That means that there is at least one way Granger causality between ODA and other variables. More specifically, there is feedback Granger causality between GI and ODA. That is, Economic growth induces ODA and ODA Granger cause economic growth. As far as Education index, Human development index and life expectancy index concerned, there are only unidirectional Granger causality from ODA to Education index, Human development index and life expectancy index. This is consistent with other literature that ODA contribute to human development. See for Gomanee, *et al.* (2003a, 2003b) and Feeny (2003).

5. CONCLUSION

It is claimed that foreign aid has been contributory towards fostering broad-based development and complementing national development initiatives in the recipient countries. Pakistan, like other capital-scarce nations, conspicuously relies on foreign aid to finance savings-investment gap and trade gap. The overarching aim of aid is to realise the national development strategy and prevail over the capacity gaps in effective public service delivery.

To empirically assess the above statement, this paper empirically tests the above hypothesis using vector error correction approach. Our result shows that there is feedback Granger causality between GI and ODA. That is, Economic growth induces ODA and ODA Granger cause economic growth. As far as Education index, Human development index and life expectancy index concerned, there are only unidirectional Granger causality from ODA to Education index, Human development index and life expectancy index. This is consistent with other literature that ODA contribute to human development.

Our results have important policy implications. A proper management of foreign aid under the aegis of Paris Declaration on Aid Effectiveness and Harmonisation, 2005 and Accra Agenda will contribute to the human development in the case of Pakistan. In this regard, Pakistan should consolidate its negotiation skills and develop mechanism for exchange-rate forecasting so as to improve aid predictability and donors should be

obligated to align their priorities in accordance with country's national priorities. The existing monitoring and evaluation mechanism is insufficient to ensure periodical reviews of all the projects/programmes and requires capacity building. The debt swaps in social sector should be extended in order to improve human development indicators and government-led partnership through Sector Wide Approach (SWAp). Finally, Pakistan should focus take effective measures to get out of debt-trap through a sustainable debt-reduction strategy.

REFERENCES

Addison, T., G. Mavrotas, and M. McGillivray (2005) Development Assistance and Development Finance: Evidence and Global Policy Agendas. *Journal of International Development* 17: 819–36.

Banerjee, A., J. J. Dolado, D. F. Hendry, and G. W. Smith (1986) Exploring Equilibrium Relationship in Econometric Through Static Models: Monte Carlo Evidence. *Oxford Bulletin of Economics and Statistics* 48, 253–277.

Boone, Peter (1996) Politics and the Effectiveness of Foreign Aid. *European Economic Review*

Burnside, Craig and David Dollar (1998) Aid, the Incentive Regime, and Poverty Reduction. The World Bank. (Policy Research Working Paper No. 1937).

Chenery, H. B. and N. G. Carter (1973) Foreign Assistance and Development Performance, 1960-1970. *American Economic Review* 63:2.

Collier, Paul and David Dollar (2000) Can the World Cut Poverty in Half? How Policy Reform and Effective Aid can Meet International Development Goals. The World Bank. (Policy Research Working Paper Series 2403).

Collier, Paul and David Dollar (2001) Can the World Cut Poverty in Half? How Policy Reform and Effective Aid can Meet International Development Goals. *World Development* 29:11, 1787–1802.

Dollar, David R. and William Easterly (1999) The Search for the Key: Aid, Investment and Policies in Africa. *Journal of African Economies* 8:4.

Pakistan, Government of (Various Issues) *Economic Survey of Pakistan.* Islamabad: Finance Division.

Federal Bureau of Statistics (Various Issues) *50 Years of Pakistan; Pakistan Demographic and Health Survey (PDHS) 1990-91* and *Pakistan Statistical Year Books.* Islamabad.

Feeny, Simon (2003) The Impact of Foreign Aid on Poverty and Human Well-being in Papua New Guinea. *Asia-Pacific Development Journal* 10: 2.

Fielding, David, *et al.* (2006) A Wider Approach to Aid Effectiveness: Correlated Impacts on Health, Wealth, Fertility and Education. The World Institute for Development Economics Research (WIDER) established by the United Nations University (UNU).

Fielding, McGillivary, and Torres (2005) Achieving Health, Wealth and Wisdom: Links Between Aid and the Millennium Development Goals. World Institute for Development Economics Research of the United Nations University (UNU-WIDER).

Franco-Rodriquez, S., M. McGillivray, and O. Morrissey (1998) Aid and The Public Sector in Pakistan: Evidence with Endogenous Aid. *World Development* 26, 241–1250.

Gomanee, K., O. Morrissey, P. Mosley, and A. Verschoor (2003a) Aid, Pro-poor Government Spending and Welfare. Centre for Research in Economic Development and International Trade, University of Nottingham, Nottingham. (CREDIT Research Paper 03/01)

Gomanee, K., S. Girma, and O. Morrissey (2003b) Aid, Public Spending and Human Welfare, Evidence from Quintile Regressions. Centre for Research in Economic Development and International Trade, University of Nottingham, Nottingham. (CREDIT Research Paper 03/13).

Gomanee, K., S. Girma, and O. Morrissey (2003) Searching for Aid Threshold Effects: Aid, Growth and the Welfare of the Poor. Paper presented at a Seminar at CASE. Oxford, 28 January.

Gomanee, K. and O. Morrissey (2002) Evaluating Aid Effectiveness Against a Poverty Reduction Criterion. DESG Conference paper, Nottingham, April.

Gounder, R. (2001) Aid-Growth Nexus: Empirical Evidence from Fiji. *Applied Economics* 333: 8.

Gounder, R. (2002) Empirical Evidence of Foreign Aid and Economic Growth Relationship: The Case of the Solomon Islands. In Mak Arvin (ed.) *Allocation of Foreign Aid and Economic Development New Theoretical and Empirical Perspective.* Westport, Connecticut: Praeger, 141–69.

Ishfaq, Mohammad (2004) Aid Effectiveness, Debt Capacity and Debt Management in the Economy of Pakistan. A dissertation submitted for PhD degree to Quad-i-Azam University, Islamabad.

Knack, Stephen (2000) Aid Dependence and Quality of Governance: A Cross-country Empirical Analysis. The World Bank (Policy Research Working Paper Series 2396).

Kremers, J. M., N. R. Ericsson, and J. J. Dolado (1992) The Power of Cointegration Test. *Oxford Bulletin of Economics and Statistics* 54:325–348.

Le, T. H. and P. Winters (2001) Aid Policies and Poverty Alleviation: The Case of Viet Nam. *Asia-Pacific Development Journal* 8:2, 27–44.

McGillivary, Mark and Farhad Noor Bakhsh (2004) Aid, Conflict and Human Development. Paper presented at Conference, Making Peace Work, World Institute for Development Economic Research, United Nations University, Helsinki, June 4-5.

Mosley, P., J. Hudson, and A. Verschoor (2004) Aid, Poverty Reduction and the 'New' Conditionality. *Economic Journal* 114:496, F217–F243.

Papanek, Gustave (1972) The Effects of Aid and Other Resource Transfers on Saving and Growth in Less Developed Countries. *Economic Journal* 82, September.

Pedersen, Karl R. (1996) Aid, Investment and Incentives. *Scandinavian Journal of Economics* 98:3, 423–438.

Pesavento, E. (2004) Analytical Evaluation of the Power of Tests for the Absence of Cointegration. *Journal of Econometrics* 122, 349–394.

Verschoor, A. and A. Kalwilj (2002) Aid, Social Policies and Pro-poor Growth. Department of Economics, University of Shefield, Research Programme on Risk, Labour Markets and Pro-poor Growth. (Occasional Paper 4).

Comments

The authors have used 2/2 model and there is a likelihood of spurious regression in such estimations as it does not explain the impact of missing variables or inclusion of another variable in the model. Secondly, the econometricians are unsure whether Grangers Causality is a test of causation of correlation. The paper establishes a long-run equilibrium and does not discuss the short-run relationship of variables. The reason for unidirectional relationship in case of fourth variable has not been mentioned and the economic interpretation of variables is also missing.

Wasim Shahid Malik

Quaid-i-Azam University,
Islamabad.