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# Aid Conflict and Human Development in Pakistan

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## Abstract

*Does aid cause conflict or promote human development? Pakistan has been a major aid recipient as a strategic US ally since the cold war. Growth followed but with increasing inequalities and social tensions. Soviet-Afghan war brought arms and drugs culture. War on terrorism has produced ethnic and religious fractionalization. The relationship between aid, conflict and human development suffers from reverse moral hazard. On the basis of multinomial log it regression, we conclude that donors' pursuit of strategic agenda creates conflict and low human development. Donors demand diligence and impose conditions to win cooperation and trust, while the recipient struggles with the after effects of aid shocks and waits for more aid to undertake expensive reforms.*

**Keywords:** Conflict, Aid, Military expenditure, Human development, Growth, Pakistan.

**JEL Classification:** O150

## I. Introduction

Eight out of the ten countries with the worst Human Development Index (HDI) have witnessed conflict (Stewart, 1998). These conflicts are due to food shortages and low per capita income and access to social services. According to the scholars like (Nielsen et al., 2011; Nunn & Qian, 2014) an increase in aid increases the occurrence of civil conflicts, but does not affect interstate conflict. The nature and the magnitude of these conflicts have varied, including externally fought wars (interstate) and the internally embedded extremism.

Pakistan has received huge sums of aid but is still a low-income country with a poor HDI. She has witnessed eras of instability arising from varied types of conflict. Kashmir war in the 1960s, the Afghan war in the 1980s and the war on terror in the 2000s were all associated with high aid inflows, particularly from the US. Is Pakistan unsure of her development or more interested in a strategic alliance with the US for aid or is she more concerned with its

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strategic position in the region? Whatever the motivation, the net outcome is donor mistrust and failing human development. This study explores the issue of moral hazard in obtaining aid. It further explores the relationship between aid and conflict on the one hand and the impact of conflict on human development on the other.

Recent literature on aid effectiveness explains how donors use aid as a tool to influence the recipient's policies to suit their political and economic interests (Balla & Reinhardt, 2008). There is considerable evidence that economic inequalities and civil conflicts in developing countries increase as an outcome of pursuing donors' agenda (Balla & Reinhardt, 2008; Collier, 2007; Nielsen et al., 2011). Aid may generate growth, but without development (Easterly, 2002). It increases debt burden, military expenditure, social tensions, inequalities and conflicts (Murshed & Sen, 1995).

One set of studies sees the failure of aid as an agency problem. The moral hazard issue starts with the assumption that agents suffer from commitment dilemma and weak institutional support but ignore the structure and pattern of aid allocation of the principal. Donor errors and recipient errors create moral hazard and prisoner's dilemma (Garriga & Phillips, 2014; Hawkins et al., 2006; Kang & Meernik, 2004; Lipton, 1986).

There is another view that the recipient is not diligent about the prescribed policies of the donors. Agents commit to aid conditionality, but start pursuing their strategic interest. Agents also have information that is not available to the principal. This leads to the failure of the agenda and prolongation projects entailing extra cost. Aid fails because developing countries suffer from aid fungibility and moral hazard (Eisenbeis, 2004; Hawkins et al., 2006; Ouattara, Amegashie, & Strobl, 2009; Podszun & SpringerLink, 2011; Hawkins et al., 2006; Holt, 2011; Isopi & Mattesini, 2010). Asymmetric information and lack of coordination on the part of the recipient is used as a reason for unmet donor agenda (Compte, 2002; Isopi & Mattesini, 2010; Kono, Montinola, & Verbon, 2015). An important point is whether donors' strategic and economic policies cause moral hazard or it is the myopic attitude of the recipient responsible for the failing development agenda (Hawkins et al., 2006; Kang & Meernik, 2004; McLean, 2015; Merz, 2012).

The agent's point of view is different from the principal. Donors demand due diligence and the agent suffers the consequences. Donors overlook flaws in aid policies and blame the recipient with agency problems (Claudia, 2009). Agents cannot afford to have an expensive institutional culture and structure. This institutional bias is the major hindrance in aid effectiveness. The agent is less responsible in the use of aid, which appears as easy money. Due to strategic and political alliance, the recipients suffer from the aid shocks in the form of weak governments and increased military expenditures. It also substitutes social

sector spending with aid money. The outcome is flat or negligible spending on human development. Martens (2002), Hawkin (2007) and Amegashie, Ouattara, and Strobl (2007) build a signaling mechanism for agents because the principal has asymmetric information for the insurmountable task of achieving its interests.

Section II reviews the literature on aid effectiveness. Section III constructs a simple pay off matrix to show that giving aid is in the interest of the donors, a case of reverse moral hazard. The methodology and the data sources are discussed in Section IV. Section V presents the descriptive analysis and applies the methodology to the Pakistan context to generate empirical findings. The last section puts together the conclusions of the paper.

## 2. Literature Review

President US Truman in 1949 announced economic aid for the developing countries to help them in overcoming the structural issues and he declared it as the “fair deal” Escobar and West (1995). This interplay of “too little” development aid and rising expectations caused conflict and created a governance issue which governments cannot deal. Amegashie et al. (2007) found an inverse relationship between the proportion of tied aid and the level of the recipient’s governance. They find that the amount of tied aid decreases with an improved level of moral hazard (governance). Burnside and Dollar (2004) find a positive relationship between aid and economic growth in the short run. Aid is merely an income transfer that cannot increase production, which depends on a set of economic policies and the use of income. According to Bornschier, Chase-Dunn, and Rubinson (1978), aid increases growth in the short run, but reduces growth and creates income inequality in the long run. Aid announced early and dispensed rapidly can hasten stabilization, while aid offered late has the opposite effect (Casella & Eichengreen, 1996). Paying no heed to local realities and overambitious plans are reasons for failing to achieve the objectives of aid (Sachs, 2005). Aid may focus on growth and strategic objectives but ignores its effects on other sectors. Objectives may be contradictory in nature and reluctance in implementation is the reason for failure. Radelet (2006) discusses the multiple motivations and objectives of aid, some of which conflict with each other.

Aid has enlarged government bureaucracies, perpetuated bad governments, enriched the elite in poor countries, or is just wasted. Roodman (2007) explains that aid is not a homogenous factor. Aid programs vary from food aid to judicial reform to building infrastructure. It is not easy to find the overall effectiveness of aid and policy in an economy. Savings, inequality and governance are more decisive factors than aid Stiglitz (2010). It fails in some situations, reduces poverty in others and prevents bad economic performance in still others. Easterly and Pfutze (2008) pin the failure of aid programs on lack of transparency, selectivity,

specialization, fragmentation and minimization of the overhead costs. Donors provide limited information on expenditure and costs of aid projects, which makes it difficult to determine success. Claudia (2009) finds that donors do not follow best practices.

Most of the time they struggled to follow the criterion of best practice laid down in the Paris Declaration of 2005. They have no understanding of the political conditions of developing countries. Furthermore, these funding agencies rely on bureaucrats. These delegating agencies measure their objectives by money disbursed rather than service delivered (Easterly, 2002; Hawkins, 2007). The principal and the agent are assumed to be the two pillars that have to behave in harmony for achieving objectives. It is misleading to assume that the government is a bundle of individuals, rational enough to achieve their objectives. In a society lacking shared beliefs, norms and values, rules are distorted in favor of the ruling elite. It is hard to set objectives and harder to achieve them (Gintis, 2007). Third-party evaluations and establishing a feedback link have not worked either. Donors can dispense with aid programs at any time for any reason, causing instability (Easterly, 2003). Eisenbeis (2004) argues that omissions and inconsistencies in policies that have conflicting outcomes for those not directly involved in implementation can be the reason for agency problems.

Many donors provide significant aid to their former colonies as a means of retaining some political influence (Alesina & Dollar, 2000). Collier and Hoeffler (2004) analyze the effect of civil conflict on aid effectiveness. According to them, aid works in a good policy environment after a few years of civil conflict. Claudia (2009) attempted to understand why foreign aid failed to achieve its objective. Aid can be more effective if the donors follow the best practices and most of the time donors struggled to follow the criterion of best practice laid down at Paris declaration in 2005. According to her, bilateral aid agencies performed better as compared to the multilateral organizations because these organizations have no understanding of the political conditions of these very countries. These funding agencies rely on bureaucrats who are highly inefficient in achieving the principal objectives. Isopi and Mattesini (2010) raised the issue of the implementation of aid projects. According to the asymmetric information and lack of proper incentives to the agent inundated the effectiveness of development assistance. Recipients use their agenda rather than chasing the objective of the donor create an issue of moral hazard and adverse selection. Conditionality is the solution to tie down the donor to meet diligently donor's agenda.

### ***2.1 A Case of Reverse Moral Hazard***

Principal and agent are the two pillars who have to behave in harmony for achieving the objective. It is misleading to assume that government is a bundle of individuals, rational enough to achieve their objective. In a society which lacks a shared belief, norm, values and

rules are distorted in favor of the ruling elite. It's even difficult to set a objective and even harder to achieve it (Abebe et al., 2020). Eisenbeis (2004) argues that omissions and inconsistencies in policies which have conflicting outcomes for those who are not directly involved in implementation can be the reason for agency problems. The time required for implementation and legislation due to political polity is another reason for the agency problems.

Contrary to the standard aid analyses, Pakistan is a case of reverse moral hazard. We create a simple payoff matrix of aid allocation with notional numbers to find who creates moral hazard. There are two strategies for donors, either to give or not to give aid. Pakistan, the recipient, has three ways to respond: if it accepts aid, then either to spend on arms imports or to spend on human development. Currently, Pakistan spends almost two per cent of GDP on the social sector (education and health) and 3 per cent on defense. Pakistan has received, on average, four per cent of GDP as net official development assistance. Aid is fungible for the recipient, which creates fiscal space to increase the arms imports. Aid substitutes rather than supplement the allocation to the social sector. According to Collier (2009), fragile states fail to reduce military expenditure, which reduces social welfare. Table 1 shows our simple exposition.

Table 1  
*Payoff Matrix of Aid Allocation to Pakistan*

<i>Donors</i> \ <i>Pakistan</i>	<i>Accept aid</i>	<i>Arms imports</i>	<i>Human development</i>
Not to Give Aid (S1)	(0, 0)	(+2%, -2%)	(+1%, -2%)
Give Aid (S2)	(-4, +4)	(+1, -1)	(+1, -1)

Not to give aid (S1) means to fall in arms exports and related tax revenue, besides losing a strategic partner. It has negative implications for the donor's political and economic interest. For the recipient, S1 means a budget and foreign exchange constraint, forcing a reduction in arms imports and fiscal pressure on human development spending. So S1 strategy is good neither for the donor nor the recipient. If the donor gives aid (S2), there is a shift of resources from the donor to the recipient, relaxing its budget constraint. This aid will create a strategic and economic link between the donor and the recipient necessary for human development. Now if the donor plays strategy 2 (give aid), it always does better than strategy 1 (give no aid), no matter what the recipient opts to do. This means the recipient will always go for aid and this suits the donor as well. We can infer that giving aid creates a moral hazard issue for the donor, not the recipient, as the literature invariably suggests. In fact, there is a reverse moral hazard issue.

### 3. Methodology and Data

Hoeffler (2019) and McGillivray and Morrissey (2000) used a single-equation empirical model to determine the impact of conflict on human development index (HDI) and they found that aid is not enough to offset the negative effect of uneven development and cause conflict. In this paper, we used constrained optimization model where objective function is to maximize the HDI. HDI is seen as a function of GDP Per Capita and Social Sector Development. The social sector is defined as government expenditure on education and health.

#### 3.1 Objective Function:

Maximization of Human Development = (social sector spending, GDP per capita)

##### 3.1.1 Subject to Constraints

The government faces a budget constraint. Aid appears as a revenue source to soften this constraint. The budget constraint is given by

$$Y + A \geq ps S_1 + pgG_2$$

Where Y is the total revenue, A is an aid, S is social sector spending and G is GDP per capita. The recipient seeks to maximize human development and tries to get as much aid as it can. Aid is usually tied to the donors' objectives, which have economic and political implications. We hypothesize that failure in curtailing the military expenditure results in conflict in society. The total amount of aid received provides a proxy for the donors' agenda, while the social sector spending and GDP per capita serve as a proxy for human development.

#### 3.2 Variables and Data

The main variables of this study are conflict, aid, social sector spending and GDP per capita growth. Conflict is defined as the violent attack on human and physical capital for capturing the state or for territory. The period covered is 1961-2018. Conflict (yt) is the focus variable, with conflict type ranked from 0-4 discrete categories: 0 = no conflict, 1 = interstate conflict, 2 = internal ethnic conflict, 3 = simultaneous occurrence of internal and external conflict and 4 = internal ethnic and religious conflicts. The variable aid includes all the grants and loans given to Pakistan during 1961-2018. The data was taken from Statistical Appendix to Pakistan Economic Survey, 2011 and the relevant past issues.

This is also the source of data on health and education expenditure. The source of data for GDP growth per capita is Pakistan Bureau of Statistics. Data on conflict was taken from Harbom and Wallensteen (2010). Military expenditure data was obtained from SIPRI (2011) and arms import data was downloaded from World Development Indicators (2020).

### 3.3 *Multinomial Logit Model*

The multinomial logit is used for discrete choice data where the values of dependent variable have no natural order. It is used to explain the characteristics of the various choices but not as alternatives. It attempts to explain the relative effect of explanatory variables on the different outcomes. One of the outcomes is arbitrarily chosen as the base outcome. Errors follow identically, independently distributed (IID) assumption.

$$y_{ij} = \alpha_0 + \beta_{ij}x_{ij} + \mu_{ij}$$

$$\text{Where } y_i \begin{cases} 1 \text{ if } y_i^1 > y_i^2 \dots y_i^j \\ 2 \text{ if } y_i^2 > y_i^1 \dots y_i^j \\ \vdots \\ m \text{ other wise} \end{cases}$$

$$P_{ij} = \frac{e^{x_{ij} \beta_j}}{\sum_{j=1}^4 e^{x_{ij} \beta_j}}$$

where Pr is the probability of ‘I’ conflict incidents in a set of possible discrete time choice categories, with ‘j’ alternatives, x<sub>ij</sub> is a vector of measurable characteristics that determine alternatives j; B<sub>ij</sub> is a vector of statistically estimable coefficients. Odd ratios can be described as (P<sub>ij</sub>/p<sub>ni</sub>). It becomes more and more complex when the number of alternative choices increases. Our purpose is to model probabilities for the M different outcomes in such a way that they sum up to unity.

$$P(y_{it} = 0) + P(y_{it} = 1) + P(y_{i_{t+1}} = 2) + P(y_{i_{t+2}} = 3) + P(y_{i_{t+1}} = 4) = 1$$

To avoid serious bias, this model assumes that errors are correlated across choices, so that various conflict incidents are independent of each other.

## 4. *Analysis*

Table 2 shows the relationship between total aid, bilateral and multilateral aid, military expenditure and incidents of conflict. Parentheses indicate the values of coefficient of variation. Over the years, the number of conflict events have increased and reached the peak during the Musharraf regime (1999-2007). Military expenditure as percentage of GDP was

the highest (6.1) during the regime of Zulfikar Ali Bhutto. Since then it has been declining, reaching 3.3 per cent of GDP, the level during Field Marshal Ayub's regime (1961-69).

Table 2

*Relationship between Conflict, Aid and Military Expenditure (% of GDP)*

Regime	Incidents of Conflict (No.)	Military Expenditure as % of GDP	Total Aid as % of GDP	Bilateral Aid as % of GDP	Multilateral Aid as % of GDP
Field Marshal Ayub Khan [1961-1969]	1	4.9 (0.228)	8.49 (0.22)	6.62 (0.3102)	0.87 (0.4702)
General Yahya Khan [1970-1972]	2	6.5 (0.119)	4.60 (0.33)	3.44 (0.3177)	0.63 (0.4117)
Zulfikar Ali Bhutto [1973-1977]	4	6.1 (0.1005)	6.17 (0.30)	2.46 (0.1776)	1.01 (0.2811)
General Zia-ul-Haq [1978-1988]	3	6.3 (0.1129)	6.96 (0.15)	3.87 (0.1358)	3.72 (0.1442)
Benazir Bhutto and Nawaz Sharif [1989-99]	7	6.1 (0.125)	4.25 (0.26)	1.08 (0.3008)	2.04 (0.1985)
General Pervez Musharraf [2000-2007]	15	3.9 (0.074)	2.53 (0.29)	0.58 (0.7216)	1.46 (0.2037)
Asif Ali Zardari [2007-2013]	13	3.4 (0.075)	3 (0.45)	0.46 (0.6132)	1.34 (0.6053)
Nawaz Sharif [2013-2018]	11	3.7 (0.059)	3.92 (0.43)	2.60 (0.58)	1.57 (0.26)

Note: Coefficient of variation in parentheses

Source: Author's calculation based on the data from various issues of Economic Survey of Pakistan

Aid as percentage of GDP was the highest during General Ayub's regime, which declined sharply during General Yahya's regime to 4.6 per cent of GDP. Under Bhutto's regime it increased again and was recorded at 6.2 per cent of GDP. During General Zia's regime, it again reached 7 per cent of the GDP. Aid remained consistent during military regimes in Pakistan and least inconsistent during the Zardari's regime. Military expenditure declines with the aid allocations. Over the years the proportion of bilateral aid has declined and multilateral aid has increased. This means more loans and limited grants. Failure in implementing the aid agenda thus has a cost for Pakistan. In Table 3, we see that higher GDP growth per capita coincides with higher levels of aid and higher levels of aid coincide with military authoritarian regimes. Annual average GDP growth per capita was the highest during General Ayub's regime and the lowest during General Yahya's regime. Domestic savings have always been low, which makes the case for aid. But aid has supplanted, not supplemented, domestic saving. As percentage of GDP, gross domestic saving has been lower during the high aid regimes.

Table 3  
*Human Development and Macro Economy*

Regime	GDP Growth Per Capita (Annual %)	Gross Domestic Saving (% of GDP)	Poverty Ratio (%)	Annual Average Social Sector Spending (% of GDP)
Field Marshal Ayub Khan [1961-1969]	4.5 (0.5)	9.91 (0.24)	44.5	0.99 (0.31)
General Yahya Khan [1970-1972]	-2.1 (-0.1)	9.44 (0.08)	46.53	1.56 (0.17)
Zulfikar Ali Bhutto [1973-1977]	2.2 (0.8)	8.03 (0.26)	30.68	1.53 (0.14)
General Zia-ul-Haq [1978-1988]	1.8 (0.9)	8.15 (0.24)	45.2	1.77 (0.23)
Benazir Bhutto and Nawaz Sharif [1989-99]	1.3 (1.3)	14.76 (0.15)	33.2	2.29 (0.06)
General Pervez Musharraf [2000-2007]	2.9 (0.8)	16.01 (0.07)	26.4	2.02 (0.14)
Asif Ali Zardari [2007-2013]	2.1 (0.2)	11.22 (0.04)	37.5	2.08 (0.08)
Nawaz Sharif [2013-2108]	2.95 (0.20)	6.58 (0.26)	24	3.18 (0.08)

Note: Coefficient of variation in parentheses

Source: Author's calculation based on the data from various issues of Economic Survey of Pakistan

Social sector spending remained almost flat and least consistent during Ayub, Zia and Musharraf regimes.

#### 4.1 *Empirical Results*

In the results (Table 4), the iteration log indicates that our model explaining the relationship between conflict and aid, GDP per capita growth and social sector spending converged after seven iterations. The log likelihood was -51.488 and the likelihood ratio chi square was 40.35 with a p-value less than 0.0001. It can be interpreted as it fits well.

$$\ln\left(\frac{\text{Interstate Conflict}}{\text{No Conflict}}\right) = \alpha + \beta_1 \text{GDP Per Capita Growth} + \beta_2 \text{Social sector Spending} + \beta_3 \text{AID} \dots \dots \dots \text{Eq (1)}$$

$$\ln\left(\frac{\text{Ethnic Conflict}}{\text{No Conflict}}\right) = \alpha + \beta_1 \text{GDP Per Capita Growth} + \beta_2 \text{Social sector Spending} + \beta_3 \text{AID} \dots \dots \dots \text{Eq (2)}$$

$$\ln\left(\frac{\text{Internal, External}}{\text{No Conflict}}\right) = \alpha + \beta_1 \text{GDP Per Capita Growth} + \beta_2 \text{Social sector Spending} + \beta_3 \text{AID} \dots \dots \dots \text{Eq (3)}$$

$$\ln\left(\frac{\text{Internal Conflict}}{\text{No Conflict}}\right) = \alpha + \beta_1 \text{GDP Per Capita Growth} + \beta_2 \text{Social sector Spending} + \beta_3 \text{AID} \dots \dots \dots \text{Eq (4)}$$

Equation 1 can be explained in Table 4 as the impact of interstate conflict in relation to no conflict in Pakistan. β’s are the regression coefficients which can be interpreted with respect to the base 2 category. In the table 4 below, the iteration log indicates that in 9 iterations model converged. The log likelihood (-54.668307) with a p-value < 0.0000 tells us that our model as a whole fits significantly better than an empty model.

One unit increase in GDP per Capita income is associated with 0.191 unit decrease in the relative log odd of interstate conflict vs. no conflict in Pakistan whereas Economic assistance (Aid) increases interstate conflict in comparison to no conflict by 0.00016 unit. In case of Social Sector Spending, one-unit increase will decrease relative log odd of interstate conflict by 0.98.

The relative log odd ratio of all four categories of conflict is negatively related with social sector spending and GDP growth per capita and it increases with aid. This means that aid increases the probability of conflicts and decreases social sector spending, while GDP growth per capita increases the probability of conflict in Pakistan. The worst scenario is in category 4, which is a combination of ethnic and religious conflict log odd. In most of our results, GDP per capita and social sector spending log odd ratios are insignificant. Aid remained significant in all four categories. We conclude that aid causes conflict. The negative sign of GDP per capita and social sector spending shows that decrease in these values may also be a source of conflict.

Number of obs	= 58	LR chi2 (8)	= 60.41
Pseudo R2	= 0.3559	Prob > chi2	= 0.0000
Log likelihood	= -54.668307		

Table 4  
*Multinomial Logistic Regression*

Variables	(1) Interstate	(2) Ethnic	(3) Internal+ external	(4) Internal
Gdpp	-0.191 (0.175)	-0.157 (0.203)	-0.633* (0.358)	-0.960 (0.855)
Econaid	0.0155* (0.00632)	0.0768*** (0.00744)	0.0147*** (0.00123)	0.0575** (0.00507)
Sss	-0.981 (0.837)	-0.478 (0.456)	-0.637* (0.34)	-0.223* (0.0149)
Constant	-1.947 (2.434)	-4.864 (3.101)	-4.215 (5.211)	-63.33 (43.40)
Observations	58	58	58	58

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

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#### 4.2 *Relative Risk Ratios*

The relative risk ratio is the exponential value of the coefficient relative to the base outcome, given that other model variables are constant. In our model, base outcome is no conflict. If there is one unit increase in conflict, the risk ratio of Kashmir conflict relative to no conflict would be expected to increase aid by 1.003, other variables being constant. The same is the interpretation of GDP growth per capita. The relative risk ratio for one unit increase in GDP growth per capita for conflict in Kashmir relative to no conflict in Pakistan, given that the other variables are constant, will decrease the GDP per capita growth rate by a factor of 0.791 and decreases the social sector spending by 0.078. Kashmir conflict increases aid and decreases the social sector spending and GDP growth per capita.

The worst scenario is the simultaneous occurrence of internal and external conflicts. In this case, social sector spending decreases by a factor of 0.3238 and GDP growth by a factor of 0.527779. The relative risk ratio suggests that the expected risk of decrease in social sector spending is the highest in case of ethnic conflict in Pakistan. The effect of GDP per capita growth and social sector spending is statistically not different.

### 4.3 *Marginal Effects*

Marginal effects were estimated at the mean value of aid, GDP growth per capita and social sector spending on alternative outcomes. Intrastate conflict (ethnic and religious) has the highest predicted probability of 0.43.

$y = \Pr(\text{Conflict} = \text{Interstate Conflict}) (\text{predict, outcome (1)}) = 0.1879977$

$y = \Pr(\text{Conflict} = \text{Intrastate Conflict (Ethnic)}) (\text{predict, outcome (3)}) = 0.2079527$

$y = \Pr(\text{Conflict} = \text{Interstate and Intrastate (Ethnic)}) (\text{predict, outcome (4)}) = 0.0281421$

$y = \Pr(\text{Conflict} = \text{Intrastate (Ethnic, Religious)}) (\text{predict, outcome (5)}) = 0.4280558$

$y = \Pr(\text{Conflict} = \text{no conflict}) (\text{predict, outcome (2)}) = 0.1478517$

## 5. **Conclusion**

This study attempts to explain the moral hazard issue in the context of aid and conflict in Pakistan. Donors usually give aid for their agendas and demand due diligence with little understanding of the repercussions on the poor recipient. Aid softens revenue constraint of the recipient, but fragile governments are unable to spend enough on human development. We represented this situation by a simple two actor game to suggest that the donor decision of giving aid creates moral hazard. As arms imports and military expenditure of the recipient are in the interest of the donors, they do not opt for the strategy of not to give aid. It creates a situation of reverse moral hazard. Our finding is aligned with the results of Collier (2007, 2009) that reducing military expenditure is the least important interest of the donors and that aid money is the source of arms imports. Aid does not reduce poverty.

We further conclude that aid relaxes the revenue constraint but takes away the power to pursue indigenous policymaking. Our results are in agreement with Compte (2002) that missing public signals makes co-operation difficult. In the case of Pakistan, we do not find any deviation from the strategic behavior and past observation paved the way for continuous co-operation on the strategic front. It is the donor who can make or break the relationship and can deviate from the strategic policy without informing the recipient and without facing any punishment. This type of deviation leaves a vacuum that encourages conflict in society.

Aid fails to increase social sector spending and most peaks of aid were marked with inconsistent allocations to the social sector and low domestic savings. It increases the probability of conflict and decreases the probability to increase GDP per capita. In pursuing donors' strategic agenda, aid impacts perversely on conflict, which inhibits human development. The inflows of aid are highly correlated with arms imports and military expenditure, which does not necessarily improve the conflict resolution capability. Donors impose conditionality but fail to deal with aid fungibility. Our study confirms the findings of Collier (2009) and McGillivray and Morrissey (2010) that aid increases the incidence of conflict in developing countries.

This result is also aligned with the previous work done by the Tahir (2017) that aid cause conflict in underdeveloped countries. However, the intensity of conflict directly related to the social sector deficit. Aid aggravates ethnic and religious conflict. It confirms aid is seen as a foreign agenda and create governance issue. This situation calls for a better policy response.

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### **References**

- Abebe, R., Barocas, S., Kleinberg, J., Levy, K., Raghavan, M., & Robinson, D. G. (2020, January). Roles for computing in social change. In *Proceedings of the 2020 Conference on Fairness, Accountability, and Transparency*. Barcelona, Spain
- Alesina, A., & Dollar, D. (2000). Who gives foreign aid to whom and why?. *Journal of Economic Growth*, 5(1), 33-63.
- Amegashie, J. A., Ouattara, B. and Strobl, E. (2007) 'Moral hazard and the composition of transfers: theory with an application to foreign aid', *CESIFO Working Paper # 1996*. Retrieved from <http://www.uoguelph.ca/~jamegash>.
- Balla, E., & Reinhardt, G. Y. (2008). Giving and receiving foreign aid: does conflict count?. *World Development*, 36(12), 2566-2585.

- Bornschier, V., Chase-Dunn, C., & Rubinson, R. (1978). Cross-national evidence of the effects of foreign investment and aid on economic growth and inequality: A survey of findings and a reanalysis. *American Journal of Sociology*, 84(3), 651-683.
- Burnside, C., & Dollar, D. (2004). Aid, policies, and growth: revisiting the evidence. The World Bank.
- Claudia R. W. (2009) 'Fixing failed foreign aid: can agency practices improve?', Aid Data Conference held at Development Research Institute, New York University.
- Collier, P. (2007). Post-conflict recovery: How should strategies be distinctive? Oxford: Centre for the Study of African Economies.
- Collier, P. (2009). The political economy of state failure. *Oxford Review of Economic Policy*, 25(2), 219-240.
- Collier, P., & Hoeffler, A. (2004). Greed and grievance in civil war. *Oxford Economic Papers*, 56(4), 563-595.
- Compte, O. (2002). On sustaining cooperation without public observations. *Journal of Economic Theory*, 102(1), 106-150.
- Easterly, W. (2002). The cartel of good intentions: the problem of bureaucracy in foreign aid. *The Journal of Policy Reform*, 5(4), 223-250.
- Easterly, W. (2003). Can foreign aid buy growth? *Journal of Economic Perspectives*, 17(3), 23-48.
- Easterly, W., & Pfutze, T. (2008). Where does the money go? Best and worst practices in foreign aid. *Journal of Economic Perspectives*, 22(2), 29-52.
- Eisenbeis, R. A. (2004). Agency problems and goal conflicts, Working Paper 2004-24, Federal Reserve Bank of Atlanta.
- Escobar, M. D., & West, M. (1995). Bayesian density estimation and inference using mixtures. *Journal of the American Statistical Association*, 90(430), 577-588.
- Garriga, A. C., & Phillips, B. J. (2014). Foreign aid as a signal to investors: Predicting FDI in post-conflict countries. *Journal of Conflict Resolution*, 58(2), 280-306.

- Gintis, H. (2007). A framework for the unification of the behavioral sciences. *Behavioral and Brain Sciences*, 30(1), 1-61.
- Harbom, L., & Wallensteen, P. (2010). Armed Conflicts, 1946—2009. *Journal of Peace Research*, 47(4), 501-509.
- Hawkin, D. (2007). Christ and the Temptations of Modernity. *Churchman*, 121(1), 9-22.
- Hawkins, D. G., Lake, D. A., Nielson, D. L., & Tierney, M. J. (Eds.). (2006). Delegation and agency in international organizations. Cambridge University Press.
- Hoeffler, A. (2019). Post-conflict stabilization in Africa. *Review of Development Economics*, 23(3), 1238-1259.
- Holt, S. (2011). Aid, peacebuilding and the resurgence of war: buying time in Sri Lanka. Springer.
- Isopi, A., & Mattesini, F. (2010, March). Aid and corruption: Do donors use development assistance to provide the “right” incentives. In *AidData Conference*, University College, Oxford, England.
- Kang, S., & Meernik, J. (2004). Determinants of post-conflict economic assistance. *Journal of Peace Research*, 41(2), 149-166
- Kono, D. Y., Montinola, G. R., & Verbon, N. (2015). Helping hand or heavy hand? Foreign aid, regime type and domestic unrest. *International Political Science Review*, 36(4), 409-424.
- Lipton, M. (1986). Introduction: Aid-effectiveness, Prisoners’ Dilemmas, and Country Allocations. *IDS Bulletin*, 17(2), 1-6.
- Martens, K. (2002). Mission impossible? Defining nongovernmental organizations. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 13(3), 271-285.
- McGillivray, M., & Morrissey, O. (2000). Aid fungibility in assessing aid: red herring or true concern?. *Journal of International Development*, 12(3), 413-428.
- McLean, E. V. (2015). Multilateral aid and domestic economic interests. *International Organization*, 69(1), 97-130.

- Merz, S. (2012). Less conflict, more peace? Understanding trends in conflict persistence. *Conflict, Security & Development*, 12(3), 201-226.
- Murshed, S. M., & Sen, S. (1995). Aid conditionality and military expenditure reduction in developing countries: models of asymmetric information. *The Economic Journal*, 105(429), 498-509.
- Nielsen, R. A., Findley, M. G., Davis, Z. S., Candland, T., & Nielson, D. L. (2011). Foreign aid shocks as a cause of violent armed conflict. *American Journal of Political Science*, 55(2), 219-232.
- Nunn, N., & Qian, N. (2014). US food aid and civil conflict. *American Economic Review*, 104(6), 1630-66.
- Ouattara, B., Amegashie, J. A., & Strobl, E. (2009). Moral Hazard and the Composition of Transfers: Theory with an Application to Foreign Aid. CESifo Working Paper No. 1996
- Pakistan economic survey, 2009-10 (2011). Retrieved on Feb, 20. 2011, from [www.finance.gov.pk/survey](http://www.finance.gov.pk/survey)
- Podszun, L., & SpringerLink (Online service). (2011). Does Development Aid Affect Conflict Ripeness? The Theory of Ripeness and Its Applicability in the Context of Development Aid (pp. 1 online resource.). Retrieved from <http://dx.doi.org/10.1007/978-3-531-94079-3>
- Radelet, S. (2006) 'A primer on foreign aid', Working Paper # 92, Centre for Global Development, Washington, DC.
- Roodman, D. (2007). The anarchy of numbers: aid, development, and cross-country empirics. *The World Bank Economic Review*, 21(2), 255-277.
- Sachs, J. D. (2005). *The End of Poverty: Economic Possibilities for Our Time* Penguin Books. New York.
- SIPRI (2011). *Yearbook of World Armaments and Disarmaments*. (Oxford: Oxford University Press).
- Stewart, F. (1998). Food aid during conflict: Can one reconcile its humanitarian, economic, and political economy effects?. *American Journal of Agricultural Economics*, 80(3), 560-565.

Stiglitz, J. E. (2010). *The Stiglitz Report: Reforming the international monetary and financial systems in the wake of the global crisis*. The New Press.

Tahir, N. (2017). Does aid cause conflict in Pakistan? *Defence and Peace Economics*, 28(1), 112-135.

World Development Indicators (September, 2011). ESDS International, University of Manchester. Accessed at <http://dx.doi.org/10.5257/wb/wdi/2011-09>.

## Appendix

### I. Multinomial Logit Regression Model Results

<b>Log-Lik Intercept Only</b>	<b>-84.874</b>	<b>Log-Lik Full Model</b>	<b>-54.668</b>
D(38)	109.337	LR(12)	60.411
		Prob > LR	0
McFadden's R2	0.356	McFadden's Adj R2	0.12
Maximum Likelihood R2	0.647	Cragg & Uhler's R2	0.684
Count R2	0.397	Adj Count R2	0.054
AIC	2.575	AIC*n	149.337
BIC	-44.96	BIC'	-11.685

Source: Authors' Calculation

### II. Marginal effects of conflict

mf<sub>x</sub>, predict (pr outcome(0))

<b>Variable</b>	<b>dy/dx</b>	<b>Std. Err.</b>	<b>Z</b>	<b>P&gt; z </b>	<b>[ 95% C.I. ]</b>	<b>X</b>
Aid	-0.00049	0.00013	-3.69	0	-0.00075 -0.00023	1756.69
ssspend	0.392442	0.22343	1.76	0.079	-0.04547 0.830357	1.80708
Gdpper	0.041933	0.03374	1.24	0.214	-0.0242 0.108067	2.60379

Source: Authors' Calculation

## mfx, predict (pr outcome(1))

Variable	dy/dx	Std. Err.	Z	P> z	[ 95% C.I. ]	X
Aid	0.000444	0.00019	2.33	0.02	0.00007 0.000817	1756.69
ssspend	-0.49903	0.32555	-1.53	0.125	-1.1371 0.139047	1.80708
Gdpper	-0.03673	0.04461	-0.82	0.41	-0.12417 0.050705	2.60379

Source: Authors' Calculation

## mfx, predict (pr outcome(2))

Variable	dy/dx	Std. Err.	Z	P> z	[ 95% C.I. ]	X
Aid	1.55E-05	0.00014	0.11	0.914	-0.00027 0.000298	1756.69
ssspend	0.09949	0.24101	0.41	0.68	-0.37288 0.57186	1.80708
Gdpper	0.019496	0.03507	0.56	0.578	-0.04924 0.088233	2.60379

Source: Authors' Calculation

## mfx, predict (pr outcome(3))

Variable	dy/dx	Std. Err.	Z	P> z	[ 95% C.I. ]	X
Aid	1.66E-05	0.00007	0.25	0.803	-0.00011 0.000147	1756.69
ssspend	0.013658	0.12266	0.11	0.911	-0.22676 0.254074	1.80708
Gdpper	-0.02381	0.01722	-1.38	0.167	-0.05756 0.009935	2.60379

Source: Authors' Calculation

## mfx, predict (pr outcome(4))

Variable	dy/dx	Std. Err.	Z	P> z	[ 95% C.I. ]	X
Aid	1.21E-05	0.00003	0.38	0.708	-5.1E-05 0.000075	1756.69
ssspend	-0.00656	0.02077	-0.32	0.752	-0.04727 0.034148	1.80708
Gdpper	-0.00088	0.0023	-0.38	0.702	-0.00539 0.003633	2.60379

Source: Authors' Calculation