

Impact of Foreign Aid on Health Sector of Pakistan

Aftab Anwar *

Ghulam Yahya Khan †

Muhammad Masood Anwar‡

Abstract *Foreign-Aid is considered a key to economic growth in developing countries. Governments of developing countries are not able to fulfil the requirements of development. Official Development Assistant is used as supplements of domestic resources, and it plays a vital role in the bridge the gap of the budget deficit. Health is the main contributor to economic growth. Like other sectors, Pakistan relies on foreign aid to improve the health sector. The main purpose of the paper to assess the impact of foreign aid on the health sector of Pakistan. Time series data for the time period of 1984 to 2019 was used. Auto-Regressive-Distributed-lag model had been used to find out short as well as long-run association among the variables. The results of the study showed a positive and significant impact of foreign aid on the health sector of Pakistan.*

Key Words: Foreign Aid, Health Sector, ARDL, Investment, Openness.

JEL Classification: I19, F63, F10, E60

Introduction

Official Development Assistant is playing a key role in the economic progress of the countries. Developing countries have not enough resources to enhance economic growth and overcome the other problem of the economy. Official Development Assistance (ODA) is used to fulfil the shortage of resources. In general, the term definition of foreign-aid is a transfer of money, goods and services from develop to developing countries. It's firstly started after world war 11. Foreign aid started with the motive to stop the soviet expansion and help those countries who were playing roles in this regard. Mainly two institutions, the IMF and World Bank, is contracture for this purpose. Later on, it comes out from Europe to almost all part of the world. These institutions are playing vibrant roles from the beginning to supporting the poor countries ([Anup, 2004](#)).

* Assistant Professor, University of Education, Lahore, Punjab, Pakistan.

† Assistant Professor, Kashmir Institute of Economics, University of Azad Jammu & Kashmir, Muzaffarabad, Kashmir, Pakistan.

‡ PhD Scholar, Kashmir Institute of Economics, University of Azad Jammu & Kashmir, Muzaffarabad, Kashmir, Pakistan. Email: smasood_ajk@yahoo.com

Sometimes Official Development Assistant and Foreign Aid are used for a similar meaning, but there is a small difference between them. According to “Organization for Economic Cooperation and Development (OECD)”, Foreign-aid can be classified into three categories. Firstly, donor countries government provide assistance to recipients’ countries governments. It’s called official development assistant (ODA). It’s given from rich countries government to poor countries governments. Secondly, official assistance (OA) is given by the rich countries governments to higher per capita income countries. Third and last is private voluntary assistance. Such type of aid is given to the different non-government organizations (NGOs) and groups ([Radelet, 2006](#)).

Poor health sector performance is one of the main problems of Pakistan. To eradicate this problem, Pakistan needs more investment in Pakistan, but Pakistan is facing a shortage of resources and not even have resources for short term projects. For the betterment of the health sector, Pakistan depends on foreign aid. Aid has a positive as well as a negative effect on the recipient’s countries. On one side, it improves the legging sectors, and other side, it creates inflation, corruption, which is harmful to economic growth. In spite of the few harmful effects, more results show a positive impact on the economy ([Cavagnero et al., 2008](#)).

This study has the following objectives

- To assess the usefulness of foreign aid in Pakistan.
- To study the association between foreign aid and the health sector of Pakistan.
- To suggest policy recommendations.

After the introduction, the remainder of the study is arranged into the literature review, methodology and data, Estimation and results and Conclusions and policy Implications as sections two through five, respectively. References are given at the end.

Review of Literature

The effectiveness of aid varies in different countries in different situations. There is a need to focus on “both on ways and means to improve the effectiveness of foreign aid payment and on rising the total flow of resources. Doubling of aid flows is a worldwide challenge”. It is better to increase the effectiveness of aid then to increase the size of foreign-aid ([Sachs, 2005](#)).

The health sector and freedom are closely related to each other. In open economies or societies, the condition of the health sector is better than in societies that are closed. In developing countries, people prefer to live in urban areas due to the lack of facilities in ruler areas. It creates an adverse situation of health and education which already face many other problems. In developing

countries, people living in ruler areas are at one end facing the shortage of health facilities and on the other end facing the awareness issue. It needs to address these issues in ruler areas to improve the living stander of the people in both urban and ruler areas ([Raymond and Susan, 2002](#)).

AIDS is also one of the major problems in developing countries. Most of the African countries are the victim of this disease—most of the young people affected by it. On one side, it reduces the labour supply and other side; it increased the expenditure on the health of poor families which are already living near the poverty line ([Bollinger, 2009](#)).

[Akram “et al. \(2008\)](#) investigated the impact of health on economic growth”. For empirical estimation, the author used the Error Correction Model (ECM) over the period of 1972 to 2006. The result of the study showed that population per bed, life expectancy, mortality rate, secondary school enrolment openness and age dependency had a “positive impact on economic growth, but health” expenditure had no impact on growth. Health indicator has a significant effect on growth only in the long run; in the short run, these indicators have no role in the growth process. Long term economic growth can achieve through improving the “stock of health and human capital. Further, the author suggests that human capital should include in the growth” equation.

Debt burden “is one of the leading challenges that Pakistan economy facing. [Qureshi and Ali \(2010\)](#) found that borrowing was playing a negative role in spite of positive for the development of Pakistan. The major share of Pakistan of the budget is used for debt repayment instead of development. Pakistan was facing the problem of enormous budget deficits, which create the need for more borrowing. So, day by day debt burden was increasing, and it would be a more dangerous feature; it was creating a bad impact on development not only today but in future” also.

[Nasir et al. \(2011\)](#) explored the impact of foreign remittances on the education of children. A sample size of 400 households was selected in the year 2009. The result of the OLS technique showed that without considering the education of parent’s foreign remittances has a negative effect on education, and this effect becomes insignificant when the parent’s education included in the model. The result also showed that the low level of education, family type. Family size and current income were the important determinants of education performance.

In the last few decades, human development has progressed rapidly. The report indicates the inequality adversely affect human development. Human Development Indicators have three dimensions with an equal weight that was income per capita, health and education. All the three-element of HDI showed a big improvement. On the other hand, GDP grows at the cast of sustainability. Carbon emission was positively correlated with growth and HDI ([Chaudhary and Perelman, 2011](#)).

Higher education in Africa is highly dependent upon foreign aid received, ranking Africa as the largest education multilateral aid agency; World Bank higher education policies have affected the rise and fall of African higher education. The declining of higher education in Africa is closely linked to the World Bank's changing policies both directly and indirectly". (Changsong and Min, 2009).

Milner (2004) discussed the puzzle regarding the multilateral trade and dynamics of donor and receiver relationship regarding foreign aid. He emphasized the need for receiving foreign aid only on the basis of efficiency, economic needs, and political factors in receiving foreign aid.

The current study reviewed a "number of models of FDI in-flows, checking the robustness of the link between democratic governance and FDI by changing the model specifications and empirical tests. The evidence on political regimes is relatively conclusive democratic governments attract higher levels of FDI. These results are robust across empirical tests and model specifications. Democratic institutions have a large positive effect on FDI inflows. These results become even stronger when one controls for the selection effects of the lack of observations of democracies in developing countries. In sum, all of these empirical tests find that democracies attract higher levels of FDI. The results on sovereign debt risk point to one possible link between democracy and higher levels of FDI. Democratic governments, when all other economic conditions are accounted for, are associated with lower country risk. Lower country risks which are associated with debt risk are similar to the risks faced by multi-nationals investing in foreign locations. One logical speculation lessening from this result is that democracy lowers country risk for both lenders and multi-national investors. Taken as a whole, these empirical results cast serious doubt on the doomsday prediction regarding the link between democratic political institutions and FDI. Democratic institutions are not inefficient institutions in terms of attracting multi-national corporations. There is simply no empirical evidence that multi-nationals prefer to invest in dictatorships over democratic regimes. On the contrary, the empirical evidence in this article suggests that democratic regimes attract as much as 70 percent more FDI as a percentage of GDP than do authoritarian regimes" ([Jensen, 2003](#)).

Instead of the expansion of health care facilities and put a lot of attention towards delivery systems, the indicators of health in Pakistan are not improve significantly. Governments did a lot in the health sector and introduce health sector reforms, the health care delivery system in rural areas and make these facilities accessible for all the people. National health policy introduces the reforms of decentralization; introduces different health programs in all the parts of Pakistan. The responsibility of the Nation Health Policy Unit is to monitoring and implementing the different types of programs in Pakistan ([Embro, 2008](#)).

It is examined in the paper that foreign assistance can stop the brain drain in the health sector. Some policymaker suggests that brain drain can be stopped

in the health sector by increasing foreign assistance. For stopping the brain drain, we need the improvement the infrastructure in health and human resources as well. The analysis shows that foreign assistance has a positive effect on the doctors in retaining in their homelands. An increased small amount of foreign assistance on health can substantially affect health professionals. For analysis, three stages least square methodology was used. The results show that foreign aid plays a key role in the improvement of the health sector. It is very important to retain medical workers to improve their working conditions. Developing countries have not enough resources for improvement in the infrastructure, and for this, they need foreign assistance. Reducing health aid create a negative effect on the brain drain. The governments of developing countries need to pay attention to preventing the brain drain ([Moullan, 2009](#)).

Foreign aid is useful for the economic development of developing countries due to the shortage of their domestic resources. Foreign aid is used as a domestic supplement resources, and it is helpful to increases investment and create employment opportunities. Through foreign aid, developing countries get benefits to form the latest technologies and skilled peoples and their experiences. Foreign aid help to boost the economy and the developing countries through different channels ([Ekanayake and Chatrna, 2010](#)).

[Finn et al., 2010](#) probed the association between “foreign-aid, economic growth and” development. The result shows the positive impact of foreign aid on growth in the long run. Foreign id affects growth through different channels like an investment and different institutions. To investigate the impact of foreign aid required long time periods. However, in spite of its positive effect on growth, it remains controversial in the developing world due to the element of corruption in these countries. Many studies have discussed the role of foreign aid in the delivery of public services, including health and education, differently (see, e.g. [Abouraiia, 2014](#); [Rauf et al., 2017](#); and [Williamson, 2008](#)). It is important nowadays to consider Inclusiveness in growth for fair distribution of resources across subsectors of the economy, including health and education. Foreign-aid, if used productively, can bring Inclusiveness ([Anwar et al., 2017](#); [Anwar et al., 2019](#)).

Foreign-aid plays a crucial role in the Pakistan economy, but some studies show its negative impact on Pakistan’s domestic stricture of the economy. Pakistan has to pay a large share of the GDP in debt servicing. Now it’s one of the major problems of the Pakistan economy. Foreign aid fuel corruption in Pakistan. Most of the projects in Pakistan are controversial due to foreign aid. Foreign aid also increases the inequalities among the different sectors of Pakistan. The usefulness of foreign aid is mainly concern with the political structure of the country. The poor political structure of Pakistan is one of the reasons for the ineffectiveness of foreign aid in Pakistan. NGOs received most of the foreign aid, and the government has no direct control over it. It creates a gap in planning.

Methodology and Data

This study is conducted over the time period of 1984 to 2019. This data set is collected from different secondary sources. Like, world Development Indicators (WDI), “Economic Survey of Pakistan, Federal Bureau of Statistics (FBS), International Financial Statistics (IFS) and Handbook of Statistics for Pakistan Economy”.

To “check the stationary of the data Augmented-Dickey-Fuller (ADF) test” was used. To analyze the short-run and long-run impact, Auto-Regressive-Distributed-Lag-Model (ARDL) is employed, which is proposed by Pearson *et al.* (2001). It has many advantages. Firstly; it is appropriate for a small data set ([Ghatak and Siddiki, 2001](#)). Secondly, it can be used the same as well as mix order of integrations. Thirdly, it is not dependent on unit root properties. For analysis, the following econometric model has been used;

$$\Delta \ln(\text{HEL})_t = \alpha_0 + \sum_{i=1}^p \theta_i \Delta \ln(\text{HEL})_{t-i} + \sum_{i=0}^p \lambda_i \Delta(\text{OPEN})_{t-i} + \sum_{i=0}^p \theta_i \Delta \ln(\text{ODA})_{t-i} + \sum_{i=0}^p \gamma_i \Delta \ln(\text{INV})_{t-i} + \delta_2 \ln(\text{INV})_{t-1} + \delta_1 \ln(\text{HEL})_{t-1} + \delta_3 \ln(\text{OPEN})_{t-1} + \delta_4 \ln(\text{ODA})_{t-1} + V_t.$$

HEL Index of health is the dependent variable. It is measured as a number of doctors available to one thousand patinas.

ODAt-I Official Development Assistance.

OPENT-i Trade Openness is measured by using adding imports and exports and taking the ratio of sum with respect to GDP.

INVt-I Investment. It is calculated by taking the ratio of Gross Fixed Capital Formation to GDP.

In addition, $\Delta \text{INVt-I}$, $\Delta \text{HELt-I}$, $\Delta \text{OPENT-I}$, $\Delta \text{ODAt-I}$, is used to explain the change in the Health sector of Pakistan, Official Development Assistance, Investment and Openness of Trade”.

Estimation and Results

The estimation technique “Auto Regressive Distributed Lag (ARDL) model” is used. In this model, Health sector is measured as a dependent variable. For stationarity of the data it is required that the variance and mean of the data are constant over time ([Dickey, 2004](#)). To check stationarity of data Augmented-Dickey-Fuller (ADF) test has been employed. The results of above said test are given below table.

Table 1. Results of Unit Root Test”

“Variables	Level	1 st Difference	Decision
HEL	-2.510	-5.967**	1(1)
ODA	-1.732	-7.279**	1(1)
OPEN	-1.096**	-5.271	1(0)
INV	-4.853	-1.007**	1(1)”

Note: “** indicates significance at 5%”.

The “results of the Unit root test shows that health (HEL) is not stationary at level but become stationary at first difference”. Official Development assistance (ODA) and investment (INV) is “non-stationary at level and stationary at first difference” while other control variable Openness of trade (OPEN) is stationary at level.

The above results shows that the order of integration is mix and it provide a justification of the Auto-Regressive-Distributed-Lag (ARDL)-model. After testing for stationarity it is required to check the co-integration amongst variables. For the purpose to F test is employed. “The result of the co-integration test” are reported below in Table 2.

Table 2. Results of the F-statistics”

“Dependent variable	Value of the F-Test	P-Values
HEL	7.39	0.0006”

The results of the F-Statistics shows a co-integration among variables. P values shows the significance.

Results of the ARDL Test

Auto-Regressive-Distributed-Lag (ARDL)-model is estimated for health sector of Pakistan from 1984 to 2019. The results of the ARDL test shows that the value of “Official development Assistance” showed positive and significant impact in short-run. The value of the investment coefficient is positive but insignificant. It shows that to judge investment impact long period of time is required. Openness shows a positive and significant association with health

sector of Pakistan in the short-run. It is because Pakistan heavily depends on foreign countries for medical equipment's. R^2 Value shows the goodness of fit. Its value 0.65 shows that 65 per cent variation independent variable is due to those variable which are included in the model and 35 percent variation is other variables which are not included in the model.

Table 3. Results of ARDL Test in Short Run

“Variables	Health
C	1.126(0.012)
D(OPEN)	-0.029(0.424)
OPEN(-1)	0.017(0.0132)
D(INV)	0.023(0.685)
INV(-1)	0.042(0.6131)
D(ODA)	0.017(0.292)
ODA(-1)	0.011(0.096)
LHEL(-1)	-0.150(0.0176)
R^2	0.65
R^2_{adj}	0.54
DW stat	2.413”

To analyze the long-run impact, here is the normalized equation—coefficient of “the lag level independent variables divided by the coefficient of dependent variable” health. After normalizing, the results of the following long-run equation is constructed.

$$HEL = 6.33 - 0.26OPEN + 0.017ODA + 0.27INV$$

Official Development Assistance

The above equation shows the long-run relationship of health index (LHEL) and independent variables, official development assistance (LODA), openness

(LOEN) and investment (LINV). It shows that the official development assistance (LODA) in the long-run has a positive and significant effect on health (HEL). The effect of official development assistance is positive but low as compared to other variables. Its coefficient value is 0.017, show that changing one percent in ODI cause to 0.017 percent change in the health sector of Pakistan. Its “effect is positive but very low. The value of the coefficient of ODA is 0.007, which shows a 1 percent change in official development assistance will cause to 0.007 percent change in health institutions”. This is only because many other factors effects health institutions.

Investment

In “long run, investment has a significant and positive effect on health. The value of the investment coefficient is 0.27, shows a one percent change in investment cause to 0.27 percent” change in the health sector of Pakistan. This is because investment brings employment to the country. When people have more money, they care more about health. This also leads to an increase in the standard and facilities of health in the country.

Openness

It is generally considered that open markets benefited everyone, but the fact is that international trade rules support the developed nations, and policy needs to pro-poor. Openness decreases the state expenditure on public goods like health and education and encourages to import of consumer goods, which is negatively affect the health and education sector of developing Nations. WTO, against the protection policy of the developing and the institutions of developing countries, are unable to compete with the institution and industry of the developed countries (Rayner *et al.*, 2006). Findings of the current study “support this argument that in long run openness (LOPEN) has negative and significant effect on health sector. The value of the coefficient of openness is -0.26, which shows that 1 percent change in openness will lead to 0.26 percent change in the health sector” of Pakistan.

Conclusions and Policy Implications

The key objective of the present study was to trace our the relationship between the foreign-aid and the health sector of Pakistan. Foreign-aid is considered beneficial in two ways; on the one hand, it argued that foreign aid makes institutions inefficient, fuel corruption and increase the debt burden. The second school of thought argued that foreign aid is beneficial for countries. It supports enhance growth, reduces the budget deficit and useful for institutional strengthening. The result of the current study investigates “the impact of foreign aid on health sector of Pakistan over the period of 1984 to 2019. The result of the study support the second school of thought and shows a positive impact of foreign aid on the health sector of Pakistan. Health sector improves with the

help of foreign aid although, in the long run, its effect is low”. It has many possible reasons for low impact, like the utilization and management of the Pakistan health sector. The study suggests on the basis of the analysis that Foreign-aid is beneficial for the health sector of Pakistan, but it should be used through proper management; otherwise, it creates a debt burden. Pakistan should bring more foreign-aid for institutional development.

References

- Abouraiia, M. K. (2014). Impact of foreign aid in economic development of developing countries: A case of Philippines. *European Journal of Business and Social Sciences*, 3(4), 166-180.
- Addur. R., Khan, A.A., Ali, S., Khan, G.Y., Ahmad, D. & Anwar, N., (2017). Fiscal decentralization and delivery of public services: evidence from education sector in Pakistan. *Studies in Business and Economics*, 12(1), pp.174-184.
- Akram, W., Hussain, Z., Sabir, H.M. & Ijaz, Hussain. (2008). Impact of Agriculture credit on growth and poverty in Pakistan (Time Series Analysis through Error Correction Model). *European Journal of Scientific Research*, 23. 243-251.
- Anup, S. (2004). "A brief history of US foreign aid program" Available at www.bcps.org/offices/lis/models/foreignaid/history.html.
- Anwar, M. M., Khan, G. Y., & Khan, S. J. I. (2017). The impact of foreign aid on education in Pakistan. *Journal of Education in Black Sea*, 3(1), 106-115.
- Anwar, M. M., Khan, G. Y., & Khan, S. J. I. (2019). Investigating of the Inclusiveness in the Economic Growth of Pakistan. *The Journal of Economy and Market Communication Review EMC Review-Časopis Za Ekonomiju*, 17(1).
- Awan, A., M. Asghar & Rehim. (2011). "The impact of exchange rate, fiscal deficit and term of trade on external debt on Pakistan", *Australian journal of business and management research*,1-3.
- Awan, A., M. Asghar & Rehim. (2011). "The impact of exchange rate, fiscal deficit and term of trade on external debt on Pakistan", *Australian journal of business and management research*,1-3.
- Bollinger, L., J. Stover & P. Riwa. (1999). The Economic Impact of AIDS in Tanzania: The Futures Group International in collaboration with: Research Triangle Institute (RTI), *The Centre for Development and Population Activities (CEDPA)*.
- Burki, A. (1998). Foreign aid, development and poverty in Pakistan: A critical review", Research report of action aid Pakistan. Available at www.Oneworld.org/ action-aid.
- Cavagnero, E. L., C. Evans & D. Carrin. (2008). "Bulletin of world health organization", 86: 864-870.
- Chaudhry, A. M., & Perelman, M. (2013). Human development with sustainability: Are good intentions enough? *Development and Change*, 44(3), 813-822.
- Dicky, A. (2004). Stationarity issues in time series model. *Statistics and data analysis*, 192-230.
- Ekanayake, E. & D. Chatrna. (2010). "The Effect of Foreign Aid on Economic Growth in Developing Countries", *Journal of International Business and Cultural studies*, 1.

- Embros, (2008). "Health system profile Pakistan. Regional health system observatory"
- Finn, T., J. Sam & A. Jones. (2010). "Aid, Growth, and Development: Have We Come Full Circle?" *Journal of Globalization and Development*, 1: 2-5.
- Ghatak, S. & J. Siddiki. (2001). "The use of ARDL approach in estimating virtual exchange rates in India", *Journal of Applied Statistics*, 28: 573-583.
- Jensen, M. N. (2003). *Democratic Governance and Multi-national Corporations: Political Regimes and Inflows of Foreign Direct Investment* Author(s), Cambridge University Press on behalf of the International Organization Foundation, 57: 587-616.
- Masha R, Fadi F., & Kaj G. (2017). "The effects of foreign aid on economic growth in developing countries," *Journal of Developing Areas, Tennessee State University, College of Business*, 51(3), 153-171.
- Moullan, Y. 2009. Can health foreign assistance break the medical brain drain? *Jel classification* 22: 15.
- Njeru, j. 2003. The impact of foreign aid on public expenditure. The case of Kenya. AERC Research Paper 135, African Economic Research Consortium, Nairobi, 26.
- Pesaran & Shin. 2001. "Method for estimating", *Journal of applied sciences*, 9: 1175-1179.
- Qureshi, N. & k. Ali. (2010). "Public debt burden and economic growth evidence from Pakistan". *International research journal of finance and economics*, 53: 1450-2887.
- Radelet, S. (2006). "A Primer of foreign Aid", *Journal center for global development working paper*, 22.
- Rauf, A., Khan, A. A., Ali, S., Qureshi, G. Y., Ahmad, D., & Anwar, N. (2017). Fiscal decentralization and delivery of public services: evidence from education sector in Pakistan. *Studies in Business and Economics*, 12(1), 174-184.
- Raymond & Susan. (2002). "Improve people health", [www.usaid.gov/Natsios/report/back ground papers](http://www.usaid.gov/Natsios/report/back%20ground%20papers)).
- Sachs, J. (2005). The End of Poverty: Economic possibilities for our time. *International Journal*, 60(3), 849.
- Sachs, Jeffrey D. (2005). *The End of Poverty: Economic Possibilities for 011r Time*. New York: *Penguin Books*.
- Williamson, C. R. (2008). Foreign aid and human development: The impact of foreign aid to the health sector. *Southern Economic Journal*, 188-207.