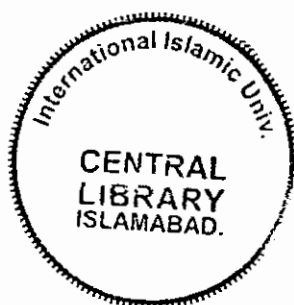# AID EFFECTIVENESS AND THE SOCIAL

LANDSCAPE OF PAKISTAN

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AID EFFECTIVENESS AND THE SOCIAL LANDSCAPE OF PAKISTAN

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In the Name of Allah, The Gracious, The Merciful

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ABSTRACT

The overdependence of developing countries on foreign aid brought the effectiveness of aid into question. This study reviews two streams of literature on aid effectiveness i.e. aid-growth nexus and aid-development relationship in order to assess the effectiveness of aid in Pakistan. Traditional income-based approach apart, the aid effectiveness literature during the last five years has endeavoured to explore the impact of aid on a wide range of social indicators. This study breaks ice on the subject in Pakistan and re-examines the aid effectiveness focusing on the link between aid and a set of human development indicators. Theoretical model of aid-human development nexus is developed to explain 'how' and 'how far' official development assistance affects health, education, access to resources and human development index. The econometric model is constructed to show the interactive effects of aid on the social landscape of Pakistan for the period 1975-2006.

It is argued that income based well-being indicators place a larger weight on the income of the rich and mask the real impact of foreign aid on development outcomes and call for a broader measure. This study, unlike traditional approach on aid effectiveness, encompasses health, education and wealth and not wealth alone. The long-run estimated results of aid-development model show that official development assistance has a significantly positive impact on the social indicators in Pakistan. The impact of public expenditure on health and education, however, had been robust and more effective than official development assistance.

The findings reveal that aid in Pakistan has improved the social landscape, albeit moderately. It is found that donors respond quickly to the political changes in Pakistan and shifts in aid-regime are contingent on the foreign policy. The study concludes that reliance on foreign aid is undesirable and efforts should be made to reduce debt burden, focus should be riveted on widening tax base and increasing national savings. Finally, it is observed that donors should align their interventions with the national development priorities of Pakistan and operationalize effectiveness principles under the aegis of Paris Declaration on Aid Effectiveness on Harmonization, 2005.

ACKNOWLEGEMENTS

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List of Abbreviations

ARDL	Autoregressive Distributed Lag
ADB	Asian Development Bank
ADF	Augmented Dickey-Fuller
AL	Adult Literacy
ARDL	Autoregressive Distributed Lag
CGER	Combined Gross Enrolment Ratio
DAC	Development Assistance Committee
EI	Education Index
FCI	Foreign Capital Inflows
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GI	GDP Index
GNP	Gross National Product
HDI	Human Development Index
HIPC	Highly Indebted Poor Countries
ICOR	Incremental Capital Output Ratio
IDA	International Development Association
IMF	International Monetary Fund
LDCs	Least Developed Countries
LEI	Life Expectancy Index
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
OLS	Ordinary Least Squares
PDF	Pakistan Development Forum
PDS	Pakistan Demographic Survey
PP	Phillip-Peron
PPE	Pro Poor Expenditure
PRSP	Poverty Reduction Strategy Paper
PSBR	Public Sector Borrowing Requirement
PSLM	Pakistan Social and Living Standards Measurement Survey
SWAps	Sector Wide Approaches
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNICEF	United Nations International Children's Fund
UR	Unit Root
WHO	World Health Organization
WDI	World Development Indicators

INTRODUCTION

.1. Foreign Aid and its Effectiveness[1]: an Overview

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

The development aid by the donors[2] 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 program loan, project aid, commodity aid, technical assistance, emergency relief etc. "The total official development assistance (ODA) from the members of Development Assistance Committee[3] (DAC) fell by 5.1% in 2006 to USD 103.9 billion. This represents 0.30% of members' combined Gross National Income. In real terms this is the first fall in ODA since 1997, though level is still the highest recorded with the exception of 2005"[4].

"In order to realize the Millennium Development Goals, a key component of UN strategy is to double ODA from its 2003 level, to approximately $US135 billion per year by 2006 and to further increase it to $US195 billion by 2015. UN Millennium Project also calls for donor nations to achieve the long standing target of allocating 0.7 percent of GNP to their ODA programs by 2015"[5].

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[1] OECD-DAC Evaluation Glossary [http://www.oecd.org/dataoecd/29/21/2754804.pdf], defines effectiveness as "the extent to which the objectives of development intervention are achieved or are expected to be achieved, taking into account their relative importance."

[2] Generally, the terms 'donors' and 'development partners' are used euphemistically for lenders.

[3] Development Assistance Committee of Organization for Economic Cooperation and Development. DAC is body comprising 22 Bilateral Donors and European Commission, aimed at improving development assistance through coordination and collaboration with major stakeholders and collecting data on aid and foreign assistance.

[4] For details see Aid Statistics by Development Cooperation Directorate (DCD-DAC, 2007); [http://www.oecd.org]

[5] For details see David Fielding et al, 2005

In the hindsight of earlier literature on aid effectiveness, foreign aid remains contentious with airly inconsistent conclusions in the developing countries. The proponents of aid are of the view hat it contributed considerably towards economic growth of recipient countries. The opponents, in the other, maintain that foreign aid was an impediment to growth. The empirical results endorse that some recipients achieved high levels of sustained growth, while others floundered with continued receipt of aid.

"Foreign aid[6], indeed, underwent several fundamental shifts since the middle of the 20th century. Starting from 1960s and 1970s, a multilateral agenda of development goals, institutions and procedures was imposed on traditional bilateralism. After this, the idea of development policy was greatly modified during early 1980s; and evolving donor-recipient relationship was expressed as uncertain and circumspect. In parallel, global economic context in which foreign aid is implemented was transformed in ways unimagined at the time of Breton Woods"[7].

Initial models assumed a positive impact of aid on savings, investment and economic growth. During 1940s, foreign aid was destined to execute Marshall Plan for the post-war reconstruction in Europe and Japan. The aid, during the next decade, was meant for 'aggregate economic growth' in the third world. Then, Harrod-Domar growth model asserted that "savings are substantially determined by government policy and that a government's saving effort will be less vigorous if greater foreign resources are available"[8].

Afterwards, Solow model maintained that investment is a key catalyst to economic growth. During1990s, 'aid fatigue' suggested that "aid simply did not work and was nothing more than a waste of public resources" (Boone, 1996)[9]. This was, however, rebutted by Burnside and Dollar (1997) implying "that aid effectiveness is subject to good policies"[10].

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[6] The expressions such as "foreign aid", "foreign assistance" and "aid" are used to convey the same concept. In this paper, these are used synonymously.
[7] See Holst and Tarp (2002)
[8] For details see Papanek (1972), pp. 936.
[9] See Boone(1996)
[10] For details refer to Burnside and Dollar(1997)

Further advancements such as endogenous growth theory in 1980s, random and fixed

fects econometric models and panel data estimations gave vent to new avenues on the

fectiveness of aid. Afterwards, the significance of institutions and government policies was

ought to fore. In the decades of 1970s and 1980s, Structural Adjustment Loan came in vogue.

uring 1990s, developing countries were required to fall comply with the principles of

Jashington Consensus[11], which called for macroeconomic stability, fiscal austerity,

eregulation, trade liberalization and controlled inflation in the developing world.

The advent of new millennium brought considerable changes in the foreign assistance

egime through Monterrey Consensus (2002), then Rome Declaration (2003) and finally Paris

Declaration on Aid effectives and Harmonization (2005). Paris Declaration affirms the

commitment to improve development effectiveness, eradicate poverty, and achieve sustained

economic growth, through an inclusive and equitable global economic system.[12]

Under Paris Principles, the recipient countries are required to demonstrate ownership of

Projects and Programs by proving the inclusion of their proposals in the national development

planning through a series of declarations on aid effectiveness and harmonization. Aptly,

Pakistan, as a signatory to the Declaration has taken up the agenda of operationalizing aid

effectiveness in country in tandem with her national development priorities and aspirations. For

this, the national policy documents specifically Poverty Reduction Strategy Papers (PRSP and

PRSP-II), Medium Term Development Framework (MTDF) and Medium Term Budgetary

Framework (MTBF) have been put into practice to meet the bindings of the Declaration.

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[11]The Washington Consensus comprises 10 policy prescriptions: (1) keep Fiscal Deficit to minimum; (2) Public Expenditure on Education, Health and Infrastructure development; (3) Tax Reforms by lowering marginal tax rates and broadening the Tax base; (4) Liberalise Interest rate; (5) Adopt a competitive Exchange Rate; (6) Liberalise Trade and minimise Tariffs for intermediate goods; (7) Encourage Foreign Direct Investment; (8) Privatise the State-Owned Enterprises; (9) Deregulation; (10) secure property rights via law and order enforcement. See Williamson (1990) for details.
[12] For details refer to 12 indicators of progress 'Pairs Declaration on Aid effectives and Harmonization (2005)', [http://www.oecd.org/dataoecd/57/60/36080258.pdf]

.2.   Impact of Foreign Aid on Human Development

The aid effectiveness literature in the context of growth is exhaustive and the researchers ave explored the effects of foreign aid on economic growth or per capita income in great detail. is believed that traditional income based measures of well-being such as per-capita-income nask the real impact of foreign aid on development outcomes and requires a broader measure. Jntil quite recently, the literature has not addressed the impact of aid on development and only a landful 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. During 1960s, the focus of economic literature was diverted from 'growth' to 'development' and it was observed that economic growth does not necessarily realize welfare. In this vein, poverty reduction was brought on board and it was established that economic growth must accompany the alleviation of poverty. Later on, donor community included the alleviation of absolute poverty in their thematic areas of interventions with a view that economic growth is rather a necessary, and not a sufficient, condition for poverty alleviation.

Subsequent to this, 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[13] (MDGs) at the Development Summit of the United Nations in 2000[14] 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

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[13]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. (Planning Commission of Pakistan, 2006)

[14] 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.

;mpowerment of women; reduction of child mortality; improvement of maternal health; ;ombating HIV/AIDS, malaria, and other diseases; ensuring environmental sustainability; and jevelopment 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.

.3. The Role of Foreign Aid in the Social Development of Pakistan : Aims and Objects of the Study

Pakistan, since its inception, has been relying on foreign aid to support its development programs. At the outset, the pivot of foreign assistance was on grants in order to rationalize 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.

Nonetheless, Pakistan moderately depends on foreign aid and "aid inflows constitute around 2% of GDP and 5-6% of government expenditures".[15] Almost "80-90 % of aid is provided by 5 largest donors operating under different mandates and pursuing different national and institutional interests"[16]. "Between 1950 and 1999, the international donor community contributed nearly 58 billion dollars to Pakistan"[17].

Pakistan's recourse to foreign aid, in fact, is justified on numerous counts. "First of all, borrowing is required to meet two-gaps. Secondly, Pakistan has a slender revenue base and tax-to-GDP ratio does not suffice to meet the public expenditure. Thirdly, Government can ill-afford borrowing from the domestic markets as it is relatively expensive. Fourthly, aid is supplemented with the transfer of technology or technical assistance, which fills the labour-gap

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[15]Economic Survey of Pakistan

[16] Ibid

[17]See Dr Samia Altaf(2008), "Aid Effectiveness in Pakistan: Case Study of the Health and Population Sector " [http://www.wilsoncenter.org]

ιd fosters smart growth. This apart, borrowing is also substantiated for infrastructure

ϩvelopment, which in itself is not only sustains the growth but also alleviates poverty. Sixthly, it

ιay stimulate economic growth by generating additional domestic resources. Finally, capacity

υilding of institutions can be met through technical assistance" [18].

Conventional approach largely 'quantitative' in nature apart, this research adopts a

ιualitative' approach towards aid effectiveness by means of human-development-index and its

hree components. The core question of this research is that 'how' and 'how far' foreign aid has

ιffected the 'health', 'education', 'access to resources[19]' and overall 'human development index'

n Pakistan.

Another aim of this study is to break the ice on the subject as it still remains unaddressed in

Pakistan. Even though some researchers have examined the impact of aid on economic growth,

'per capita income' or poverty in Pakistan, yet social sector remains indeterminate. The scope of

aid effectiveness, deeming it expedient, is extended in this study to human development

indicators in Pakistan so that the effectiveness of aid can be assessed on the social landscape.

The study also aims to contextualize the recent developments in literature with regard to the

cutting-edge debate and endeavours to unearth many unnoticed but important issues.

This study also uses a rarely determined long-term relationship of aid with development

indicators and aims to estimate the model using Autoregressive Distributed Lag (ARDL), a

recent estimation technique and does not rest on traditional OLS regression analysis.

Human development indicators, of course, give a better indication of development outcomes

as they do not solely bank on income component. Most importantly, "per-capita-income is not

true representative of development as it places larger weight on the income of the rich, because

income distributions are left-skewed, so the mean figure reported for a country is higher than

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[18] Taken from the official presentation by Economic Affairs Division, Government of Pakistan.(2008)
[19] Access to Resources is represented by GDP-index or Per-Capita-Income in 'Aid Effectiveness Literature'

ιedian. Therefore, the link between variations in mean income and well-being indicators might

e misleading"[20].

It is worth noting that "the foreign resource inflows in Pakistan have been significant in

πproving economic growth but have also put the country in crisis at critical occasions"[21].

however, despite vital role of aid in Pakistan, only a few researchers have endeavoured to

ascertain the role of foreign aid on economic growth and poverty alleviation.

Ishfaq (2004) further maintained that "foreign aid has not contributed favourably to GDP

growth and income equality, though it has been effective, in a limited way, in reducing the extent

of poverty".[22]He also adds that "Pakistan's long-run debt-servicing capacity is extremely low and

due to low savings and productivity Pakistan will have to be selective in the loan packages"[23].

Another important contribution comes from Aslam (1987), who examined that "public Foreign

Capital Inflows (FCI) did not affect the domestic investment significantly, while the private FCI

covered the domestic saving-investment gap"[24]. In addition, Shabbir et al (1992) held that "aid

has accelerated growth in Pakistan"[25]. Khan (1993) concluded that foreign aid has played a key

role in development, especially investment in Pakistan. Likewise, Moheyuddin (2005) concluded

that "the overall impact is positive seeing that appropriate monetary, fiscal and trade policies

serve as a catalyst to economic development"[26].

It comes to this; foreign aid has both positive as well as negative effects on economic

growth. In Pakistan, aid stimulated growth by substituting domestic savings; while

simultaneously, it also retarded growth, added to income inequality and entrapped the country in

serious debt crisis. This study will analyse that whether foreign aid has positively affected the

social indicators in Pakistan or not.

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[20] For details refer to Fielding et al (2005)
[21] See Ishfaq(2004)
[22] Ibid
[23] Ibid
[24] See Aslam (1987)
[25] See Shabbir et al (1992)
[26] For detail see Moheyuddin (2005)

1.4.   CHAPTER OUTLINE

The study comprises seven chapters and is organised in the following manner. Chapter 1 has deliberated on the rationale of foreign aid and issues pertaining to social development with special reference to Pakistan. It has posed a question as to why foreign aid, since independence, has been an indispensable component of country's development process. This chapter has rationalized the proposal of this study, that is the investigating the effectiveness of foreign aid in the development of Pakistan with special reference to Human Development Index and its three sub-indices.

Chapter 2 provides a brief account of economic history of Pakistan in a six distinct economic management regimes. The volume, sources and dynamics of foreign debt in Pakistan are also discussed in detail. The chapter also highlights the debt management in Pakistan and impacts of foreign aid on human development.

Chapter 3 reviews the selected literature and explores as to why foreign aid may not always have a positive impact on social development. The chapter discusses basic concepts on aid, human and social development and then segregates the literature into two parts i.e. "aid-growth" and "aid-development" literature. In order to gain theoretical grounds, the relevant theories and empirical evidences of the macroeconomic impact of foreign aid are underlined.

The analytical framework on the thesis is presented in Chapter 4. It also draws attention to the recent debate on aid effectiveness and its impact on the social indicators in the developing world. The chapter argues that the effectiveness of aid can be assessed by looking at its impacts on wealth, health and education instead of wealth only (as in the case of traditional per capita income based approach). In this regard, the hindsight is taken form "Fielding et al (2006), Fielding et al (2004), Feeny (2005), Ishfaq (2004) and Papanek (1973)"[27]. To establish the theoretical foundations of the thesis, the techniques used in mainstream literature are being followed.

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[27] As cited earlier

Chapter 5 estimates the effect of aid on Pakistan's social sector by using standard onometric model with data set from 1975-76 to 2006-07. The data sources, variables and timation technique are also elucidated to analyze impact of aid on a set of Human evelopment Indicators in Pakistan by decomposing it into three equations i.e. 'GDP Index', 'Life xpectancy Index' and 'Education Index'. The control variables in the four equations include xpenditure on Health (percentage of GDP)', 'Expenditure on Education (percentage of GDP)', lational Savings' and 'Rate of Inflation'. The chapter uses ARDL estimation along with bounds st, unit root analysis and diagnostic test of the model. The results of the estimated equations re being interpreted for conclusion and policy implications.

Chapter 6 discusses the results at a greater length to examine effects of official development ssistance on health, education, access to resources and human development index in 'akistan. It also gives a brief summary of findings and highlights the debt management and aid ffectiveness issues in Pakistan in the context of the findings. The last chapter gives conclusive emarks and endeavours to answer the questions pertaining to the role of aid in Pakistan. It also offers a package of policy prescriptions and presents avenues for further research on the subject.

Chapter 2

OFFICIAL DEVELOPMENT ASSISTANCE AND HUMAN DEVELOPMENT IN PAKISTAN: AN OVERVIEW

2.1   Introduction

Pakistan is a recipient of foreign aid for more than five decades and has endeavoured to improve its macroeconomic indicators. The impact of foreign aid on social sector, however, portrays a rather cheerless picture as Pakistan could not substantially ameliorate its human development indicators. Like many other developing countries, the performance in education and health has been unimpressive on account of high illiteracy and inadequate health facilities.

At the time of independence, "agriculture was predominant and contributed almost 53 percent to Pakistan's gross domestic product, followed by 11.9 percent from retail trade and 7.8 percent from manufacturing. Agriculture employed almost 70 percent of the labour force and exports comprised primary agricultural products such as jute, tea and cotton. The share of East Pakistan in the exports was greater as most of the agricultural products originated from East Pakistan"[28].

Sixty years down the road, Pakistan underwent structural transition and contribution of "agriculture shrunk to 23 percent of gross domestic product while share of manufacturing and export sectors gone up to 18.9 percent and 10.2 percent respectively in 2008"[29]. "Now agriculture employs almost 44 percent of country's labour force and contributes almost 70 percent to exports. The share of primary products in exports has gone down from 99 percent in 1947 to mere 15 percent. Today, owing to textile sector expansion, almost 65 percent of Pakistan's exports are manufactured products"[30]. The consolidation of middle class through increased urbanization changed the economic profile considerably. In effect, the consumption and production patterns have brought significant social transformations.

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[28] See Ishfaq(2004)
[29] Economic Survey of Pakistan, Various Issues
[30] Ibid

2.2   Odyssey of Pakistan's Economy

Pakistan is a rich country of poor people. In 1947, Pakistan inherited impecunious and predominantly agricultural economy, with negligible infrastructure. Down the lane, economy expanded considerably despite many upheavals. In general, the economy is studded with policy about-faces and midstream transformations on account of internal political crisis and regional instability. Low productivity, less diversification, overregulation and pro-elitism severely dented Pakistan's economy. Despite all this, the most remarkable feature of Pakistan's economy has been a significant increase in growth rate since independence. The following table shows that Pakistan, barring two decades, maintained her growth rate above five percent.

Table 2.1[31]: Decade wise GDP Growth Rate

Decade	Growth Rate
1950s	3.4%
1960s	5.9%
1970s	5.1%
1980s	6.4%
1990s	4.6%
2000s	6 %

Sources: Federal Bureau of Statistics, 50 Years of Pakistan. Vol. 1;
Economic Survey of Pakistan and State Bank of Pakistan, Various issues

Table 2.1 is indicative of increasing growth rate in the economy, though continually. The growth rate was around six percent during three decades that happened to be under military rule. For analytical purposes, the economic history of Pakistan can be categorized into following seven[32] specific periods:

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[31] Federal Bureau of Statistics, 50 Years of Pakistan. Vol. 1; and various issues of Economic Survey of Pakistan and State Bank of Pakistan.

[32] The classification of economy is based on Zaidi (2005) , "Five Decades and Five Epochs", Chapter 1 of "Issues in Pakistan's Economy"

2.2.1 The Formative Phase (1947 – 1958)

At the time of independence, Pakistan was in dire financial straits with weak industrial base, insignificant service sector, poor infrastructure and serious political crisis. "Agriculture was the mainstay of the economy and there was no diversification in the economy. At the outset, bureaucracy was entrusted with economic management as private sector was not able to steer the industrialization. During this period, exports increased sharply due to the Korean War in 1952 and triggered industrial growth. Pakistan was fairly reliant on foreign assistance mostly on grants during these years"[33].

2.2.2 The Decade of Development(1960s)

The second period (1960s) was the golden era of economic development and was termed as 'decade of development'. "The enormous economic growth during Ayub Khan's era was unprecedented in the developing world and it translated into massive development. All the sectors contributed exclusively particularly agriculture increased by 6 percent, industrial growth was 10 percent, manufacturing expanded by 17 percent and large scale manufacturing (LSM) grew by 20 percent"[34]. Markedly, government set out on major infrastructure projects such as Mangla Dam worth $ 400 million and Tarbela Dam worth $ 800 million, which later on had multiplier effects on development.

Though investment in infrastructure projects created a large number of jobs yet the gulf between classes and regions widened as social sector remained on the backburner. The increase in the real wage was insignificant actually the purchasing power reduced. The operational philosophy was led by Dr Mahbub ul Haq and Harvard Advisory Group (HAG), which embarked on neoclassical growth model, laid emphasis on capital accumulation through higher savings.

The down side was that rich segment of the society facilitated and income inequalities accentuated. The guided capitalism of Ayub Khan brought the private sector considerably to

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[33] Zaidi(2005), "Issues in Pakistan's Economy"
[34] Ibid

fore and many industrial giants established. However, the influence of bureaucracy on economic management remained dominant and foreign trade could not be liberalized alongside overvalued exchange rate, hogged financial sector and distorted markets.

2.2.3 Social Reforms (1970s)

After the disintegration of the country in 1971, the pressure on trade account increased for the reason that almost half of exports slashed. In order to boost exports and meet the trade deficit, Bhutto's government devalued Pakistani Rupee by 120 percent in 1972, which doubled country's foreign exchange earnings. Many external shocks such as oil price hike and global stagflation during 1973 deteriorated the balance of payment further.

This era is also attributed to Islamic Socialism and nationalization of economy. Afterwards, the nationalization of private assets by Z.A. Bhutto reduced the share of large scale manufacturing considerably and diverted private investment to small scale enterprises. "Throughout the 1970s, agriculture sector was plagued by stagflation, inter-crop disequilibria and a relative neglect of the non-crop sector"[35]. The decrease in agricultural growth was attributed to policy failures especially land reforms and shocks such as oil price hike, crop diseases, shortage of water, fertilizers and low prices paid to the farmers.

"The performance of industrial sector was satisfactory and many basic and capital goods industries were established. The workers' remittances from expatriate Pakistanis in Middle East rose to $ 1750 million in 1980 against $ 136 million in 1972. As a result, small-scale sector grew and the labour rights were protected"[36].

2.2.4 The Second Martial Law(1977-88)

In 1977, General Zia ul Haq imposed second martial law and reversed the nationalization made during Bhutto's era. Islamization of economy and transformation of society and political system was the main feature during these years. In the wake of Afghan war,

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[35] See Naqvi and Sarmad(1984), "Pakistan's Economy through the Seventies"
[36] For details see Zaidi(2005)

Pakistan aligned its foreign policy with capitalism and attracted enormous financial inflows in the form of aid package. The composition of official aid largely shifted from grant-type-assistance to loans.

The regime set out on deregulation, liberalization and privatization of economy in order to promote private investment. In this regard, certain fiscal incentives were provided for private sector development and many public sector ventures were denationalized. This led to robust industrial growth and enlarged its share in the economy.

The deregulation of agricultural markets and reforms in the pricing support system made the sector competitive and it recorded highest growth of 5.4 percent in country's history. The government provided more credits to the farmers and diversified the cotton sector. However, the wheat-production was ignored and wheat imports went up immensely. The considerable increase in the foreign remittances was offset by capital flight from Pakistan.

On the flip side, however, many dysfunctions in the economic system eclipsed the achievements. In particular, expansion of black economy and influx of illegal imports strained the fiscal and trade accounts. In order to finance these deficits, government monetized through non-bank borrowing, which raised interest rates and slashed investment.

2.2.5   Structural Adjustment Program(1988-1999)

After the democratic transition, The World Bank and IMF steered Pakistan's economic policies through structural adjustment program and other stipulations of Washing Consensus. Major economic decisions were dictated by the Bretton Woods Institutions, which undermined the sovereignty of the state. Under structural adjustment loan, government was obligated to put a ceiling of 4 percent on the fiscal deficit as a percentage of GDP through contractionary fiscal policy, trade liberalization and devaluation of currency.

"In line with the experience of many other developing countries, the availability of external financing resulted in a growing stock of unaddressed structural imbalances,

principally in the domain of public finance and external account. As a result of long policy shortcomings, Pakistan accumulated large amounts of debt, which led to lower investment, curtailed public expenditure, and progressively lower economic growth by the mid-1990s"[37].

Besides, the indirect taxes could not expand the tax base and government had to considerably decrease the development expenditure i.e. from 9.3 percent of GDP in 1981 to 3.5 percent in 1997. In order to liberalize trade, government reduced tariffs from 225 percent to 50 percent in 1998. However, high inflation, persistent devaluation of Rupee, privatization of public sector enterprises and economic sanctions during 1998 set off economic crisis.

The supply-side impulse to the economy in early 1990s, through deregulation, liberalization, and privatization could not come up to scratch due to frequent political changes and flawed implementation. Moreover, demand-side adjustment, a prerequisite to economic stability did accompany this program. This over-financing together with under-adjustment, sharply increased the debt burden of Pakistan (ADB, 2002).

Table 2.2: Selected Macroeconomic indicators during 1980s and 1990

Indicator	1980s	1990s
GDP Growth Rate	6.2	4.0
Agriculture .	5.4	4.5
Manufacturing	8.2	3.9
Services	6.6	4.6
Current Account/GDP Ratio	4.0	4.5
Budget deficit/GDP Ratio	6.7	6.1
Inflation	7.2	9.7
Poverty	23.2	26.0
Unemployment	3.5	5.7

Source: Economic Survey of Pakistan and State Bank of Pakistan, Various issues.

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[37] ADB(2002) "Escaping the Debt Trap: An Assessment of Pakistan's External Debt Sustainability"

principally in the domain of public finance and external account. As a result of long policy shortcomings, Pakistan accumulated large amounts of debt, which led to lower investment, curtailed public expenditure, and progressively lower economic growth by the mid-1990s[37].

Besides, the indirect taxes could not expand the tax base and government had to considerably decrease the development expenditure i.e. from 9.3 percent of GDP in 1981 to 3.5 percent in 1997. In order to liberalize trade, government reduced tariffs from 225 percent to 50 percent in 1998. However, high inflation, persistent devaluation of Rupee, privatization of public sector enterprises and economic sanctions during 1998 set off economic crisis.

The supply-side impulse to the economy in early 1990s, through deregulation, liberalization, and privatization could not come up to scratch due to frequent political changes and flawed implementation. Moreover, demand-side adjustment, a prerequisite to economic stability did accompany this program. This over-financing together with under-adjustment, sharply increased the debt burden of Pakistan (ADB, 2002).

Table 2.2: Selected Macroeconomic indicators during 1980s and 1990

Indicator	1980s	1990s
GDP Growth Rate	6.2	4.0
Agriculture	5.4	4.5
Manufacturing	8.2	3.9
Services	6.6	4.6
Current Account/GDP Ratio	4.0	4.5
Budget deficit/GDP Ratio	6.7	6.1
Inflation	7.2	9.7
Poverty	23.2	26.0
Unemployment	3.5	5.7

Source: Economic Survey of Pakistan and State Bank of Pakistan, Various issues.

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[37] ADB(2002) "Escaping the Debt Trap: An Assessment of Pakistan's External Debt Sustainability"

It is apparent from Table 2.2 that Pakistan did not explore its potential much and could not perk up her economic and social sectors during 1990s. The growth rate came down by 2.2 percent, manufacturing sector declined drastically from 8.2 percent to 3.9 percent; the twin deficits escalated; poverty increased by 2.8 percent and unemployment went up by 2.2 percent.

2.2.6 Musharraf's Era(1999-2008)

In 1999, the country was confronted with third military intervention when the democratic government of Nawaz Sharif was toppled down by General Pervez Musharraf. During his rule, Pakistan was able to overcome key macroeconomic challenges of 1990s. Government undertook major reforms to restructure the economy and its economic policies and fiscal discipline achieved average annual growth of above six percent during 2000-07. "With the emergence of new investment cycle with investment rate reaching new height at 20 percent of GDP, Pakistan became one of the fastest growing economies in the Asian region. The liberalization, privatization and deregulation, increased Foreign Direct Investments, up to $ 3.5 billion during 2006-07"[38].

Amidst strong economic growth, there was substantial reduction in fiscal deficit and trade deficits during the first four years of Musharraf era. The debt rescheduling at the rear of 9/11, reduced the debt servicing and thereby created an additional fiscal space for the government. "The exchange rate remained stable and Pakistan re-entered into the international capital market with improved credit rating and bade goodbye to IMF's stringent programs"[39].

In contrast, the success on the social counts this era was far from satisfactory. Pakistan's HDI ranking fell from 120 in 1999 to 143 in 2005. The growth was jobless growth because most of inflows were diverted to speculative or highly-capital-intensive ventures.

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[38] Economic Survey of Pakistan (2007-08)
[39] Ibid

2.2.7   Political Government (2008 and to-date)

The restoration of democracy after eight years was severely hit by economic crisis as growth euphoria started reversing on account of fast depletion of foreign reserves, and later the global financial crisis and oil price hike. In less than a year, "foreign exchange reserves came down to $3.5 billion, rupee depreciated by almost 40 percent, stock exchange lost more than half its value, and inflation went up to record 29 percent. Huge trade deficits, looming debt crisis, and a trail of terrorist attacks destabilized the economy further. The external account deficit widened, and growth rate dipped to 4.4 percent"[40].

To come out of the financial crisis, government signed a standby loan agreement with IMF worth $7.6 billion. However, this agreement is likely to further distend the cost of doing business in the country amidst acute energy crisis and abnormal tariff hikes. The economy remains in jeopardy due to the failure to enhance agricultural output, declining textile exports, and fading confidence of foreign investor.

2.3   Foreign Aid: Volume, Sources and Dynamics

At the outset, Pakistan refused the American assistance thrice in 1950 but then the cabinet accepted the Commonwealth aid under Colombo Plan. During 1960s, Pakistan received extensive foreign aid for second five year plan. Afterwards, the overall trend of foreign aid in Pakistan has been on ascendant course with the exception of 1968-73. Eventually Aid per capita in Pakistan kept on rising and debt burden increased.

Pakistan largely relied on project aid and budgetary support since 1951 in order to bridge the resource gap and boost up the economic growth. The form and type of foreign aid had been diverse all along country's economic history. Political factors have been vital in aid inflows and startlingly Pakistan received high aid during military governments. The largest accumulation of foreign debt was during the decades of 1980s and 1990s. The composition of Commitments and Disbursements during the last 60 years is given below:

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[40] Ibid

Table 2.3: Project and Non Project Aid Commitments and Disbursements(1951-2006)

Million US $

PERIOD	COMMITMENTS			DISBURSEMENTS		
	Project Aid	Non Project Aid	Total	Project Aid	Non Project Aid	Total
1951-53	170	167	337	406	436	842
1955-60	527	548	1,057	-	-	-
1960-65	1,702	1,209	2,911	1,209	1,185	2,394
1965-70	1,582	1,355	2,937	1,811	1,234	3,043
1970-78	3,762	3,205	6,967	2,556	3,174	5,730
1978-83	4,659	2,574	7,233	3,363	2,430	5,793
1983-88	9,132	2,775	11,907	4,882	2,301	7,183
1988-93	9,961	3,952	13,913	7,643	4,438	12,081
1993-98	8,882	3,270	12,152	9,654	3,184	12,748
1998-03	4,116	8,343	12,459	4,549	4,112	8,661
2003-08*	6,561	10,239	16,800	3,128	8,928	12,056

Source: Five Year Plans, Ministry of Planning and Development, Government of Pakistan, Islamabad
Economic Survey of Pakistan. Various Issues.
* Till March, 2008

Table 2.3 shows that during 1951 and 2008, the total commitments have gone up from $ 337 to $ 16, 800. Similarly, there was mammoth increase in disbursements from $842 to $12,056. It also transpires that Pakistan had been largely dependent on Project-aid till 1998 and non-project commitments increased against afterwards. The total debt stock of Pakistan is given as under:

Table 2.4 Total Debt Stock of Pakistan

in $ Billion

1980	1990	1995	1999	2005	2008
8.8	20.5	30.1	27.5	32.1	37.9

Source: Economic Survey of Pakistan, various issues.

Table 2.4 explains that total debt stock of Pakistan increased from $8.8 billion in 1980 to $37.9 billion in 2008. The highest growth in debt stock was during 1990 and 1995 where the country added on almost $10 billion to debt stock. This gigantic accumulation of external debt has serious implications for both the budgetary as well as balance of payments situation. The dynamics in the following table provide further insight into the debt management of Pakistan.

Table 2.5 Dynamics of Public Debt Burden

	Primary Fiscal Balance (Percent of GDP)	Real Cost of Borrowing	Real Growth of Debt (Percent annual)	Real Growth of Revenues (Percent annual)	Real Growth of Debt Burden
1980s	-3.7	2.3	10.6	7.6	3.0
1990s	-0.3	2.9	4.9	2.9	2.0
1990-I	-1.8	-2.4	3.6	3.2	0.4
1990-II	1.1	5.6	6.2	2.5	3.7
2000-04	1.2	4.4	-3.3	6.0	-9.3
2004-08	-0.3	-1.3	-0.6	7.6	-8.2

Source: Economic Survey of Pakistan 2007-08.
Note: 1990-I and 1990-II correspond to first and second haves of 1990s respectively.

Table 2.5 shows the dynamics of debt in Pakistan since 1980. The last column shows that the real growth in the public debt burden averaged 3 percent and 2 percent in 1980s and 1990s respectively. Although, public debt grew in real terms at 11 percent during 1980s, yet it did not immediately lead to a sharp rise in debt burden because the debt carrying capacity (real growth in revenues) of the country was rising by around 8.0 percent per annum. However, it sowed the seeds for future difficulties because real growth in revenue continued to decelerate in the 1990s (2.9 percent on average).

Interestingly, the rate of real growth in public debt decelerated to 4.9 percent but decline in the public debt burden was not substantial due to slowdown in the real growth of revenues. Subsequently, real public debt grew at a faster pace of 6.2 percent during the second half of the 1990s as did the public debt burden which went up by 3.7 percent against a marginal rise of 0.4 percent during the first half of the 1990s. The real cost of borrowing was highest at 5.6 percent per annum, on average, during the second half of 1990s. A sharp real depreciation in the exchange rate causing real cost of borrowing to rise, slower real

growth in revenue and a low level of international as well as domestic inflation have been responsible for the rise in public debt burden in the second half of the 1990s.

"Pakistan has continued to carry large fiscal deficits during the last two decades, which has necessitated financing of the deficit. As a result, the composition of the expenditure changed in favour of current expenditure and away from development expenditure. In 1980-81, current and development expenditures were 59 per cent and 41 per cent respectively, of total expenditure. By 1989-90, their shares changed drastically to 75 per cent and 25 per cent respectively. By the end of the 90's, the current expenditure was as high as 88 per cent while development expenditure shrank to only 12 per cent"[41] (Ashfaq, 2008).

The real growth of debt burden during the last 2000-04 and 2004-08 was negative i.e. -9.3 and -8.2 respectively, which indicates a decline in the overall debt burden during eight years. The other indicators in table 2.5 for the corresponding period also reflect prudent debt management by the government.

2.3.1 Debt Capacity Issues

The literature underlines three approaches to analyse debt capacity, each pointing to different "locations" within the macroeconomic framework. "The first approach evolves around the 'growth-cum-debt' literature, where emphasis is on analysing whether foreign borrowing is adequately supported by output growth"[42]. "The second approach of 'debt dynamics' deals with the external solvency issue of foreign debt, and attention is directed towards the external performance of the economy in relation to the cost of borrowing"[43].The third and latest approach, is the 'fiscal dimension' of foreign debt (Kharas 1981), and focus is on the debt burden of the public sector vis-à-vis public revenue (Hjertholm, 1998).

The debt capacity is also measured the level of 'aid-per-capita' in the country. Higher Aid-Per-Capita indicates the indebtedness of a country and its vulnerability to external

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[41] Ashfaq H Khan (2008), "How Debt creates difficulties for the Economy?", Debt Policy Coordination Office, Ministry of Finance, Government of Pakistan, Islamabad
[42] For details see for example Avramovic et al. (1964), Hernandez-Cata(1988), Greene and Khan(1990) and survey by McDonald (1982)
[43] Refer to Cooper and Sachs(1985), Simonsen (1985) and World Bank (1985)

shocks. In Pakistan, the Aid Per Capita has risen from $9.2 in 1975 to $ 13.4 in 1994 and $ 14.7 in 2002.

2.4 The Role of Foreign Aid in Human Development

The development assistance has played a significant role in improving the social and human indicators in Pakistan. For instance, in health sector, World Health Organization (WHO), UNICEF and other bilateral donors have extended full support to the Government of Pakistan in combating against viral diseases such as polio, tuberculosis measles, diarrhoea and smallpox. Resultantly, the quality of life improved and Pakistan has seen significant improvement in indicators such as infant mortality rates, sanitation, access to safe drinking water etc. Notably, the life expectancy at birth improved from 52 years in 1975 to 64 years in 2007. Likewise, there has been a substantial improvement in the fertility per woman, contraceptive prevalence and infant mortality rates.

Besides, the focus of official development assistance and long term international cooperation on education has contributed substantially towards increasing enrolments at the primary, middle and secondary levels. As a result, the adult literacy rate in Pakistan went up from 24 percent in 1975 to 55 percent in 2007.

The role of development assistance in setting up infrastructure has been vital as it created jobs and provided sustenance to economic growth. As a consequence, both the spill-over and the trickle-down effects of these infrastructure projects transformed the indicators considerably. The green revolution during 1960s and construction of mega dams are owed largely to development assistance.

2.5 Aid Effectiveness in Pakistan

"Paris Declaration on Aid Effectiveness and Harmonization (2005) outlines a set of joint commitments and targets for governments and multilateral donors over next five years. These include a) Ownership: Partner countries exercise effective authority over their development policies, strategies and national systems; b) Alignment: donors align their

systems with partner countries' national development strategies, systems and procedures; c) Harmonization: donors harmonized their activities to maximize their collective efficacy; and d) Managing for results: Improve the performance in achieving sustainable development by focusing on development results"[44]. (PDF, 2006)

Government of Pakistan is resolute in ensuring aid effectiveness through a shared dialogue with Development Partners on core issues. In the spirit of the Declaration, Government has established a Donor Coordination Cell(DCC) in the Economic Affairs Division, Islamabad that coordinates with donors on initiatives such as Joint Working Groups on: a). Strengthening country systems and harmonizing; b) Public Financial Management and Procurement; c) Capacity Development and Sector Wide Approaches.

The Government, in collaboration with UNCTAD, has been using the latest version of "Debt Management Financial Analysis System" (DMFAS) for debt management and analysis. "This software provides the debt office a comprehensive and up-to-date debt database and accurate debt statistics. It forecasts the trend in debt-burden, interest rates, cost of borrowing, re-payment schedule and economic return rates of loans"[45].

The Government has also established an aid information management system i.e., Development Assistance Database (DAD) in collaboration with UNDP that "provides online information to both government and public on project financing and implementation. The financial tracking provides sectoral, geographical and donor wise break up of aid. The system is maintained by the Government of Pakistan and is in line with the Paris Principles that by providing instantaneous tracking of aid inflows"[46].

In addition, Government organizes Pakistan Development Forum annually, which is a very useful platform for inviting feedback from donors and highlighting the areas where additional funding is required. The aim of these initiatives is to increase harmonization

[44] Pakistan Development Forum (2006), Session-VII on "Evaluating Aid Effectiveness in Pakistan"
[45] For details see [http://www.unctad.org/dmfas]
[46] For more details see [http://www.dadpak.org]

among development partners and foster alignment of external assistance with national development priorities.

"Paris Declaration Survey was launched in 2006 wherein 27 development partners submitted donor questionnaires. It was found that a high portion of ODA is recorded in the Government budget by three donors i.e., The World Bank, Asian Development Bank and USAID. The survey also highlighted that the development assistance in Pakistan is not well coordinated and very limited use of programme-based approach is undertaken by Pakistan"[47].

2.6 Debt Management in Pakistan

Debt Management connotes the effective and efficient utilization of debt by the government. The debt is said to be manageable as long as the real cost of borrowing of borrowing is low and the debt is spent in such a manner that it not only spurs economic growth but also yields social development.

Pakistan, on account of heavy debt burden, compromised her national and financial sovereignty. The stringent conditions of lenders hampered Pakistan's independent policy making and enfeebled the development process. For the most part, the foreign aid could not realize its objectives as the vested interests of lenders gave rise to moral hazard[48], misuse of resources, and exploitation of poor masses.

The Debt Policy Statement enunciated by the Government of Pakistan is in line with the stipulations of 'Fiscal Responsibility and Debt Limitation Act, 2005'[49]. The Act "obligates the government to ensure that:

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[47] Imran Habib (2007), a presentation on "Towards a Joint Agenda for Aid Effectiveness in Pakistan", at Pakistan Development Forum, Islamabad.
[48] Moral Hazard in aid management arises when the direct beneficiary of aid in the recipient country has no incentive to inform the donor of concerns regarding aid and say aid is effective, while actually it does not.
[49] The Act was promulgated on 13 June 2005. This is first legislation that enunciates clear objectives on sound fiscal policy, debt management and debt reduction path. Section 7 of the Act also provides parliamentary oversight on federal government's debt policy.

a) 'within a period of ten financial year, beginning from the first July, 2003 and ending on thirtieth June, 2013, the total public debt at the end of the tenth financial year does not exceed sixty percent of the estimated gross domestic product for that year and thereafter maintaining the total public debt below sixty percent of gross domestic product for any given year.'

b) 'In every financial year, beginning from the first July, 2003, and ending on the thirtieth June 2013, the total public debt is reduced by no less than two and a half percent of the estimated gross domestic product for any given year."[50]

In order to meet these targets, the government has planned to minimize the cost of borrowing, reduce the risks and develop an efficient local currency sovereign debt market[51].

"The impact of a public debt overhang on macro stability occurs through different channels: a) It can increase the overall fiscal deficit directly by increasing debt service payments; b) It can depreciate exchange rate and fiscal deficit widens because the home currency value of public debt service may increase relatively to public revenue; c) an increase in the part of the fiscal deficit that is monetized, can lead to monetary expansion and inflation. d) recourse to exceptional financing, such as payment arrears and rescheduling of debt payments tends to maintain uncertainty about the future debt servicing profile of the public sector"[52].

2.7 Summary

The chapter provided a brief of account of Pakistan's economic history by classifying it into seven distinctive economic regimes. During the formative years, Pakistan encountered with a legacy of economic crisis and was fairly reliant on foreign aid. In the decade of1960s, the economy witnessed unprecedented growth in industry, agriculture and infrastructure. Yet the income inequality increased and debt accumulation also went up substantially. The period between 1970 and 1977 is attributed to nationalization process and severe damage to agriculture and industry. Between 1977 and 1988, there was a reversal to the nationalization

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[50] See draft of Fiscal Responsibility and Debt Limitation Act, 2005.
[51] Debt Policy Statement (2007-08) by Debt Policy Coordination Office (DPCO), Ministry of Finance, Government of Pakistan, Islamabad.
[52] See Hjertholm *et al* , (1998) for details.

process and the economic and political systems were transformed on Islamic lines. The role of ODA in the development outcomes has also been highlighted.

During 1990s, IMF and World Bank steered Pakistan's economic policies through structural adjustment programs with stringent conditioanalities, low economic growth and severe debt crisis. From 1999 to 2008, Pakistan gained growth momentum together with buoyant capital market, stable exchange rates, and unprecedented increase in foreign exchange reserves. After 2008, the government again plunged into severe economic crisis on account of oil price hike, high food inflation and changing political scenario in the region.

The Chapter also shed light on the composition of project and non-project commitments and disbursements. After analyzing the volume, sources and dynamics of foreign debt in Pakistan, it transpired that Pakistan is heading towards a severe debt crisis as the External Debt and Liabilities are on the rise. The chapter also highlighted the debt crisis issues and debt management process in Pakistan. The role of foreign aid in the development process has been deliberation upon. Finally, the chapter also highlighted the importance of 'Fiscal Responsibility and Debt Limitation Act 2005' and discussed the implementation status of 'Paris Declaration on Aid Effectiveness and Harmonization, 2005' in Pakistan.

Chapter 3

THEORIES AND EMPIRICAL EVIDENCE ON THE IMPACT OF AID ON HUMAN DEVELOPMENT INDEX: REVIEW OF SELECTED LITERATURE

3.1 Introduction

The preceding chapter established the grounds for the assessment of foreign aid's impact on a set of social variables in Pakistan. This chapter intends to delve deeper into the theoretical and empirical studies of aid effectiveness in the context of social implications of aid. This analysis contributes towards resolving the aid conundrum in Pakistan and deliberations in the chapter will provide basis to develop theoretical framework and econometric model in the subsequent chapters.

Aid effectiveness evolved in economic literature gradually and, economists fundamentally, stated that capital accumulation is a consequence of foreign aid and adds to economic growth in the recipient country. For instance, Marshall Plan effectively recovered war-torn European economy after 1945. Theoretically, the impact of aid is asserted in 'Harrod-Domar(1946)' Growth Model; 'Solow (1956) Growth Model', 'Rostow(1963) Model', and 'Chenery-Strout (1966) Model'.

According to Harrod-Domar (1946), "growth is proportional to the level of investment in physical capital and incremental capital output ratio (ICOR)"[53]. In case of less investment than the desired level, the gap is financed through foreign aid. Solow Model (1956) "shows diminishing marginal returns to increased foreign aid, which are approximated by including aid squared in the regression"[54]. Then, Rostow's growth stages theory (1963) states "that

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[53] ICOR is defined as the ratio between investment in one period and the growth in output in next period. The ratio is used to assess the marginal amount of investment capital necessary to generate next unit of production. It determines country's level of production efficiency. For details see Harrod-Domar(1946)
[54] See Solow(1956)

foreign capital in developing countries plays a vital role 'kick starting' their economy and upgrade them to next stage of development i.e., 'take-off' "[55].

Finally, "Chenery and Strout (1966) by extending Harrod-Domar model presented 'two-gap' model holding that developing countries have surplus labour but their ability to invest is constricted by saving gap and foreign exchange gap"[56]. Before shedding light on the core question, some pertinent definitions are given in Section 3.2.

3.2 Definitions

Some important definitions pertaining to the research are given below:

a. **Grant:** Non-repayable funds.

b. **Commitment:** Firm undertaking by the donor to provide specified funds.

c. **Disbursement:** Actual payment/expenditure of funds by the donor.

d. **Bilateral aid:** managed by the official agencies of recipient and donor countries like United States Agency of International Development (USAID), Department for International Development (DFID,UK), Canadian International Development Agency (CIDA), Japan International Cooperation Agency (JICA), etc.

e. **Multilateral aid:** governed by International Financial Institutions such as the World Bank, Asian Development Bank, International Monetary Fund, Islamic Development Bank etc.

f. **Tied Loan:** predicated on buying goods and services from the donor country, which reduces the "quality" of aid.

g. **Debt Swap:** purchasing a portion of public debt at a discount, and then converting it into local currency to finance local activities, such as education, health etc.

i. **Official Development Assistance (ODA)**

According to Organisation for Economic Cooperation and Development (OECD), Official Development Assistance (ODA) are "those flows to countries and territories on DAC List of

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[55] See Rostow (1963) for details.

[56] See Xayavong(2002)

ODA recipients and to multilateral institutions which are provided by official agencies or by their executives agencies; and each transaction of which promotes the economic development and welfare of recipient countries as its main objective; and is concessional in character and conveys a grant element of at least 25 per cent (calculated at a rate of 10 per cent)"[57].

"ODA are the only internationally comparable measure of donor assistance consisting of grants, loans and debt forgiveness. Notably, ODA is a measure of donors' expenditures and not the amount of value received by the recipient country.

"The activities eligible for ODA include:

a. Development Projects – schools, hospitals etc.
b. Emergency Aid for Natural or Man-made Disasters
c. Contributions to Multilateral Development Agencies
d. Food Aid
e. Aid to Refugees and IDP
f. Debt Relief
g. Official scholarships for students

The following activities are non-eligible for ODA: -

a. Military Assistance
b. Cultural programmes for the donor's nationals resident in other countries
c. Aid financed from private sources
d. Foreign Direct Investment
e. Official export credits or other commercially motivated transactions
f. Guarantees on private export credits or investments
g. Reduced tariffs or other concessions on imports from developing countries"[58]

ii. Official Development Finance

"ODF is a broader term and ODA is a subset of Official Development Finance, which includes all bilateral and multilateral financial flows form developed to developing countries. Basically, the terms and conditions for ODF are closer to commercial loans"[59].

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[57] See OECD-DAC[http://www.oecd.org] for details
[58] See Smith (2008) for details.

iii. Effective Development Assistance

The "Effective Development Assistance (EDA) is the sum total of grants and grant-equivalents of official loans only. Unlike ODA, it does not include loans with grant element more than 25 percent"[60].

iv. Official Assistance(OA)

"Official assistance comprises flows that meet conditions of eligibility for inclusion in ODA, provided that the recipients are a select-set of countries and territories 'in transition'."[61]

v. Aid Effectiveness

Aid effectiveness means the extent to which the development objectives are achieved, or expected to be achieved, keeping in view their relative importance in the recipient countries. Another way to comprehend the aid effectiveness is looking at the 'Aid Ineffectiveness', which implies the failure of aid to achieve desired development objectives. Aid can be ineffective for many reasons such as weak development cooperation, lack of policy coherence, deficient research and incompatible areas of donor intervention.

It is cardinal to point out that the Paris Declaration on Aid Effectiveness and Harmonization (2005) does not fully take account of aid effectiveness issues. "If ODA is effective, it should lead to a transfer of real resources to a developing-country recipient. And these resources should, it is assumed, contribute to improved human development and enhanced prospects for domestic capital accumulation and sustained economic growth"[62].

In order to consolidate the theoretical foundations, the literature reviewed in this study is categorized into two parts, that is, a) 'Aid-growth literature'; and b) 'Aid-development literature'. The aid-development literature is nascent and scanty therefore the study discusses the aid-growth literature first.

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[59] OECD-DAC[http://www.oecd.org]

[60] Chang et al. (1998) defines "Effective development assistance" (EDA) by isolating the grant component of concessional loans and adding it to the volume of outright grants.

[61] OECD-DAC

[62] McKinley, 2005

3.3 AID-GROWTH LITERATURE

The aid-growth literature has explored the impact of foreign aid on growth in detail. On account of heterogeneity of dataset, countries and estimation techniques, the views on the subject are diverse and results are quite divergent. The findings of some important studies are given chronologically as under:

Table 3.1: Impact of Aid on Economic Growth

Researcher	Key Findings
Papanek (1973)	'Foreign Aid has a greater impact on economic growth
Chenery & Carter (1973)	ODA accelerated growth in some countries but retarded it in some
Hadjimichael et al (1995)	aid contributes positively to growth but its marginal contribution is subject to diminishing returns[63]
Boone (1996)	There is no significant, positive influence of aid inflows on investment and growth in recipient countries
Burnside and Dollar (1997)	Foreign aid has no influence on policy reform
Dollar and Easterly (1999)	Foreign aid leads to higher private investment in an environment of good policies, but not in an environment of poor policies
Knack (2000)	Too much dependence on aid undermines institutional quality and encourages corruption.
Gounder (2001, 2002)	Economic growth in Fiji and Solomon Islands would have been lower in the absence of aid.
Morrissey (2001)	Foreign aid has positive impact on economic growth because it increases investment.
Hansen & Tarp (2001), Roodman (2003), Dalgaard et al. (2004)	Aid has a significantly positive and non-linear effect on growth, but this non-linear relationship rather reflects diminishing returns or deep structural differences than the importance of "good policies"
Mosley and Hudson,(2001)	Foreign aid has an indirect impact on poverty and the well-being of recipient countries.
Easterly et al and Jensen et al(2003)	One cannot find a robust effect of aid on growth unless one uses an artificially restricted sample
Ishfaq (2004)	Foreign Aid has negative and mostly insignificant relationship with GDP growth rate in Pakistan.

Source: The author has taken these findings from the research papers cited herein.

Table 3.1 shows that the findings on the subject are diverse and sundry. Some of studies strongly advocate the need of foreign aid; many find it detrimental to the economic growth while

[63]These diminishing returns refer to the absorptive capacity constraint, as explained by Millkan and Rostow (1957), Rosenstein-Rodan (1961), and Chenery and Strout (1966). This constriction is owed to the constraints of quality and quantity of human capital and physical infrastructure.

others outrightly spurn the relationship of aid with growth. It would be important to analyse the contextual and theoretical framework of these studies with diverse findings so as to see the basis of the conclusions. The economic literature, notionally, addresses the question of aid and growth in three generations summarized below:

3.3.1 Aid and savings : First Generation Studies

The 'first generation' maintains that aid is not a component of national income and therefore does not influence consumption or investment but rather increases the savings directly. These increased savings serve as an increment to the capital stock and, in effect, stimulate growth. At first, the simple two-gap model determines the level of savings exogenously, that is, aid is not a component of national income whilst aid for consumption is circumvented. Thus fungibility is not accounted for and aid is assumed ineffective only when all extra income is used for consumption.

Griffin (1970) and Griffin and Enos (1970) pioneered the aid-saving debate maintaining that 'aid inflows may displace domestic savings'. According to them, aid only complements, rather than acting as a stimulant for income and savings. Moreover, investment will not rise as much as the values of aid inflows do. Griffin and Enos (1970) used the following equation to demonstrate aid-savings relationship:

$$\frac{S}{Y} = \varphi_0 + \varphi_1 \frac{A}{Y} + \delta \quad \text{................(3.1)}$$

where S/Y is a ratio of domestic saving to GDP and A/Y is ratio of foreign aid to GDP. Later, many researchers extended the model and incorporated more explanatory variables in the model to obtain unbiased and consistent estimators. The following aid-savings regression is used to assess the impact of aid on savings

$$\frac{S}{Y} = \phi_0 + \phi_1 \frac{A}{Y} + \phi_2 \frac{Z}{Y} + \delta \quad \text{................(3.2)}$$

where Z/Y shows a vector of variables influencing savings such as exports, inflation etc.

Hansen and Tarp (2000) and Boone (1996), reject the hypothesis in favour of a negative effect of aid on savings.

The theoretical workhorse underlying empirical work is the Harrod-Domar growth model with the causal chain running from aid to savings to investment to growth. "Papanek (1972) characterised the highly optimistic aid-impact approach embedded in the Harrod- Domar theoretical growth model as 'curiously naïve' "[64]. However, in the light of criticism by White (1992b), 'it is possible that aid-savings equations can have some econometric misspecifications such as omitted variable bias, simultaneity and multicollinearlity problems'. Therefore, applying the aid-savings regression may be misleading and ambiguous.

3.3.2   Aid and Investment : Second Generation Studies

The second strand of the series spurns the indirect way of first generation studies and asserts that investment is the major 'direct' determinant of growth and that aid and investment make positive contribution to growth. Hansen and Tarp(2000) maintains that 'aid raises the level of investment in recipient countries, with 15 out of 16 regressions providing a positive and significant estimate'. However, due to the limitations of period in which they were undertaken, not all of them feature particularly large data sets or the more sophisticated econometric methods available today.

The newer estimates in Boone (1996) and Easterly (1999) paint a much bleaker picture. The majority of the individual country estimates in Easterly (1999) are either insignificant or significantly negative. Boone (1996) finds a positive and significant effect only in one specification. In another study, the re-estimation of country regressions in Easterly (1999) based on simple bivariate relationship posited was different on two counts. First, it used longer time-series and included a slightly larger set of developing countries. Second, it used aid lagged by one period rather than the contemporaneous value as explanatory variable. Empirical evidence also shows that foreign aid is not used for investment, but rather consumption, and that there is no statistical relationship between investment and economic growth in the short-run.

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[64] See Hansen and Tarp(2000)

3.3.3   Aid and Growth : Third Generation Studies

Finally, the third generation studies are found consistent with results from second-generation studies and impact significantly on economic growth. It is important to delve deeper into the causal chain of aid-savings, aid-investment, and aid-growth relationships.

Table 3.2: Estimated Partial Impact of aid on growth

Researcher	Coefficient	T-value	Sample	Other Variables
Papanek(1973)	0.4(1960s)	5.9	All LDCs	P, s, x
Voivodas(1973)	-0.01(1960s)	0.2	All LDCs	None
Mosley(1980)	-0.01(1970s)	1.85	All LDCs	S, x , I
Mosley *et al* (1987)	0.01 (1980s)	0.07	All LDCs	S, x, I
Boone(1994)	0.001(1970-90)	0.03	98 LDCs	P, t, d, regional dummies
Khan(1997)	-0.37(1972-88)	1.28	Pakistan	FDI, Inf, TOT
Saleem(1999)	0.63(1972-99)	1.72	Pakistan	X, S, dummies
Ishfaq(2004)	-0.47(1972-00)	-1.22	Pakistan	OF, literacy rate
Moheyuddin(2006)	22(1975-04)	7.12	Pakistan	FDI

S = savings (% of GDP); X = exports (rate); I =growth rate of literacy; p = population growth; T = Terms of trade; d = index of debt crisis; FDI = foreign direct investment; INF= inflation; TOT = terms of trade; OF = Official flows
Source: As mentioned in the table

Table 3.2 shows that the coefficients of estimated partial impact of aid on growth are quite different. There are significantly positive, significantly negative and insignificant coefficient values in the table. The table also shows the list of explanatory variables used in the estimation.

The proponents such as Chenery and Strout (1966), on the basis of empirical evidence from LDCs, deduced that foreign capital has a positive effect on the economic growth. Papanek(1972), like many other researchers, recorded that 'no negative causal relationship between foreign inflows and growth does exist'.

Moreover, Bullow andRogoff(1990) maintain that 'external debts of developing countries reflect poor economic management and are not the primary cause of stifled growth'. Similarly, Hansen and Tarp (2000) in regression analysis, proved that 'aid increases growth rate regardless of policy. There are, however, decreasing returns to aid, and estimated effectiveness

of aid is highly sensitive to the choice of estimator and set of control variables. When investment and human capital are controlled, no positive effect of aid is found'.

The critics such as Bauer and Friedman (1960) hold that 'aid is ineffective and perpetuates bad governance, fosters pro-elitism or is simply wasted'. Joshi(1970), and Levine and Renellt (1992) maintain that 'it is unrealistic to assume that aid will provide a one-to-one increment to the capital stock, as there are many mechanisms through which aid may displace domestic capital accumulation'.

Among other dissidents, Leff (1969) and Griffin (1970) asserted that foreign aid could hamper the economic growth by substituting domestic savings. Giffin and Enos(1970) contend that "in general, foreign assistance is not associated with progress, and indeed may deter it" . Sachs (1990) and Kenen(1990), the hardliners on the subject, hold that "external debt overhang' is a major cause for stunted economic growth in Heavily Indebted Poor Countries(HIPC)[65]".

Some economists, however, maintain that 'foreign aid is not significantly correlated with growth and it does not largely affect growth in the recipient countries'[66]. They assert that 'foreign aid has no effects or largely harmful effects on recipient countries'. In addition, Pack and Pack (1990) concluded that "due to the distributional implications of aid inflows, it may indicate an insignificant relationship between aid and economic growth as the macro-economic benefits of foreign aid are less than the sum of its micro-economic benefits".

3.3.4 Aid and Policy in growth theories

The economic literature has profusely discussed the role of policy in aid effectiveness. For instance, Burnside and Dollar (2001) examined the extent to which bad policies cause failures of aid by regressing growth on aid and policies. The index for "good" policies was defined as low inflation, deficit, and trade openness. Earlier, Burnside and Dollar (1997) constructed an index of

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[65] HIPC Initiative is an international debt relief mechanism to provide special assistance to the world's poorest countries. The program was initiated by IMF and the World Bank in 1996 and offered low-interest conditional loans to reduce external debt repayments to sustainable levels.
[66] See for example Griffin and Enos(1970), Tendulker(1971), Rana and Dowling (1988), Synder (1990), Richel (1995) and Mosley and Hudson(1995).

three policies (on fiscal surplus, inflation, and trade openness), to interact that with foreign aid, and instrument for aid interacted with policies. The policy index is decomposed into two; one which is perfectly correlated with aid, and another which is completely uncorrelated with aid:

$$policy = \alpha. \, aid_{\cdot} + (policy/aid) \ldots\ldots\ldots\ldots\ldots\ldots(3.3)$$

where α is a regression coefficient, i.e., the sample covariance between the policy index and aid divided by the sample variance of aid. Policy/aid is a correlated part of policy index. which is transformed as:

$$aid \times policy \; = aid^2 + aid \times (policy/aid) \ldots\ldots\ldots\ldots\ldots\ldots(3.4)$$

This demonstrates that interaction term may be significant in regressions even though it may be well that aid squared non-linearity in the aid-growth relation. Reversing the argument (aid as a 'function' of policy) shows the other possibility; that aid squared is significant because of the importance of aid-policy interaction (Henrik Hansen 1998). It was found that 'aid has a positive impact on growth in developing countries with good fiscal, monetary, and trade policies'. In the presence of poor policies, alternatively, aid has no positive effect on growth. White (1992), however, asserted that 'existing empirical literature on aid effectiveness is yet inconclusive'.

3.3.5 Micro-Macro Paradox

According to 'micro-macro paradox', "aid is efficient at the grassroot level – at the project level – but does not have a detectable effect on the overall economy"[67]. In 1995, Mosley extended that 'aid and growth cannot be correlated in developing countries because of the leakage of the aid into unproductive expenditure in the public sector'. As a result, at macro level aid depicts a dismal picture while at a micro level projects and programs are reported as a success. This is also upheld by Boone (1996). The studies conclude that despite effective aid projects in the recipient countries their development record remains unsatisfactory because the weight of aid may be too limited to have a positive impact at sectoral and macro levels.

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[67] See Mosley(1987) for details.

3.3.6 Aid Fungibility

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. The studies on the fungibility of foreign aid are also inconclusive. According to Pack and Pack (1980), no fungibility was found, while, Khilji and Zampelli (1991) observed a complete fungibility in Pakistan. However, according to McGillivray and Morrissey (2001) the lack of control on aid spending in the recipient countries leads to the fungibility of aid. Most of fungibility studies take no account of non-fungible expenditure of aid that has no impact on the choice of government expenditure funded by government revenue. For instance, non-fungible aid spending on healthcare will change the fiscal behaviour of government by providing resources to government in other sectors such as education, energy, science and technology etc.

Table 3.3 Results of selected categorical fungibility studies

		Incremental impact of aid on:							
Study	Sample	Extent of Fungibility	Domestic Revenue	Total Expend	Dev Expend	Non-Dev. Expend	Health & Education	I	C
Pack & Pack (1990)	Indonesia	0.00	0.29	1.37	1.37	0.00	0.19	n.r.	0.00
Cashel-Cordo & Craig(1990)	48 LDCs	n.r.	10.36 4.25	12.82 -2.79	n.r.	n.r.	n.r.	n.r.	n.r.
Khilji & Zampelli (1991)	Pakistan	1.00	-0.01	0.26	n.r.	0.74	n.r.	n.r.	n.r.
Gupta(1993)	India	0.04	0.01	1.69	0.96	0.73	n.r.	n.r.	n.r.
Pack & Pack(1993)	Dominican Republic	0.79	-0.39	-0.27	-0.05	-0.31	0.002	n.r.	0.08
Feyzioglu et al. (1998)	14 LDCs	-0.57	n.r.	0.95	0.23	n.r.	0.13	0.29	0.72
Swaroop et al. (2000)	India	n.r.	0.00	0.00	0.00	0.90	0.00	0.00	n.r.

Notes: n.r.: not reported (or cannot be inferred)
Source; McGillivary and Morrissey (2001, page 8)

Table 3.3 shows an incremental impact of aid on the extent of Fungibility, Domestic Revenue, Total Expenditure, Development Expenditure, Non-Development Expenditure, Health and Education, Investment and Consumption. The coefficients of each variable are mentioned in the respective columns.

3.3.7   Fiscal Response Model

The theory is similar to the fungibility models in that policy makers aim to maximise government's utility function, comprising government expenditure, public sector investment expenditure, re-current taxation revenue and borrowing. Recent specifications of the utility function include aid as an endogenous variable (e.g. Franco-Rodriquez *et al.* 1998 and McGillivray *et al.*1999b). "Aid is included endogenously assuming that, once donors have committed the aid money, recipients can in practice determine actual disbursements"[68]. In this regard, Mavrotas and Ouattara (2003) assumed the following maximizing a utility function.

$$U = f(I_g, G, T, B, A_1, A_2, A_3, A_4)............(3.5)$$

where I_g represents 'public investment capital expenditure', G is 'government recurrent expenditure', T stands for 'tax and non-tax revenue', B is government borrowing from all sources, A_1 is project aid from all donors, A_2 represents programme aid from all sources, A_3 stands for technical assistance and A_4 is food aid from all donors.

The literature on public expenditure observes that most of foreign aid augments the public expenditure in developing countries[69]. Most of studies estimate a system of equations that allows for simultaneous determination of expenditures on non-economic well-being dimensions, including health and education. "The results do vary but largely positive association between aid and broader expenditure categories that include spending on health and education was found"[70].

Recent evidence from Pakistan indicated that "foreign aid increased capital expenditures (investments), reduced recurrent expenditures (consumption), and decreased lower tax effort during the 1965-95"[71]. Such results are supported by various other studies (McGillivray, 1999), implying that 'aid-investment link is firm'. In contrast, the World Bank (1998) puts more emphasis on the potential consumption enhancing effects of aid (Hjertholm *et al*, 1998).

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[68] For details refer to Peter Hjertholm *et al* (1998)
[69] See for example Heller (1975), Gang and Khan (1991), Pack and Pack (1990, 1993), Franco-Rodriguez *et al.* (1998) and Feyzioglu *et al.* (1998)
[70] See Fielding *et al,* 2005
[71] Franco-Rodriguez *et al.*(1998)

3.3.8 Conditional Effectiveness in displacement theories

According to the displacement theories, 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. Another reason for displacement can be the impact of aid on real exchange rate, which reduces export earnings, alongwith the ability to import and finally the desired level of investment. Section 3.3.8.1 spells out this aspect of foreign aid in Dutch Disease.

3.3.8.1 Dutch Disease

"Dutch disease" arises when high level of aid inflows brings about real exchange rate appreciation and creates booming sector (non-tradable sectors) at the cost of recession in other sectors (tradable sectors). The symptoms of 'Dutch disease' can be observed once the increase of aid inflows draws resources away from tradable into non-tradable sectors. As a result, tradable production declines and hence threatens export performance (Corden and Neary, 1982). It is obvious that 'Dutch disease' slashes both the export earnings and ability to import. Therefore, more aid inflows which may cause the "Dutch disease" will not be matched by a one-for-one increase in investment (White, 1998, pp. 6-7).

"In developing countries, the level of aid inflows to GDP ranges from 5 to 20 percent, and there is a high potential that aid may bring in the 'Dutch disease' effect"[72]. "Dutch Disease exacerbates macroeconomic instability by raising inflation and appreciating the real exchange rate. Consequently, the growth is impaired as country loses export competitiveness because of exchange rate appreciation"[73]. In brief, "Dutch disease" literature considers the high level of aid inflows as the potential source of side effects on the recipient economy. The subsequent section reviews the research on aid-development literature.

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[72] See White, (1992a, pp. 166-67)
[73] See Rajan et al(2005)

3.4 Aid-Development Literature: Fourth Generation Studies

As discussed earlier, 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 dimensions and implications of aid-development bond examined in the literature provide a useful insight on the thesis. The findings of some important studies analyzing the social effects of aid are tabulated hereunder:

Table 3.4: 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 & 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 & Hudson,(2001)	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

Source: The author has taken these findings from the research papers cited herein.

Table 3.4 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 analyzed the effect

of aid on both 'growth' and 'development' thereby drawling a redline between them. They hold that "aid contributes towards development or poverty without increasing economic growth"[74]. Unlike aid-growth studies, the relationship between aid and development is not widely discussed in literature, so some important studies are being referred in this section to establish the theoretical framework.

3.4.1 Correlated Impacts on Health, Wealth, Fertility and Education

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. Some literature on aid effectiveness goes unnoticed because on average, aid does have some beneficial impact on human development"[75]. In this regard, Fielding et al(2006) highlighted following complications in determining the effects of aid:

3.4.1.1 Identification of the 'treatment effect'

"Generally, poor countries receive more aid than rich but the impact of aid on social or economic indicators can be assessed through an 'instrument' that is independent of both variables and has direct effect on aid only. And if indicator varies systematically with this third variable, then the effect of aid is discernable. But the independence of instrument and its exclusion restriction can be questioned, which makes all results provisional"[76].

3.4.1.2 How 'development' is to be measured?

"The different dimensions of development can be incorporated through a multivariate approach, which entails their correlated impacts. Undesirably, most of the literature banks either on average personal income or PPP-adjusted per capita GDP. These are specific to a country and year and then use for other countries and years represent measurement errors. Moreover, this approach neither envelops qualitative variations nor per capita share of jointly

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[74] For details refer to Gomanee(2003)
[75] See Addison et al (2005) and Clemens et al (2004)
[76] Fielding (2006)

consumed products. The empirics, therefore, are not confined to material wellbeing, but rather focus on a single link in the chain and not the relative importance of the different causal links in the overall development process"[77].

After identifying these two problems, Fielding et al. (2005) discusses the solutions of these issues i.e. World Bank's 'Health, Nutrition and Poverty' (HNP)[78] database on household assets index. He also incorporates data measuring four other dimensions of development, namely, 'standards of sanitation, fertility, health and education'. The model also assigns equal weight to percentiles of rich and poor in 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'. He analysed "the extent to which aid affects MDG related variables and provides substantial acumen on social aspect of aid. Using World Bank's HNP Poverty data set for 48 countries, they constructed five endogenous indicators. The following simultaneous equation system for the kth quintile of the nth country shows the aid-human development relationships"[79]:

$$ass_{kn} = \sum_h S_h \cdot Z_{hkn}) \dots \dots \dots \dots \dots \dots \dots (3.6)$$

Where s_h is the weight of the hth asset and Z_{hkn} is the fraction of households in the quintile possessing the asset. The econometric model incorporates **aid** (measured as the average ratio of net ODA disbursements) to see whether aid impacts on these five endogenous well-being variables. The interaction among these well-being indicators is mutually reinforcing and **aid** influences these variables on account of following factors: -

(i) Impact on growth;

(ii) Its impact on government expenditure on health, education and water;

(iii) Projects that boost private incomes and public goods and services;

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[77] ibid

[78] HNP is a weighted sum of a set of asset variables specific to household prosperity and the sum of these coefficients is unity. Households are ranked by the index and divided into quintiles; average health and education statistics are reported for the households in each quintile (Fielding et al 2005)

[79] See Fielding et al (2005)

(iv) Provision of technical assistance and capacity building, and

(v) Exclusive aid for health, education and water.

The paper also introduces an instrument *discom* (the ratio of ODA disbursements to ODA commitments over the five years before the first year of measurement of aid). The regression equation is for the jth well-being indicator for the kth quintile in the nth country ($j = 5$, $k = 5$, $n = 48$) be denoted y_{jkn}:

$$y_{jkn} = F(\alpha_{jk} + \Sigma_{i \neq j} \beta_{ij} y_{ikn} + \Sigma p\, \varphi_{jp} x_{np} + \theta_j \ln aid_n) + u_{jkn}) \ldots \ldots \ldots \ldots \ldots \ldots (3.7)$$

for j = (ass, wtr, sch) and

$$\ln(y_{jkn}) = \alpha_{jk} + \Sigma_{i \neq j} \beta_{ij} y_{ikn} + \Sigma p\, \varphi_{jp} x_{np} + \theta_j \ln aid_n + u_{jkn}) \ldots \ldots \ldots \ldots \ldots \ldots (3.8)$$

for j = (fer, mor). F(.) is the Normal cumulative density function. x_{np} is the value of pth exogenous conditioning variable in the nth country and u_{jkn} is a residual. The aid equation is:

$$\ln(aid_n) = \alpha_{AID} + \Sigma p\, \varphi\, AID_{p \cdot xnp} + \theta_{AID} \ln discom_n + u_{AIDn}) \ldots \ldots \ldots \ldots \ldots \ldots (3.9)$$

A priori restrictions on the φ_{jp} coefficients allow identifying the β_{ij} coefficients that capture the interactions between the five well-being indicators. The fixed effects model is fitted are conditional cross-country mean of each well-being indicator, α_{jk}, varies across quintiles. No restriction is imposed on the correlation of residuals across indicators or across quintiles, and the model is fitted by stacking 26 regression equations – one for each j and each k, plus one for aid – and estimating the coefficients in each equation simultaneously by 3SLS.

The results illustrate a statistically significant direct effect of aid on household assets, sanitation, fertility and mortality, barring educational attainment. The size of the effect, however, varies across countries, quintiles and each indicator. The child health captures biggest gain and by doubling aid, the child mortality rates reduced by at least 20% in majority of cases, and by over 40% in the extreme case.

An increase in aid by 1% will raise ass/(1-ass) by less than 0.1 % and wtr/(1-wtr) by 0.4 %; it will reduce mortality (mor) by approximately 0.1 % Household assets, sanitation and mortality do improve significantly if aid goes up. However, there is also a 0.1% increase in fertility(fer). The direct effect of aid on fertility is positive, which is however offset by a strong bi-directional link between fertility and mortality.

The model assumes that public expenditure and its relative efficiency among the well-being outcomes do not change with an increase in the aid. And if they do, then the direct impact of aid on well-being indicators can change as well. It is pertinent to mention that aid can improve the overall living standards in developing countries, but at the cost of the poor. The aid effectiveness literature does not underline population sub-groups to assess the social implications of aid.

3.4.2 Aid-HDI Correlation

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 democratization. Otherwise, aid alone was typically judged to be negatively associated with HDI values'.

Kosack (2003) 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"[80].

Gomanee et al (2003a, 2003b) 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'.

It is held that 'aid adds to both human development and economic growth but this effect is contingent on the level of human development'. Referring to Barro(1998), the following model is employed to see 'whether' and 'how' aid affects human development :

$$h_{it} = \beta_0 + \beta_1 i_{it} + \beta_2 d_{it} + \beta_3 p_{it} + \beta_4 a_{it} + \beta_5 f_{it} + \beta_6 z_{it} + h_{it} + \varepsilon_{it} \dots\dots\dots\dots\dots(3.10)$$

Where h_{it} is growth in human development, i_{it} is average level of income, d_{it} is the average level of human development, p_{it} is the level of democrization, a_{it} is aid receipts relative to GDP, f_{it} is FDI relative to GDP and all other exogenous variables that may affect h_{it} are incorporated in z_{it}. All the variables are indexed by country (i) and time (t). Initially, the model determines the aid endogenously and estimates using OLS and then estimates the set of two equations (FDI and Human Development) through 2SLS. The first stage estimates of aid are as under:

$$a_{it} = \beta_0 + \beta_1 i_{it} + \beta_2 d_{it} + \beta_3 e_{it} + \beta_4 c_{it} + \beta_5 s_{it} + a_{it} + \varepsilon_{it} \dots\dots\dots\dots(3.11)$$

The first stage estimates of FDI are:

$$f_{it} = \beta_0 + \beta_1 i_{it} + \beta_2 d_{it} + \beta_3 c_{it} + \beta_4 e_{it} + \beta_5 I_{it} + f_t + \varepsilon_{it} \dots\dots\dots\dots\dots(3.12)$$

Moreover, Feeny (2003) evaluated the 'impact of foreign aid on HDI in Papua New Guinea during the 1990s'[81]. He analyzed 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

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[80] See Kosack (2003)

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

hard to ascertain'. Moreover, a "fiscal response model for Papua New Guinea indicates that foreign aid has led to small increases in investment expenditures but to minor reductions in health and education expenditures"[82]. The paper employs Household Survey (Gibson and Rozelle, 1998) and the Participatory Poverty Assessment (PPA, 2001) carried out by the Asian Development Bank[83] for assessing the impact of aid on poverty and well-being.

More to the point, Streeten and Burki (1978) classified essential basic needs into six areas: 'i) nutrition; ii) basic education; iii) health; iv) sanitation; v) water supply; and vi) housing and related infrastructure'. This paper finds that "foreign aid especially that of Australia has played vital role in poverty alleviation. It is recognized that this approach uses inputs without effectively capturing outputs but it still provides a useful analytical framework to evaluate the likely impact of aid on poverty"[84].

Feeny (2003) found that "ODA allocated for 'Economic infrastructure and services' had little on economic growth in Papua New Guinea as the agricultural development and rural connectivity remained uncared for". The paper highlights a trade-off between building new roads in areas which have the greatest income-earning potential and providing access to those in the more remote areas. It was observed that 'aid was not effective in attaining clean supply of water to rural areas and reducing inequalities'. The conclusion was that 'aid projects have also been ineffective in providing security to the vulnerable poor'.

Farhad (2006) highlighted another important dimension of aid-HDI relationship. According to him, "the stage of economic development is another vital determinant of rate of return on public investment. He analyzed the income and non-income components in the context of diminishing returns. According to him, the diminishing returns for income component are linked to the mobility of capital. In case of non-income component, the returns to investment in education and health diminish as the level of investment in health and education increases. For instance, the returns to investment in education, for improving adult literacy and increasing the combined

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[82] For details see Feeny and McGillivray,(2003)
[83] ADB (2002)
[84] See Streeten and Burki (1978)

enrolment ratio, will be higher in countries that are relatively at a lower level of initial education as measured by these indicators. Similarly the returns to investment in health, for improving life expectancy, will be higher in countries which have a lower life expectancy as compared to those with a higher level of life expectancy. In brief countries with lower level of education and health will grow faster over time, in terms of education and health, than countries which initially enjoy a higher level of education and health"[85].

3.4.3 Aid-Funded Public Expenditure and Human Development

Gomanee *et al* (2004), used cross-country data to assess the role of aid in improving Human Development Index and Infant Mortality Rate. According to him, although these are not measures of poverty or deprivation, yet they are likely to be correlated with the welfare of the poor. However, the heterogeneous aid instruments used by different donors complicate the assessment, which in turn, necessitates the incorporation of multiple ways in which aid can impact on aggregate welfare. The study explicitly tests the impact of aid on welfare or poverty through public expenditure in a sample of 104 countries.

Indeed, considering only the indirect channel via growth would underestimate the impact of aid on aggregate welfare, and even in cases where aid had no significant impact on growth it may still increase welfare. In a bid to estimate welfare, the paper draws on Human Development Index and Pro-public government expenditure (PPE). Referring to PPE, he asserts that social spending on health and education not only increases human welfare but also is pro-poor, by raising level of spending. While there is no doubt that the efficiency of service delivery is limited, especially in getting to the poor, new techniques for monitoring expenditure and delivering services offer potential for improvement (Devarajan and Reinikka, 2004; Reinikka and Svensson, 2004). In this regard, Gomanee *et al* (2004) estimated the following model:-

$$W_{it} = \beta_0 \ + \ \beta_1 Y_{it} \ + \ \beta_2 Gp_{it} \ + \ \beta_3 A_{it} \ + \ \varepsilon_{it} \dots\dots\dots\dots\dots\dots (3.13)$$

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[85] Noorbakhsh, (2006), "International Convergence and Inequality of Human Development: 1975-2001", Discussion Paper No 2006-03 Department of Economics, University of Glasgow.

where W is a measure of aggregate human welfare, Y is a measure of income, Gp is an indicator of pro-public expenditures (PPE) and A is a measure of aid. The implicit assumption in the model is that aid impacts on welfare either directly, through projects that deliver income or welfare-enhancing services, or indirectly through growth (if lagged values of aid are used).

Aid can also affect welfare through its impact on government spending, as with progressive marginal spending (Lanjouw and Ravallion, 1999) aid can have an indirect pro-poor impact on welfare. Thus, pro-public expenditures (Gp), measured as a share of GDP, can be specified as a function of aid flows as well as other sources of government revenue (Gr) and income.

$$Gp_{it} = \alpha_0 \ + \ \alpha_1 Y_{it} \ + \ \alpha_2 A_{it} \ + \ \alpha_3 Gr \ + \ \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots (3.14)$$

One way to approach the hypothesis that public spending channels aid to enhance welfare is to estimate (3.12) and examine the coefficient on aid (α_3). There is a problem with this approach as aid is seen to influence (Gp). In fact, given that some aid finances PPE directly, including both aid and PPE as in (3.12) implies double counting. Finally the estimated following equation (all variables in logs):

$$W_{it} = \delta_0 \ + \ \delta_1 GDP_0 \ + \ \delta_2 PPE_{it} \ + \ \delta_3 G_{m,it} \ + \ \delta_4 A_{it} \ + \ \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots (3.15)$$

The coefficients on Aid are significant in all regressions, with almost identical coefficient estimates, whereas the PPE measure is insignificant. *A 10 percent increase in (lagged) aid appears to be associated with a two percent increase in HDI.* Aggregate welfare as measured by HDI is higher in countries with higher initial income, but lower in countries with higher military spending; in both cases the coefficients are robust to alternative specifications. The finding that the coefficient on aid is higher for low-income countries is consistent with Gomanee *et al* (2004), who adopted a similar approach (for a different sample) but used quantile regressions. They found that the marginal effectiveness of aid on HDI is greater in those countries with lower HDI.

Overall, the results show that aid contributes significantly to increase aggregate welfare and that aid effectiveness is greater in low-income countries. This result is robust for HDI, but weaker

or infant mortality. Only in middle-income countries there is hardly any evidence that higher PPE ncreases welfare, although aid is significantly independent of its effect through PPE on HDI.

3.5 Summary

The chapter provided basic definitions of some concepts associated with the study and reviewed literature on the impact aid in the context of i) aid-growth; and aid-development. In the aid-growth nexus, the study provided the macroeconomic basis discussed in three-generations of studies i.e: a) aid-savings; b) aid-investment; and c) aid-growth relationships. The first generation of studies maintains that aid increases saving, which serve as an increment to capital stock and stimulate growth. Second generation studies show that aid is a direct determinant of investment and then growth. Third generation studies shows that aid has direct impact on growth.

The chapter has also outlined the role of 'policies' in determining success or failure of aid. Micro-Macro Paradox shows the contrast between micro and macro level impacts of aid which leads to ambiguous and wrong conclusions. After that, 'aid fungibility' studies were discussed stating that aid releases public resources that can be spent on other projects. The chapter also explained Fiscal Response Model implying that most of foreign aid augments the public expenditure in developing countries. Then, "Dutch disease" was discussed when aid inflows cause a real exchange rate appreciation and creates booming sector at the cost of recession in other sectors.

The aid-development relationship has also been discussed at length. The correlated impact of aid on health, wealth and wisdom are underlined through the treatment effect of aid and measures of development, showing that overall, aid does have some beneficial impact on human development. Afterwards, the studies on aid-HDI relationship found that aid can have different impact contingent on the level of HDI and stage of economic development in recipient countries. Finally, the impacts of aid in financing the public expenditure are summarized and it was noted that impact of aid is independent of pro-poor spending.

Chapter 4

THE IMPACT OF FOREIGN AID ON HUMAN DEVELOPMENT: THEORATICAL RE-EXAMINATION

"Human development, as a concept, is broad and comprehensive. But it is guided by a simple idea- people always come first."

(Sudhir Anand & Amartya Sen)

4.1. Introduction

The preceding chapter reviewed literature on the effectiveness of foreign aid from both the 'aid-growth' and the 'aid-development' perspectives. The studies reviewed in the previous chapter hold that foreign aid, has contributed to accelerate economic growth in recipient countries, albeit moderately. The sustainability of economic growth in most of developing countries, however, remains a big ask as the ceaseless aid inflows in the developing world could not realize development at large.

This calls for a precise assessment of the impact of aid on the development outcomes through a multifaceted approach. For this, Human Development Index is believed to be a comprehensive indicator of social development as it underlines the multiple dimensions of welfare, focuses on the basic aspects of human life and gives a better picture than merely income-based indicators. In this study, aid effectiveness, is viewed broadly from the social perspective by looking at health, education and wealth and not wealth alone. Fielding *et al*(2005) pointed out that average standards of education and health are elements of human capital that are likely to determine a region's overall productivity level, and hence its per capita income.

The remaining chapter is organised as follows. Section 4.2 provides macroeconomic rationale of foreign aid, section 4.3 outlines the theoretical framework in order to spell out the interactive effect of aid and the human development index and section 4.4 summarizes the chapter.

4.2. Macroeconomic Rationale of Foreign Aid

The macroeconomic rationale for aid relates to its ability to supplement savings, foreign exchange and government revenue, thus contributing to growth (Hjertholm et al, 1998). At the outset, the impact of aid is featured in Harrod-Domar growth model that links growth to aggregate investment in a linear function. The production function captures only capital as input on the basic premise of excess labour and the shortage of capital. It is represented as:

$$Y_t = f(K_t) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (4.1)$$

where Y_t is aggregate output at time t and K_t is the capital stock at time t. By taking the derivative of equation (4.1) with respect to time (t) and dividing by Y, we get: -

$$\frac{Y^O}{Y} = \frac{1}{\frac{\partial K}{\partial Y}} \frac{I}{Y} \dots\dots\dots\dots\dots\dots\dots\dots\dots (4.2)$$

Where Y^O/Y is the rate of output growth, K/Y is the incremental capital-output ratio (ICOR[86]), list the ratio of investment to output, and KI= Y. Later, Chenery-Strout (1966) incorporated the potential impact of aid on growth in the model as an increment to the stock of physical capital, and represented as:

$$I = S_d + A + OF \dots\dots\dots\dots\dots\dots\dots\dots (4.3)$$

Where S_d is domestic saving, A is the inflow of aid, and OF is other source of capital inflows. By combining equations (4.2) and (4.3) and keeping the incremental capital-output ratio (ICOR) constant, the rate of output growth in the two-gap model simply depends on the accumulation of physical capital, which in turn depends on aid inflows, domestic saving and other sources of capital inflows. The empirical approach in the two-gap model takes the following form:

---

[86]

$$dY = \frac{\partial f}{\partial K} \partial K$$

$$Y^\bullet = \frac{\partial f}{\partial K} \cdot \frac{1}{f(k)} \cdot \frac{dK}{K} \cdot k = \frac{\partial f}{\partial K} \cdot \frac{k}{f(k)} \cdot \frac{dK}{K}$$

$$ICOR = \frac{dK}{dY} = \frac{I}{dY}$$

$$\frac{Y^0}{Y} = \alpha_0 + \alpha_1 \frac{A}{Y} + \alpha_2 + \frac{S_d}{Y} + \alpha_3 \frac{OF}{Y} + \varepsilon \quad \ldots\ldots\ldots\ldots\ldots(4.4)$$

Where Y^0/Y is the rate of output growth, A/Y, S_d/Y, OF/Y are respectively aid inflow, ımestic saving and other source of capital inflows as percentage of GDP, ε is an error term. As e level of savings depends on the levels of income and aid, so it can be written as

$$S_t = a_0 Y_t + a_1 A_t \quad \ldots\ldots\ldots\ldots\ldots(4.5)$$

It can be assumed that

$$Y_t = \beta_0 + \beta_1 A_t \ldots\ldots\ldots\ldots\ldots(4.6)$$

And the implied investment effect will be positive as long as $a_1 > -1 - a_0 \beta_1$. The marginal impacts of income a_0 and aid a_1 in the formulation are implicit in eq. (4.6) allowed to differ. In case aid is perceived as a perfect substitute for other kinds of income (i.e., fully fungible), the two marginal effects on savings are equal. Moreover, Gomanee *et al* (2003) has analysed the impact of aid-financed public spending on infant mortality and human development index

$$W_{it} = \beta_0 + \beta_1 Y_{it} + \beta_2 G_{pit} + \beta_3 A_{it} + \varepsilon_{it} \quad \ldots\ldots\ldots\ldots (4.7)$$

where W is a measure welfare of the poor, Y is a measure of income, Gp is an indicator of pro-poor public expenditure (PPE) which is measured as a share of GDP and A is a measure of aid. The aid is assumed to affect welfare through its impact on government spending on social indicators. Gp is determined through the following equation: -

$$G_{pit} = \alpha_0 + \alpha_1 Y_{it} + \alpha_2 A_{it} + \alpha_3 Gr_{it} + \varepsilon_{it} \quad \ldots\ldots\ldots\ldots(4.8)$$

Where Gr is the government revenue which to influence PPE (Gp). In fact, given that some aid finances PPE directly, including both aid and PPE as in (4.7) leads to double counting. To avoid this, a constructed regressor ($Gp^\sim$) rather than Gp:

$$W_{it} = \beta_0 + \beta_1 Y_{it} + \beta_2 G^\sim_{pit} + \beta_3 A_{it} + \varepsilon_{it} \quad \ldots\ldots\ldots\ldots (4.9)$$

Where G⁻p represents pro- public expenditures that are not financed by aid and aid is

separated from PPE. In the light of theoretical appraisal of literature, Section 4.3 develops a

heoretical framework to assess the impact of aid on the social landscape of Pakistan.

4.3. Theoretical Framework: Nexus between Aid and Human Development

"Every development plan should start with the first chapter on comprehensive Human Balance Sheet rather than macro-economic aggregates of GNP, Savings and investments etc.

There has to be a clear exposition of Human Resources i.e. Education, Health and Nutrition levels, Human Skills, Income Distribution and Poverty Urban/Rural Distribution of human development."

Dr Mahboob ul Haq

The aid-growth nexus has long been contentious in the aid effectiveness literature and a

host of researchers have analysed the relationship from diverse perspectives. As discussed in

the previous chapter that the theoretical nexus between aid and economic growth primarily

emanates from Rostow's growth stages theory, Harrod-Domar, two-gap and Solow Growth

Models. As a matter of fact, they asserted that foreign aid is positively related to economic

growth as it furthers the capital accumulation in the recipient country. In this regard, Mosely

(1987,1992), White(1992a), Boone(1996), Burnside and Dollar(1997), Lensink and White (1999)

and Dalgaard and Hansen(2000) further extended the relationship.

The aid-growth nexus is cited here only to take theoretical and analytical hindsight and

this section will focus on aid-development nexus by looking at aid's impact on health, wealth and

education instead of wealth alone. In this regard, Fielding *et al* (2006), Fielding and

McGillivary(2004), Feeny(2003) and Papanek (1973) are followed to establish theoretical model

of aid effectiveness in the social context.

In order to address the aid-development relationship the economy-wide effects of aid are

incorporated into the macroeconomic framework. The interplay between various economic

indicators and economic feedback mechanisms are used to track the potential impact of aid

flows on various macroeconomic variables. Although *aid may affect both the demand side and* he supply side of the economy yet the modelling of the impact of official development aid (ODA) in social indicators such as Life Expectancy Index, Education Index, GDP Index and Human Development Index are being focused.

According to Gomanee *et al* (2003) HDI is higher in countries where the levels of income and PPE[87] are higher. Aid contributes to higher HDI only because it contributes to PPE, i.e. aid allocated to social sectors tends to increase human development. Aptly, Kosack and Tobin 2003) have used the following figures to explain the relationship among aid, growth and human development.
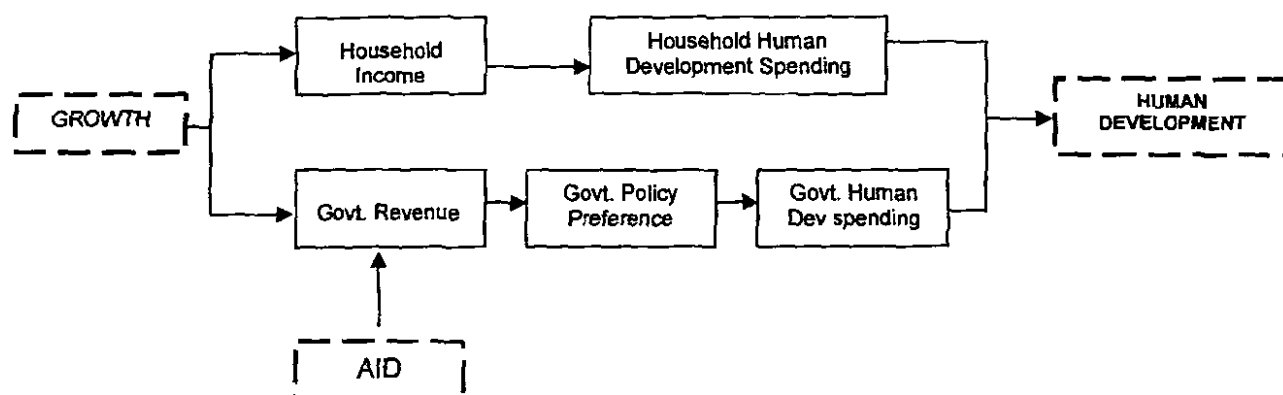
Figure 4.1 Aid for Human Development

Figure 4.1 shows that growth affects human development via two channels. Firstly, growth becomes part of household income, which later on is spent on human development by households and eventually improves the level of human development. Secondly, growth improves human development by increasing the government revenue and *according higher* priority to human development by government and then enhancing public spending on human development. In the second stream, Aid is being incorporated to supplement the Government

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[87] Pro-Poor Public Expenditure denoted as PPE = Ps + Pe + Ph
where Ps is public expenditure on *sanitation and housing* (share of GDP)
Pe is public expenditure on education (share of GNP)
Ph is public expenditure on health services (share of GDP)

Revenue and consequent spending on human development and shows a rather discernable impact on HDI.

Empirically, aid largely substitutes the government spending that would have occurred anyway, thus freeing up government monies to be spent on whatever the government wants. In democratic states, governments keep human development investment on their priorities. This aid fungibility together with the inability of donors to change the government priorities increases the human development spending by the government. As a result, aid affects human development (and, indirectly, growth) via government spending priorities. Svensson (1999) concludes that aid disbursed to democracies increased growth, whereas in case of autocracies aid was ineffective in increasing growth. Likewise, Kosack (2003) maintains that aid to democracies increases human development.

White (1992b) also concludes that the impact of aid will be different if it is used for building primary health clinics rather than for roads, extension services or an industrial line of credit. All these things should be expected to increase growth, but through different channels and certainly with different lag structures.
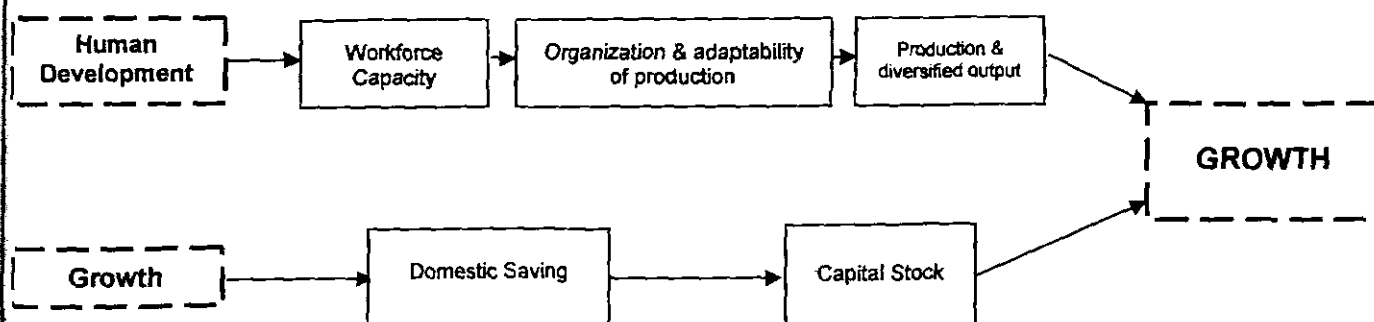
Figure 4.2 From human development to growth, and from growth to growth

Figure 4.2 shows that growth is affected by the levels of human development and growth itself. In the first channel, higher levels of human development imply improved workforce capacity, enhanced organization and adaptability of production and diversified output. The

econd link of growth is established with an increase in the domestic saving, which leads to
apital accumulation and ultimately increases growth.
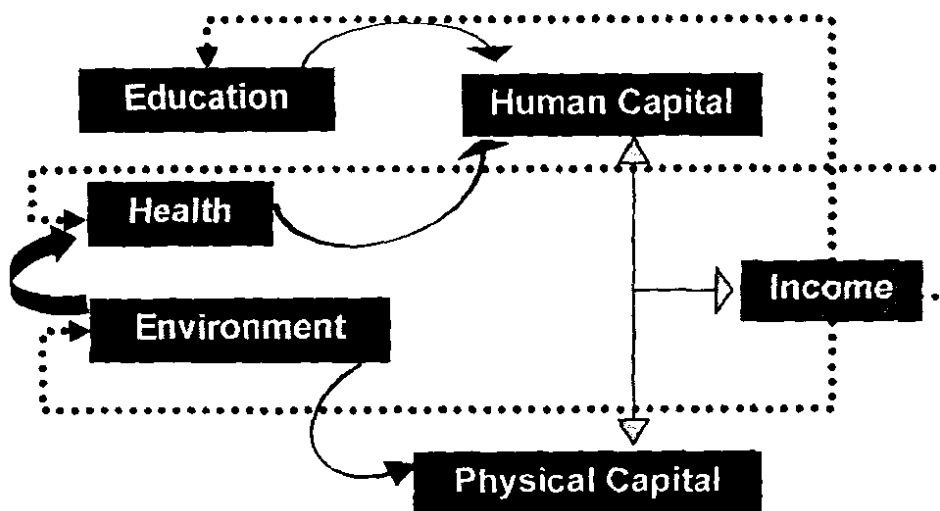
Figure 4.3 Income, Education, Health and Human Capital
Source: Dr. Mushtaq A.Khan(2007)

Figure 4.3[88] shows the correlation among education, health, environment, income and
human capital. The dotted lines in the figure show that income affects health, education and the
environment as well as the human and physical capital. The semi-circular arrows in the diagram
show that Human Capital is affected by education and health. The environment also has an
impact on health and physical capital. These figures spelled out the relationship among human
development indicators, aid, growth and public spending.

In order to establish the theoretical basis further, the econometric relationship of aid with
social indicator is discussed. The analysis by Susanna Wolf (2007) observed the impact of ODA
on education, health, water and sanitation outcomes, using following public service delivery
production functions:

$$H_i = f(E_i, I_i, SH_i, X_i) \ldots\ldots\ldots\ldots(4.10)$$
$$E_i = f(H_i, I_i, SE_i, Y_i) \ldots\ldots\ldots\ldots(4.11)$$
$$I_i = f(SI_i, Z_i) \ldots\ldots\ldots\ldots\ldots(4.12)$$

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[88] Presentation by Dr. Mushtaq A.Khan(2007) Chief, Ministry of Health, at Civil Services Academy, Walton, Lahore.

where *Hi* is a health outcome for a country i, which is a function of education and water and

nitation outcomes *Ei* and *Ii* respectively, and of a set of variables that capture public spending

id aid for health *SHi*, as well as a number of socio-economic variables, summarized in Farrokh

ourzad *et al* (2003) that has explained the relationship as under:

$$HDI_{it} = \alpha_0 + \alpha_1 RGDPG_{it} + \alpha_2 OPEN_{it} + \alpha_3 SW_{it} + \alpha_4 MORT_{it} + \alpha_5 ED_{it} + \alpha_6 UPOPG_{it} + u_{it}...(4.13)$$

Here HDI is the human development index; RGDPG is growth rate of real GDP per capita;

OPEN is a measure of openness i.e. Dollar's openness index , trade (imports plus exports) as a

share of GDP (TRADE), and black market premium (BMP); SW is the percentage of the

population with access to safe drinking water; MORT is the infant mortality rate (deaths per

thousand births); ED is the ratio of government expenditures on education to GDP; UPOPG is

the urban population growth rate; u is a random error term.

Referring to Barro(1998), the following model is employed to see whether and how aid

affects human development :

$$h_{it} = \beta_0 + \beta_1 i_{it} + \beta_2 d_{it} + \beta_3 p_{it} + \beta_4 a_{it} + \beta_5 f_{it} + \beta_6 z_{it} + h_{it} + \varepsilon_{it} ....(4.14)$$

Where h_{it} is growth in human development, i_{it} is average level of income, d_{it} is the average level

of human development, p_{it} is the level of demorization, a_{it} is aid receipts relative to GDP, f_{it} is

FDI relative to GDP and all other exogenous variables that may affect h_{it} are incorporated in z_{it}.

All the variables are indexed by country (i) and time (t). Initially, the model determines the aid

endogenously and estimates using OLS and then estimates the set of two equations (FDI and

Human Development) through 2SLS

4.4.   Summary

This chapter has presented a theoretical framework of aid-development nexus, in which the

interactive effect of official development assistance and a set of human development indices has

been established. The chapter has developed the economic rationale of foreign aid by hinging

on the aid as an increment to the stock of physical capital and the impact of aid-financed public spending, and pro-poor public expenditures (PPE) on growth, development and human development. The chapter highlights two channels by which aid affects social sector i.e. a) aid spurs growth and becomes part of household income; b) growth improves human development by increasing the government revenue, which is supplemented by aid. The chapter also outlined that higher levels of human development and growth are a precondition for higher growth.

The model developed in this chapter envelops the impact of official development assistance on health, education, access to resources and finally the human development index. Whether aid may or may not contribute to uplift the social indicators is assessed through a set of four indicators separately, which are transformed into mathematical equations later. The literature about aid effectiveness reports a mixed impact on growth and development and the results will be further explored in the next chapter with special reference to Pakistan. The limitations and the methodological constraints are also discussed in Chapter 5 while the econometric model and estimation is undertaken in the Chapter 6.

Chapter 5

MACROECONOMETRIC METHODS AND DATA: OFFICIAL DEVELOPMENT ASSISTANCE AND HUMAN DEVELOPMENT INDEX

The econometric art as it is practiced at the computer terminal involves fitting many, perhaps thousands, of statistical models. One or several that the researcher finds pleasing are selected for reporting purposes. This search for a model is often well intentioned, but there can be no doubt that such a specification search invalidates the traditional theories of inference. The concepts of unbiasedness, consistency, efficiency, maximum-likelihood estimation, in fact, all the concepts of traditional theory, utterly lose their meaning by the time an applied researcher pulls from the bramble of computer output the one thorn of a model he likes best, the one he chooses to portray as a rose.

This is a sad and decidedly unscientific state of affairs we find ourselves in. Hardly anyone takes data analyses seriously. Or perhaps more accurately, hardly anyone takes anyone else's data analyses seriously. Like elaborately plumed birds who have long since lost the ability to procreate but not the desire, we preen and strut and display our t-values.

Speech by Edward Leamer at the University of Toronto, 1983[89]

5.1. Introduction

In the preceding chapters, the study established that aid has potentially large impact on various macroeconomic variables such as saving, investment, growth, prices and exchange rate. Likewise, it was also observed that aid has correlation with development outcomes such as access to basic health facilities, literacy, infant mortality, fertility, access to drinking water and sanitation. The mainstream literature also exhibited that the consequences of control variables are very important in determining the relationship between dependent and independent variables. The chapter counts on the deliberations in the preceding chapters to quantify and establish the aid-human development relationship in Pakistan.

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[89] Taken from Roodman(2004), "The Anarchy of Numbers: Aid, Development, and Cross-country Empirics", Working Paper Number 32, Center for Global Development

Section 5.2 establishes a macroeconomic model exhibiting the relationship of aid with a set of human development indicators. The data construction, variable description and their interactive relationships in the model are discussed in section 5.3. Then, section 5.4 undertakes estimation of the model using ARDL estimation approach. *The interpretation of estimation results along with relevant econometric tests and techniques are also discussed in this section.*

5.2. Macroeconomic Model of Aid-Human Development

> *...The transition from theory to empirical work in macroeconomics is not always straightforward. The quality of the data are never as good as one might like, so compromises have to be made in moving from theory to empirical specifications...*

> Fair (1994, p. 39)

First of all, the following equation is formulated to assess the effect of foreign aid (ODA) on health (Life Expectancy Index):

$$LEI = \alpha_1 ODA + \alpha_2 EH + \alpha_3 PCY + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots (5.1)$$

Where LEI indicates Life Expectancy Index, while ODA is Official development Assistance, EH is public expenditure on health and PCY is Per Capita GDP. Likewise, the following equation (5.2) is used to assess the impact of foreign aid (ODA) on Education (Education Index) :

$$EI = \beta_1 ODA + \beta_2 EE + \beta_3 PCY + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots (5.2)$$

Where EI represents Education Index and EE is public expenditure on education. The following equation (5.3) is considered to see the effects of foreign aid (ODA) on access to resources/GDP per capita (GDP index): -

$$GI = \gamma_1 ODA - \gamma_2 APC + \gamma_3 S + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (5.3)$$

Where GI denotes GDP Index, APC is Aid per capita and S represents national savings. Finally, In order to analyse the impact of foreign aid on three indices together (HDI), the following equation is used:

$$HDI = \delta_o + \delta_1 ODA - \delta_2 APC + \delta_3\, EH + \delta_4\, EE + \delta_5 S - \delta_6\, INF + \varepsilon \ldots\ldots (5.4)$$

Where HDI denotes Human Development Index and INF is Inflation while all other variables are the same as defined above.

5.2.1. Limitations of the model

The research analyses the macroeconomic impacts of official development assistance and does not take in the sectoral, program or the project level impacts of foreign aid. Another limitation to the estimation was unavailability of data on some of the variables for which the most proximate indicators were used for analysis. Though utmost care and caution has been undertaken in computing these series yet there is a probability of slight deviation in the results. Moreover, the analysis of aid allocation by geographic classification such as province, district etc is difficult due to a lack of relevant data. This research also does not discuss the demographic or anthropological impacts of aid.

The research hinges on single aggregate for aid and does not address the issue of aid heterogeneity and the model does not break down aid into various other classifications such as bilateral aid, multilateral aid, tied aid etc., and it cannot explain how assistance from a particular donor is effective in particular area. Likewise, military aid, and political aid are also beyond the scope of model.

5.3. Data Description and Variable Constructions

The analysis in the study is based on thirteen annual time-series, out of which, five series were computed[90] by the author namely, Human Development Index, Life Expectancy Index, Education Index, GDP Index and Combined Gross Enrolment for primary, secondary, and tertiary schools. The data for CGER (primary, secondary, tertiary) from 1975 to 1989 was unavailable and it was computed by applying the standard formula used PSLM 2004-05 on the

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[90] 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)]

lost proximate variables in the Economic Survey of Pakistan. The missing values in Adult

literacy rate(at birth) for the years 1978, 1979, 1982, 1983, 1984 and 2005 were computed by

using three years moving average methods. The missing value for GDP per capita for year

006 was computed using moving average method. The data is tabulated hereunder:-

Table 5.1 Annual Time Series Data on listed variables

ar	ODA	APC	DE	EE	EH	S	INF	LEI	EI	GI	HDI
175	656.9	9.2	-	2.02	0.81	8.5	24.0	0.453	0.266	0.223	0.31415
176	1011.8	13.8	-	1.98	0.69	13.9	11.9	0.463	0.276	0.235	0.32452
177	585.5	7.7	9.9	1.92	0.62	18.9	9.1	0.474	0.283	0.247	0.33465
178	633.4	8.1	8.7	2.01	0.63	23.8	9.0	0.483	0.285	0.266	0.34453
179	708.1	8.8	8.5	1.81	0.60	23.0	6.6	0.492	0.293	0.280	0.35512
180	1180.9	14.3	9.3	1.40	0.64	24.1	9.1	0.502	0.279	0.306	0.36255
181	820.8	9.6	8.2	1.78	0.64	25.2	9.9	0.510	0.286	0.329	0.37499
182	913.6	10.4	8.1	2.40	0.65	24.5	9.4	0.521	0.289	0.345	0.38476
183	726.1	8.1	6.7	2.20	0.75	30.5	5.3	0.529	0.289	0.358	0.39229
184	727.5	7.9	7.0	2.10	0.72	26.9	9.7	0.539	0.295	0.368	0.40067
185	767.5	8.1	7.7	2.20	0.81	24.0	4.5	0.541	0.314	0.381	0.41187
186	913.0	9.4	6.3	2.40	1.03	21.2	3.3	0.548	0.316	0.389	0.41786
187	815.7	8.2	6.9	2.40	1.10	26.6	4.5	0.554	0.327	0.399	0.42662
188	1353.2	13.2	6.3	2.50	0.90	21.5	9.6	0.557	0.332	0.413	0.43383
189	1410.5	13.4	6.5	2.30	0.80	21.4	8.6	0.565	0.337	0.423	0.44169
190	1126.6	10.4	6.4	2.20	0.70	22.3	6.5	0.568	0.355	0.432	0.45199
191	1368.9	12.4	7.5	2.60	0.70	26.2	13.1	0.587	0.363	0.442	0.4638
192	1011.5	8.9	5.7	2.53	0.71	25.1	10.1	0.600	0.370	0.454	0.47469
193	1001.7	8.6	4.6	2.57	0.67	20.7	8.7	0.600	0.381	0.457	0.4793
194	1603.3	13.4	4.4	2.62	0.68	22.3	12.9	0.567	0.389	0.462	0.47267
195	820.9	6.7	4.4	2.80	0.80	21.1	13.9	0.630	0.401	0.469	0.50
196	881.9	7.0	3.5	3.00	0.80	18.3	8.4	0.617	0.409	0.476	0.50077
197	595.8	4.6	3.9	2.70	0.80	17.6	13.4	0.650	0.417	0.477	0.51447
198	1052.5	8.0	3.4	2.03	0.90	21.3	7.5	0.650	0.437	0.479	0.52182
199	732.8	5.4	2.5	2.61	0.58	17.2	5.9	0.667	0.433	0.483	0.52772
000	692.4	5.0	2.1	1.84	0.58	17.5	23.8	0.583	0.410	0.490	0.49434
001	1942.1	13.7	3.5	1.80	0.57	17.7	7.7	0.583	0.413	0.493	0.49646
002	2128.1	14.7	4.1	1.80	0.59	19.7	2.4	0.647	0.403	0.497	0.51573
003	1061.7	7.2	3.1	1.97	0.58	23.1	4.4	0.633	0.443	0.504	0.52698
004	1423.9	9.4	3.9	1.97	0.57	23.0	7.8	0.665	0.460	0.515	0.54675
005	1666.5	10.7	4.8	2.30	0.51	18.0	9.8	0.664	0.482	0.528	0.55825
006	1988.8	12.6	4.9	2.40	0.57	16.3	12.7	0.640	0.503	0.541	0.56132

The data on *other* variables were obtained from following sources:

i. Economic Survey of Pakistan, various issues.

ii. Annual Statistical Books of Federal Bureau of Statistics, various issues.

iii. World Development Indicators, 2007, The World Bank.

iv. UNESCO *institute of* Statistics(Online database)

v. UNESCAP (United Nations Economic and Social Commission for Asia and Pacific) Online Data Centre

vi. The World Bank's HNP database (Online database)

vii. United Nations Department of Economic and Social Affairs / Population Division, PRED Bank 4.0

viii. The Micro Impact of Macroeconomic Adjustment Policies Project 1998-2003 (MIMAP-Pakistan)

ix. Pakistan Demographic and Health Survey (PDHS), 1990-91, Federal Bureau of Statistics, Islamabad

x. Mehbub-ul-Haq Development Centre. (Human Development in South Asia 2007, A Ten-year Review), Islamabad

5.3.1. Official Development Assistance (ODA)

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 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 utilization 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.

5.3.2. Human Development Index:

HDI is used in the model as a measure of human development. It is a normalized measure of life expectancy, literacy, education, standard of living, and GDP per capita for countries worldwide. It is a standard means of measuring well-being and is essentially a score between 0 and 1 where 0 implies no human development while 1 reflects the maximum amount of human development. HDI is decomposed as under:

- **A long and healthy life**: measured by life expectancy at birth and is used as a proxy for other health indicators like infant mortality, under-five mortality, maternal mortality.

- **Knowledge**: measured in terms of adult literacy rate and gross primary, secondary and tertiary enrolment ratio. From 1995, mean years of schooling have been replaced with combined primary, secondary and tertiary gross enrolment ratio because of easier data availability. The weights attached to adult literacy and gross enrolment ratios are 2:1.

- **Access to resources/decent standard of living**, measured by GDP per capita (PPP US$), which emphasizes sufficiency, and not satiety, higher income needs to be discounted. Thus from 1997, log (GDP per capita) is used as the variable to reflect a decent standard of living.

HDI is computed by creating an index for each dimension with maximum and minimum values (goal posts). Performance in each dimension is expressed as a value between 0 and 1. HDI is an average of the three dimensional indices. Goal posts for calculating HDI till 1994

were the actual maximum and minimum values, but there was a problem of fluctuating goal

posts, and this made comparisons over time meaningless. Thus, from 1994, fixed goal posts

for extreme values were adopted as seen on the table below:

Table 5.2: Goal posts for calculating HDI since 1994

Indicator	Maximum	Minimum
Life expectancy	85	25
Adult literacy	100	0
Combined enrolment ratio (%)	100	0
GDP per capita (PPP US$)	40000	100

Source: *Human Development Report 1999*

The mathematical formulas and brief description of three general indices in the Human

Development Index (HDI) are:

a. Life Expectancy Index

It refers to average number of years that a newborn is expected to live if current mortality

rates continue to apply. Life expectancy at birth reflects the overall mortality level of a

population and summarizes the mortality pattern that prevails across all age groups -

children and adolescents, adults and the elderly. It is calculated as:

$$Life\ Expectancy\ Index = [LE-25/85-25]$$

LEI is likely to increase with an increase in expenditure on health and is also expected to

respond to increase in ODA.

b. Education Index = 2/3(ALR) + 1/3(ER)

This index is one of the three indices used in constructing the United Nations' Human

Development Index (HDI). The education index measures a country's relative

achievement in both adult literacy and combined primary, secondary and tertiary

gross enrolment. First, an index for adult literacy and one for combined gross

enrolment are calculated. Then these two indices are combined to create the

education index, with two-thirds weight given to adult literacy and one-third weight to

combined gross enrolment:

Education index = 2/3 (adult literacy index) + 1/3 (gross enrolment index).

i. Adult Literacy

'Adult literacy rate is the percentage of people ages 15 and above who can, with understanding, réad and write a short, simple statement on their everyday life'. This is computed by United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics. It is calculated as:

$$Adult\ Literacy = [ALR\text{-}0/100\text{-}0]$$

ii. Combined Gross Enrolment

'Combined Gross enrolment ratio is the ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to the level of education shown' (WDI, 2007).

$$Gross\ Enrolment = [ER\text{-}0/100\text{-}0]$$

Where LE = Life expectancy at birth; ALR: Adult literacy rate (ages 15 and older); CGER: Combined gross enrolment ratio for primary, secondary and tertiary schools (%). EI is expected to improve with an increase in the Public Expenditure on Education and also respond positively to an increase in ODA.

c. GDP Index

'Real per capita GDP in purchasing power parity dollars represents access to resources needed for a decent standard of living' (WDI, 2007). Increase in GDP per capita is reflective of economic growth and is expected to further economic activity, enhance tax revenues and government expenditures, which might include transfers to worst off and also increase access to services such as health and education. The inclusion of this monetary component suggests that HDI will be inversely related to income measures of human development. GDP index is computed as:

$$GDP\ Index = [log(GDPpc) - log(100)]/log(40000) - log\ (100)$$

ODA is likely to have positive impact on GDP index and it is expected that GDP index responds negatively to aid per capita.

5.3.3. Aid Per Capita

Aid per capita includes both official development assistance (ODA) and official aid, and is calculated by dividing total aid by the midyear population estimate. It is computed in current US $ by Development Assistance Committee of the Organisation for Economic Co-operation

and Development, and World Bank population estimates. Aid per capita reflects the indebtedness of economy and too high value implies greater debt burden and less fiscal space for social spending. The Aid Per Capita also affects GDP index inversely.

5.3.4. Gross Savings (% of GDP)

'Gross savings are calculated as gross national income less total consumption, plus net transfers' (WDI, 2007). National savings serve as an increment to the capital stock and increase the economic growth. In the model, savings are likely to affect HDI through capital accumulation and can also affect the GDP Index accordingly.

5.3.5. Inflation (GDP deflator annual %)

'Inflation as the annual growth rate of the GDP deflator shows the rate of price change in the economy as a whole' (WDI, 2007). The GDP implicit deflator is the ratio of GDP in current local currency to GDP in constant local currency. The ODA may create inflation in the economy as it increases the money supply, reduces the interest rates and increases GDP. The increased liquidity in the economy increases the cost of education and health and negatively affects the life expectancy index and literacy index. So inflation is expected to have inverse relationship with HDI in the model as it is used as a proxy for macroeconomic instability.

5.3.6. Public Expenditure on Health (% of GDP)

The social allocation ratio is the percentage of GDP that is used for social programs such as education and basic health services. An increase in this ratio is expected to increase the level of development (Nourzad, 2003). Public health expenditure (as a percentage of GDP) comprises recurrent and capital spending from government budgets, external borrowings and grants (including donations from international agencies and nongovernmental organizations), and social (or compulsory) health insurance funds. World Health Organization updates this variable from the OECD for its member countries.

Gupta *et al* (2002) maintain that 'greater public spending on primary and secondary education has a positive impact on widely used measures of education attainment, and increased health care spending reduces child and infant mortality rates'.

Moreover, Since Public Expenditure on Health and Education is the potential transmission mechanism through which ODA affects the life expectancy, adult literacy and gross enrolment, therefore ODA is a determinant of Public Spending on Education and Health. Besides this, better human capital improves the productivity level and the per capita income so HDI is also affected through GDP Index.

5.3.7. Expenditure on Education (% of GDP)

'Public expenditure on education comprises current and capital public expenditure on education plus subsidies to private education at the primary, secondary, and tertiary levels' (WDI, 2007). This is computed by UNESCO Institute for Statistics. The public spending on education system produces educated labour and enhances the productivity of human capital.

Secondly, it increases capital formation and thus the overall rate of accumulation of physical capital. Lensink and White (2001) extend Barro's(1990) analysis by arguing that aid, to the extent that it leads to an increase in government purchases of goods and hence a rise in the production of public services—has a positive effect on the recipient's steady-state growth rates. However, they argue that this effect operates only at low levels of aid; beyond a certain threshold, aid has a negative impact on growth.

5.3.8. Development Expenditure (% of GDP)

Public expenditure other than current expenditure is development expenditure and includes health, education, infrastructure etc. In the econometric model, development expenditure (as a percentage of GDP) is likely to affect the per capita income positively as increase in development expenditure by the government creates jobs and adds to the level of output as a whole. However, it is not likely to guarantee the welfare of poor, as the benefits may be unequally distributed.

5.4. Estimating, Testing and Analysing the Macroeconometric Model

The analysis in the study is based on secondary time-series data from 1975-76 to 2006-07. Before estimating the equations, we undertake unit root test in order to see whether the series are stationary or not in the subsequent section.

5.4.1. Unit Root Test Results

In order to test for stationary or the order of integration of variables 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. These tests, however, are reliable in small samples, and have severe problems with finite sample power and size. As a result, they tend to over-reject the null hypothesis when it is true and under-reject it when it is false. The ADF and PP tests are known to have low power against the alternative hypothesis that the series is stationary with a large autoregressive root[91]. Secondly, these tests have severe size distortion (in the direction of over-rejecting the null) when the series has a large negative moving average(MA) root[92].

5.4.1.1. Ng Perron Test Results

Ng and Perron (Econometrica, 2001) devised a relatively simple technique that solves both the problems. It also addresses the problem of sensitivity of unit root testing to the choice of lag in the data. This test also introduced a new information criterion i.e. the modified information criteria (MIC). The distinction between the MIC and the standard information criteria such as the Akaike and the Schwartz Bayesian criteria is that the former takes into account the fact that bias in the sum of autoregressive coefficients is highly dependent on the number of lags (Ouattara, 2004). The family of NP tests have following characteristics:

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[91] DeJong, et al(1992), Journal of Econometrics, 1992.
[92] See, e.g., Schwert(1989), Journal of Business and Economic Statistics : MA = -0.8, size = 100

a. First, the time series is de-meaned or detrended by applying a GLS estimator. This step turns out to improve the power of the tests when there is a large AR root and reduces size distortions when there is a large negative MA root in the differenced series.

b. The second feature of the NP tests is a modified lag selection (or truncation selection) criteria. It turns out that the standard lag selection procedures used in specifying the ADF regression (or for calculating the long run variance for the PP statistic) tend to underfit, i.e., choose too small a lag length, when there is a large negative MA root. This creates additional size distortion in unit root tests. The NP modified lag selection criteria accounts for this tendency(Falk, 2006). The results of Ng-Perron Test using E-views 5.1 are tabulated as under:

Table 5.3: Results of Ng-Perron Test

Lag length: Automatic (Spectral GLS-detrended AR based on SIC, MAXLAG=7)
Sample (adjusted): 1976 2006 i.e. 31 observations

Series	Diff	Lag	MZa	MZt	MSB	MPT	Conclusion
			-13.8000 *-8.10000*	*-2.58000* *-1.98000*	*0.17400* *0.23300*	*1.78000* *3.17000*	
di	1st	0	-15.4583	-2.76677	0.17898	1.63468	UR Rejected at 1% significance level
ei	Level	7	-52.3454	-5.06489	0.09676	0.59338	UR Rejected at 1% significance level
j	1st	0	-15.0291	-2.69486	0.17931	1.80290	UR Rejected at 5% significance level
i	1st	4	-19.4581	-3.03566	0.15601	5.17693	UR Rejected at 1% significance level
e	1st	0	-14.7565	-2.71153	0.18375	1.67820	UR Rejected at 1% significance level
h	1st	0	-13.6679	-2.57090	0.18810	1.95611	UR Rejected at 5% significance level
cy	Level	1	-136.912	-8.18803	0.05981	0.31511	UR Rejected at 1% significance level
s	1st	0	-13.3666	-2.54192	0.19017	1.99702	UR Rejected at 5% significance level
nf	1st	2	-49.0626	-4.95289	0.10095	1.85738	UR rejected at 1% significance level
pc	Level	0	-15.0271	-2.69334	0.17923	1.80827	UR Rejected at 5% significance level
da	Level	0	-11.3408	-2.10785	0.18586	3.16055	UR Rejected at 5% significance level

The second column shows the order of integration of series tested for unit root and reveals that the out of eleven series, four are stationary on level while other series are I (1). The value of MZa for each series is compared with the Critical Value of MZa at 1% and 5% levels of significances respectively. If the computed value of the series for MZa is less than the Critical Value of MZa at the given level of significance then the Unit Root is rejected and the series is

aid to be stationary. First of all, each series is tested at level and if the computed value is greater than the critical value even at 5% level of significance then series is tested at first difference. The underlying assumption for bound test for long relationship is that the series are either I(0) or I(1). Since none of the series is I(2) so we can go on with bound test.

5.4.2. Estimation Method: Autoregressive Distributed Lag (ARDL)

The model with the lagged dependent (AR) and lagged independent (DL) is called Autoregressive Distributed Lag (ARDL) model. "The ARDL is a dynamic model and is used where adjustment does not occur immediately, but takes a number of time periods to fully adjust. Specific restriction to a general ARDL model can be applied to determine if partial adjustment is taking place. The Model has a desired value as its dependent variable. This desired value is then determined by the usual explanatory variables" (XAYAvong, 2002). The technique comprises two stages. Firstly behavioural equation is transformed into error correction form:

$$\Delta X_t = \alpha + \sum_{i=1}^{p} A_i \Delta X_{t-1} + \sum_{j=1}^{q} B_i \Delta Z_{t-j} + C_0 X_{t-1} + C_1 Z_{t-1} + u_t \quad \dots\dots\dots\dots\dots\dots\dots(5.5)$$

Where X_t is an endogenous variable, α is an intercept, Z_t is an explanatory variable, μ_t is the error term and i, j are lag lengths. The F-statistic for the joint test of the coefficients C_0 and C_1 is computed to test for the long-run relationship between X_t and Z_t. The null hypothesis is that the coefficients are jointly equal to zero implying no long-run relationship between X_t and Z_t. Then, the computed F-statistic is compared with the tabulated critical value bounds. And if the computed F-statistic is greater than the upper bound of the critical value of F-statistic, the null hypothesis would be rejected and vice-versa.

In second stage, if cointegration is found i.e., the null hypothesis is rejected; the ARDL can be employed to estimate the dynamic structure of the behavioural equations using the OLS method. The estimations proceed "without needing to know whether the underlying variables are I(0) or I(1)" (Pesaran and Pesaran, 1997, p. 304). The dynamic structure of the *ARDL (p, q)* model takes the following form:

$$X_t = \alpha + \sum_{i=1}^{p} A_i X_{i-1} + \sum_{i=1}^{q} B_i Z_{i-j} + \mu \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(5.6)$$

where X_t is an endogenous variable, . is an intercept, Z_t is a vector of explanatory variable, p

nd q are respectively a number of the lag length of X_t and Z_t, and μ_t is the random error term. It

. taken with caution that there is a chance of small-sample biases in OLS estimates. To obtain

oefficients that accord well with the models, much experimentation must be performed. So

ifferent functional forms are tried, and explanatory variables are dropped if their coefficients do

ot have expected sign. However, we also retain insignificant variables if they improve results.

5.5. Estimation Results and Model Validation

5.5.1.   ARDL Bound Test for Co-integration

The study used ARDL bound test (Pesaran et al., 2001) for cointegration analysis since it

an be applied irrespective of whether the regressors are purely I(0), purely I(1), or mutually

:ointegrated. Moreover, the order of integration of the underlying regressors is not required to be

iscertained prior to testing the existence of a level relationship between two variables (Pesaran

it al., 2001).

Basically, the bound test developed by Pesaran et al. (2001) is the Wald test (F-statistic

ersion of the bound testing approaches) for the lagged level variables in the right-hand side of

inrestricted error correction models. That is, we test the null hypothesis of non-cointegrating

elation by performing a joint significance test on the lagged level variables. The asymptotic

listribution of the F-statistic is non-standard under the null hypothesis of no cointegrating

elation between the examined variables, irrespective of whether the explanatory variables are

ourely I(0) or I(1).(Halim et al , 2008)

If the F-statistic falls outside the critical bounds value (lower and upper values), a conclusive

nference can be drawn without considering the order of integration of the explanatory variables.

Conversely, if the F-statistic exceeds the upper critical bound, then the null hypothesis of no

cointegrating relation can be rejected. If the F-statistic falls below the lower critical bound, we cannot reject the null of non- cointegration. In the case of the F-statistic falling between the upper and lower bounds, a conclusive inference cannot be made. Here, the order of integration I(d) for the explanatory variables must be known before any conclusion can be drawn (Pesaran *et al.*, 2001). For that matter, we have tested the Unit Root in the preceding section.

Table 5.2 below provides the results of testing for the long-run relationship along with upper and lower critical value bounds for each equation in the aid-development model. As the computed F-statistic for each equation exceeds the upper bound of the critical values F-statistic at 95% level of significance, a conclusive decision can be made that variables in each equation are conintegrated. Therefore, ARDL can be used to estimate the equations regardless of the fact whether the underlying variables employed in the equations are integrated of any order.

Table 5.4 Results for Testing the Long-run Relationship of equations in the macroeconometric model of aid-development: F-*Statistic*

Models	Computed F-statistic	Testing the existence of a long-run relationship: critical values of the F-Statistic		
		Lower Bound	Upper Bound	Significance level
$LEI = \alpha_1 ODA + \alpha_2 EH + \alpha_3 PCY$ (Eq. 5.1)	30.4628	2.86	4.01	95 %
$EI = \beta_1 ODA + \beta_2 EE + \beta_3 PCY$ (Eq. 5.2)	13.6241	2.86	4.01	95%
$GI = \gamma_1 ODA + \gamma_2 APC + \gamma_3 S$ (Eq.5.3)	19.7181	3.07	4.16	95%
$HDI = \delta_0 + \delta_1 ODA + \delta_2 APC + \delta_3 EH + \delta_4 EE + \delta_5 S + \delta_6 Inf$ (Eq.5.4)	27.4690	2.03	3.40	95%

The upper and lower critical value bounds in the above table comprise i) the number of variables (k), ii) level of significance and iii) the inclusion of constant/trend terms. In the equations 5.1, 5.2 and 5.3, the upper and lower critical value bounds are obtained with both constant and trend terms. For Equation 5.3, however, the values for these bounds are taken with constant but no trend.

In the above table, the lowest F-statistic across the series is 13.63, which implies a rejection of the null hypothesis of no cointegrating long-run relationship at the 5% level, regardless of whether the underlying data are I(0) or I(1). In the all the cases, we do not reject the null hypotheses of no residual correlation and residual normality for each experiment. We interpret these results as being supportive of the existence of a long-run relationship between official development assistance (ODA) and Human Development Index and its three components in Pakistan. It can also be interpreted that any movement in the Aid, Health and Education Expenditure are found to be cointegrated or co-moving with the changes in Human Development Index.

5.5.2. Diagnostic Tests of the Model

Table 5.3 gives the results for test statistic using LM version in order to diagnose the consistency and validity of econometric model.

Table 5.5: Results for LM Version

Test Statistics	LM Version
Life Expectancy Index (Eq. 5.1)	
A: Serial Correlation	CHSQ(1) = 0.40737[0.523]
B: Functional Form	CHSQ(1) = 1.7472[0.186]
C: Normality	CHSQ(2) = 1.2331[0.540]
D: Heteroscedasticity	CHSQ(1) = 1.1718[0.279]
Education Index (Eq. 5.2)	
A: Serial Correlation	CHSQ(1) = 1.0151[0.314]
B: Functional Form	CHSQ(1) = 2.6909[0.101]
C: Normality	CHSQ(2) = 0.0087765[0.996]
D: Heteroscedasticity	CHSQ(1) = 0.18568[0.667]
GDP Index (Eq. 5.3)	
A: Serial Correlation	CHSQ(1) = 0.0452[0.832]
B: Functional Form	CHSQ(1) = 1.3690[0.242]
C: Normality	CHSQ(2) = 0.8802[0.644]
D: Heteroscedasticity	CHSQ(1) = 11.754[0.001]
Human Development Index (Eq. 5.4)	
A: Serial Correlation	CHSQ(1) = 3.6098[0.057]
B: Functional Form	CHSQ(1) = 9.9916[0.002]
C: Normality	CHSQ(2) = 0.5098[0.775]
D: Heteroscedasticity	CHSQ(1) = 2.7688[0.096]

A: Lagrange multiplier test of residual serial correlation
B: Ramsey's RESET test using the square of the fitted values
C: Based on a test of skewness and kurtosis of residuals
D: Based on the regression of squared residuals on squared fitted values

The first test in Table 5.3 provides Langrange Multiplier Test of Residual Serial Correlation to see whether the residuals are correlated with their own lagged values or not. The null hypothesis is that there is no serial correlation in residuals up to a specified order. By looking at the serial correlation test we can see that p-values for all the equations are higher than 5% level of significance showing that there is no Auto-Correlation in the model.

The second test (Regression Specification Error Test) was proposed by Ramsey (1969). According to Ramsey and Alexander (1984) the RESET test detects specification error in an equation which was known a priori to be misspecified but which however gave satisfactory values for all the more traditional test criteria-goodness of fit, test for first order serial correlation, high t-ratios. It is apparent that the p-value for (5.1), (5.2) and (5.3) are important at 5 % level of significance. Only Equation (5.4) is less than 0.05 and is evident to the presence of misspecification in the equation.

The normality test comprises the Skewness and the Kurtosis. Skewness is a measure of asymmetry of the distribution of the series around its mean and is zero for normal distribution. Likewise, Kurtosis measures the peakedness/flatness of the distribution and the value for normal distribution is 3. The results show that the p-value is high for all equations and testify the normality the model.

Finally the test for Heteroscedasticity hypotheses that the error variances are equal over the sample, and is calculated from the regression of the squared residuals on squared fitted values and tests whether the squared fitted values in this regression are statistically significant. At 5% level of significance, we see that there is no Heteroscedasticity in Equations (5.1), (5.2) and (5.4). Only the equation (5.3) shows the presence Heteroscedasticity even at 10 percent level of significance.

5.5.3. Estimated Equations

The estimation results of the behavioural equations are presented in the Table 5.4 below. /erall, all behavioural equations have a relatively high explanatory power in terms of R^2. Some planatory variables are retained, despite the coefficients being statistically insignificant. The :timation results considerably support the potential effects that ODA may have on Human evelopment Indicators.

The following table provides the estimated Long-Run Coefficients using ARDL Approach ased on Akaike Information Criterion. The Coefficients for all the four equations along with t-tatistics, R^2 and DW are tabulated as under:

Table 5.6 Estimation results of behavioural equations

Equation (5.1): Life Expectancy Index

LEI = -0.67   + 0.43 ODA   + 0.41 EH   − 0.29 PCY
        (-3.17)   (2.13)   (1.98)   (-1.13)

$R^2 = 0.97$ $DW = 2.11$

Equation (5.2): Education Index

EI = -0.93   + 0.29 ODA   + 0.33 EE   − 0.41 PCY
       (-1.75)   (2.79)   (3.14)   (-3.32)

$R^2 = 0.996$ $DW = 2.25$

Equation (5.3): GDP Index

GI = -3.46   + 0.57 ODA   + 0.26 DE   − 0.24 APC
       (-2.34)   (4.31)   (2.09)   (-1.88)

$R^2 = 0.83$ $DW = 1.87$

Equation (5.4): Human Development Index

HDI = -3.43   + 0.39 ODA   − 0.23 APC   + 0.61 EH + 0.55 EE + 0.9 S + 0.02 Inf
        (-6.15)   (1.91)   (-1.07)   (3.18)   (2.16)   (1.96)   (3.01)

$R^2 = 0.93$ $DW = 2.33$

Note: The numbers in the parenthesis under the coefficient terms are the corresponding t-values. All the variables are estimated in log form.

The Table reveals that the coefficients are statistically significant and the overall fit is very good. DW statistic provides evidence that the estimated equations are almost free of the problem of autocorrelation. For equation (5.1) results show that an increase in ODA by 1 percent

eads to 43 percent increase in the Life Expectancy Index with significant t-statistic. Likewise, an increase in EH by 1 percent leads to increase in LEI by 41 percent with significant t-value. However, an increase in PCY by 1 percent causes reduction in LEI by 29 percent. This result is inconsistent with the theoretical framework but the t-statistic is insignificant so it may be ignored. This coefficient can be interpreted in another way, that is, an increase in the Per-Capita-Income does not necessarily increase the LEI as it does not take into account the distribution of income.

The results for Equation (5.2) explain that increase in ODA by 1 percent begets an increase by 29 percent in Education Index with significant t-statistic. Besides, the increase in EE by 1 percent yields a 33 percent increase in the Education Index with high level of significance. The impact of Per Capita Income, like previous equation, is theoretically inconsistent with higher level of significance.

Equation (5.3) also shows a highly significant impact of ODA on GDP Index as increase of 1 percent in ODA causes 57 percent increase in GI. It is worth notice that the coefficient for Saving(S) in Equation (5.3) was highly insignificant and was dropped in the estimation. Instead, Development Expenditure(DE) was incorporated which shows that an increase in DE by 1 percent leads to an increase in GDP index by 26 percent. The increase in Aid-Per-Capita (APC) has a negative impact on Education Index and it is being substantiated theoretically as increase in per capita aid shows indebtedness. The t-values in these equations are highly significant.

Finally, Equation (5.4) exhibits a significant impact of ODA on Human Development Index implying that an increase in ODA by 1 percent leads to 39 percent increase Human Development Index. The impact of Health and Education Expenditure has highly significant results and show 61 percent and 55 percent increase as a result of increase in ODA respectively. The saving also has positive though less relatively insignificant impact. The Aid per capita has negative impact that corroborates the sign of the coefficient in Equation (5.3). Inflation, the proxy for economic instability, has a positive though a small impact on the

ependent variable and the sign is at variance with the economic theory. The t-values in the

quation are significant except for APC.

5.6. Summary

The chapter has established the macroeconometric model stating an impact of ODA on LEI,

:I, GI and HDI. After testing the data for Unit Root and using F-Statistic Bound Test, the ARDL

echnique is employed to estimate the econometric model. The long-term relationship in each

:quation is given and estimation results are interpreted.

Overall, the estimation results are robust indicating that foreign aid has significant impact on

iealth, education, access to resources and human development in Pakistan. The magnitude of

he coefficient of ODA is relatively small in relation to the impact of Development Expenditure.

"hough co-integration tests have various limitations yet the contribution of this paper is that

obust estimation and testing techniques have been used, where the validity of results is well-

ioised. The results are discussed at a length in Chapter 6.

Chapter 6

EFFECT OF OFFICIAL DEVELOPMENT ASSISTANCE ON HEALTH, EDUCATION, ACCESS TO RESROUCES AND HUMAN DEVELOPMENT INDEX IN PAKISTAN

Introduction

The results show that aid has a substantial impact on social sector in Pakistan as it has been ancing pro-poor public expenditures both directly and indirectly. Through the direct channel, I is taken as budgetary support while in the indirect channel aid releases the resources that re otherwise allocated for such purposes. We also have analyzed that Expenditure on Health d Education is highly responsive to an improvement in health, education and access to sources. The estimation based on 31 observations over the period 1975 to 2006 endorses the pothesis that aid has substantially improved the longevity, knowledge, access to resources d human development in Pakistan.

There is corollary to this argument that many countries have realized the social development ithout foreign aid through indigenous and home-grown development policies. So the question rises whether the absence of aid might have negative impact on development outcomes in 'akistan. This counterfactual argument aside, this study discussed the impact of aid on social ector in section 6.1.

6.1. Results and Discussion

The results summarized in the preceding chapter show a clearly positive effect of aid on Jevelopment outcomes in Pakistan. Foreign aid has positively affected health, education, access :o resources and human development index and the direct effects of aid are summarized in the following table:

Table 6.1: Direct effects[93] of aid on the development indicators

Longevity (Health)	positive and statistically less significant
Knowledge (Education)	positive and statistically significant
Access to resources (Income)	positive and statistically significant
Human Development Index	Positive and statistically significant

Table 6.1 shows that the direct impacts of foreign aid on health, education, access to resources and human development index is positive and statistically significant in Pakistan during 1975 and 2006. The coefficient of aid on health, however, is statistically less significant as the t-values are accepted at 10 percent level of significance.

The findings of this study are comparable to many studies. First of all, Ishfaq (2004) held "that foreign aid, though in a limited way, has helped in reducing the extent of poverty in Pakistan". Likewise, Fielding et al (2006) found a straightforwardly positive effect of aid on development outcomes. In another study, Fielding et al (2005) observed that foreign aid positively affected the MDG targets including health, wealth and wisdom in a data set for 48 countries. This study is also in line with the findings of Kosack (2003) who observed that foreign aid 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. This study observed that foreign aid is less effective in development vis-à-vis public expenditure on health and education.

The results are also similar to the research on African countries. Severino and Charno (2005) maintain that during the 1990's, the Human Development Indicator (HDI) dropped in 21 of the worlds' countries, 14 of which are in Africa and being ravaged by the AIDS epidemic (UNDP, 2003). During this same period, the world's Official Development Assistance (ODA) dropped sharply and Africa suffered as a result: thus, the usefulness of aid cannot be called into question, much to the contrary, in fact. The remarkable improvement in the health sector in Africa is evident to the effectiveness of development assistance. Over the last forty years, the child and

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[93] Fielding et al (2006) differentiates the direct effect and the 'equilibrium' effect of aid. An increase in aid may have several direct effects: improved sanitation, more education, lower child mortality, and so on. But this will then have knock-on effects on other outcomes, on average. So the final effect of aid on development—the equilibrium effect—might be rather different from its direct effects.

ant mortality has dropped substantial through effective disease control especially with the help bilateral donors.

These results are somewhat dissimilar to many studies on developing countries, which ostly report negative impact of aid on development outcomes. One explanation for this ssimilarity is that most of studies used income-based-welfare indicators while the findings of iis study are based on a broader measure that includes health, wealth and wisdom and not iealth alone. Secondly, the major chunk of aid to Pakistan like other developing counties omprises military aid, which is not included in Official Development Assistance. This study, inlike total impact of aid, is constricted to an exclusive part of total i.e., ODA and the results vould have been different in the presence of military aid even in the case of Pakistan.

Moreover, the contrast in results is owed to the heterogeneity of estimation technique, dataset, time-period and sample in studies. In order to analyse the results of this study it would be worthwhile to compare it with the results of other relevant studies. Some of the relevant results are discussed here in order to compare/contrast the findings of this study.

On the other hand, Feeny (2003) concluded that aid projects have not been effective at providing basic facilities especially clean supply of water to rural communities and greater security to the poor in Papua New Guinea. Boone (1996) and Pedersen (1996) also observed that aid did not promote economic development.

It should, however, be borne in mind that the results in this study do not give the relative analysis of human development indicators in Pakistan. During 1999 and 2004, the absolute of HDI in Pakistan increased from 0.528 to 0.547, while the HDI ranking of Pakistan for the corresponding years has gone down from 120th to 143rd. In 2007, the ranking improved to 137 among the comity of 177 nations. The decline in the ranking may be a result of better performance of other countries or improvement in the ranking might be because of ineffectiveness on the part of other countries.

6.2. Summary of Findings

In this study, recent time series technique i.e., ARDL was used to determine the long-run dynamic linkages between the foreign aid and a set of human development indicators. At the outset, foreign aid was defined as "official development assistance", which implies the official transfer on concessional terms (with at least 25% grant element) for development purpose. Pakistan has a long track-record of dependence on foreign aid in order to meet its development needs. The core objective of the study was to examine whether this reliance on foreign aid has helped Pakistan in realizing its human development or not. In Chapter 1 it was endeavoured to extend the traditional approach in aid effectiveness by incorporating human-development-index as an indicator for the social and human development.

In Chapter 2, the literature on "aid-growth" and "aid-development" was reviewed in order to gain theoretical grounds by looking at three generations of studies and empirical evidence on the impact of aid on the growth and development outcomes in recipient economies.

The overview of foreign aid and human developed in Pakistan is discussed in Chapter 3. The brief economic history of Pakistan is categorized into six specific periods. It was recorded that Pakistan started overdependence during the decade of 1960s and was highest during 90s. This brought the debt accumulation strategy of the government under criticism and there was growing consensus among policy makers that country's growth strategy should be independent of foreign debt. The paper also discussed the dynamics of aid and its role in human development in Pakistan.

The analytical framework was established in Chapter 4 contending that the aid effectiveness can be better assessed by looking at its impacts on wealth, health and education instead of wealth only. In this regard, the hindsight is taken form Fielding et al (2006), Fielding and McGillivary (2004), Feeny (2003) and Papanek (1973). Hinging upon aid-development nexus, the interactive effects of aid and human development index have been instituted. The role of aid as an increment to the stock of physical capital and the impact of aid-financed public spending was also underscored and the study asserted that aid may raise human development by

increasing household income and then supplementing the public spending. The *macro-econometric* model of aid effectiveness was developed so as to see the potential impacts of aid on the social sector of Pakistan. A set of four equations established a model to assess the impact of official development assistance on health, education, access to resources and finally the human development index. The data sources, variables and techniques employed for the constructions are also elucidated.

Chapter 5 of the study evaluated the effectiveness of Official Development Assistance in Pakistan by assessing its impact on Life Expectancy Index, Education Index, GDP Index and Human Development Index during 1975 to 2006. Empirically a significantly positive relationship between aid and the human development was found in Pakistan. We also noted a highly significant effect of Public Expenditure on Health (percentage of GDP), Expenditure on Education (percentage of GDP) and Development Expenditure (percentage of GDP) on Health, Education and access to resources respectively. The results also underlined a positive effect of National Savings on HDI and negative impact of inflation and aid per capita on HDI.

Chapter 7

CONCLUSION AND RECOMMENDATIONS

7.1. Conclusive Remarks

The study has analyzed the effectiveness of aid on the social landscape of Pakistan over a span of 31 years. The main objective has been to assess the impact of aid on health, education access to resources and human development index in Pakistan. On the whole, the official development assistance is found to be significantly and positively correlated to Life Expectancy Index, Education Index, GDP index and Human Development Index. These results are evident to a positive, though moderate, impact of foreign assistance on the social sector.

Secondly, the research has also underlined the need for increasing public expenditure on health and education. There is compelling evidence that public expenditure on health and education is more responsive than ODA in Pakistan. The magnitude of public expenditure is almost twice of ODA implying that an increase of current expenditure on health and education would yield twofold increase in human development as compared to ODA.

Notwithstanding the heterogeneity of dataset, period and estimation methods, the analysis of aid effectiveness from the social perspective in Pakistan comes up with some contrasting evidence. Unlike this study, the literature generally holds that foreign aid in developing countries has had adverse effects on growth. Pakistan, like other developing countries, has been a recipient of aid but the economic performance remains fairly disappointing, which is testimony to the fact that large amount of aid does not necessarily assure economic growth.

There are a number of underlying causes for this contrast. First of all, the study does not explore the aid-growth relationship using traditional per-capita-income approach but rather banks on a broader set of indices. Literature has established that aid improves development but not necessarily improve growth. In the case of Pakistan, the reference is invited to Ishfaq(2004)

wherein aid has negative impact on growth but has positive yet limited impact on poverty alleviation. Secondly, the model does not account for the military aid and other non-development oriented flows, which has been the main slice of foreign aid in Pakistan. The impact of aid after inclusion of military aid may come up with different results.

The study has focused on a specific area for research and many facets of the subject do not lie in the ambit of this research. First of all, the research does not take in the heterogeneity of aid rather it uses aid as single aggregate i.e. official development assistance. So the study does not analyse the military aid. The classified aid such as impact of bilateral aid, multilateral aid, project aid, program aid, is not discussed. The vertical (sectoral) and the horizontal (geographical) break-up of aid is also beyond the scope of research. Yet it is felt that the results would have been much better had the analysis been made at the sectoral level.

Amidst theoretical and econometric constraints, a single study, by no means, can undertake an all-out analysis of the subject. The study, therefore, like other studies is subject to certain conceptual and quantification challenges. This apart, the study has given vent to many untrodden avenues on aid effectiveness in Pakistan.

There is a growing consensus almost among all economists that development assistance has a potential to improve the welfare of the masses. But aid alone is not enough for improving the human development indicators rather we need a set of pre requisites for that. The quantity of aid needs to be in sync with quality to achieve sustainable development.

7.2. Recommendations

a. The study observed that the level of human development is far from satisfactory as the ranking of Pakistan is 137th out of 177 countries. This calls for concerted efforts on the part of Government to develop the human resources in Pakistan as it not only enhances government capacity but also becomes an agent of innovation and technological progress. It is suggested that Government should increase expenditure on health and education to at

least 4 percent of GDP in order to meet the minimum threshold. Government should also focus on technical assistance especially Trade Related Technical Assistance so as to diversify the export base and markets. Government should also accord priority to the transfer of sate-of-the-art technology and impart technical and vocational education to produce skills in the economy.

b. To improve Education Index, government should overcome high drop-out ratios especially at primary level, improve the quality of teachers and education managers, overcome monitoring gaps and keep a balance among primary, middle and secondary schools. Government should also bring the private sector on the vanguard and improve the curriculum.

c. In order to improve Life Expectancy Index and Health Indicators, Government should establish liaison between education and health as our educational institutions are ill-equipped to aware health care providers for services delivery. Besides, the government lacks precise database on health needs and infrastructure and existing health policy is based on broad evidence, which needs to be refined.

d. The economic history of Pakistan reveals that the country has been reliant largely on 'donor driven' development recipes. Instead, the development strategy should be 'owner driven' and focus should be on reducing the dependence on foreign aid should as no country can progress without establishing its own systems and institutions.

e. The social indicators in Pakistan are testimony to the fact the country lacks basic health and education infrastructure, which is a precondition not only to sustain economic growth but also to alleviate poverty. The development assistance should focus on the provision of economic infrastructure in order to link ODA, trade and investment. The focus of development assistance should be destined at the provision of integrated water management, efficient alternative energy and efficient communication infrastructure. The government should raise funds for Mega projects like construction of Diamir Basha and Katzarah dams and, if

possible, Kalabagh dam. Likewise, donors should be convinced to fund Iran-Pakistan-India and Turkmanistan-Afghanistan-Pakistan gas pipeline projects.

Recently Government of Pakistan embarked on Sector Wide Approach (SWAp), which is a government-led partnership involving different arms of government, civil society and one or more donor agencies[94]. The approach has changed the dynamics between governments and donor agencies, requiring systemic changes in policy-making and management in both governments and donor agencies. With the SWAp, ongoing joint assessment and negotiations around sectoral plans and review of performance replaces the old way of preparing and supervising projects. Unlike traditional project approach SWAps reduce duplication, lower transaction costs, increase equity and sustainability, and improve aid effectiveness and sectoral efficiency. First, SWAp explicitly mandates the Government with the leadership. Second, SWAp emphasizes strengthened sectoral management through the development or adaptation of management tools, combined with strengthening of implementation capacity. Thirdly, both government and donors fund in accordance with the national development plan. Donors are also obligated to harmonize their systems and procedures with government. Fourthly, the joint monitoring and evaluation becomes institutionalized[95] In Pakistan SWAp was first adopted in 1993 to improve investments in basic social services. In the First phase (1993-1997): the program focused initially on primary health, including community services and basic health units, primary education, population welfare and rural water supply and sanitation. The Second phase (1997-todate) extended to include all elementary education, health up to first level hospitals and more urban areas activities.(Brown, 2000). Government should consolidate the SWAps and instead of project-based and program-based approaches.

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[4] For details see Cassel's (1997), "Guide to Sector-Wide Approaches for Health Development"

[5] For details please refer to WHO website [http://www.who.int/bulletin/volumes/82/12/editorial21204html/en/]

areas of Baluchistan and Northern Areas. This will unearth the channels through which aid may affect development process in Pakistan.

It is also cardinal to point out that the measures of aid, recently contrived by OECD-DAC, provide comprehensive and more precise effects of foreign aid. The aid effectiveness may undertake "Social Aid", "Effective Development Assistance", and "Official Development Finance" as measures of foreign aid.

Bearing in mind that this study riveted focus on the link between development assistance and development outcomes, it is worth mentioning that success of aid banks on the virtuous economic cycle of public investment, savings, exports to ensure that the living standard of the masses is uplifted. The research by taking in the policy environment and inclusion of a set of wide-ranging macroeconomic variables can stand in a good stead towards assessing the aid effectiveness.

The results of the study dictate that Pakistan has been deficient in achieving the desired levels of social indicators calls for strong and effective institutional capacity. However, the analysis carried out in this study did not elaborate on ways to strengthen institutional capability to effectively utilize foreign aid and thereby ensure development. How to augment the institutional capacity to ameliorate the social indicators deserves further study.

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