Agency Problem in Foreign Aid to Pakistan: Does Conflict matter?

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Economic Assistance

• Two gap model provides rationale for foreign economic assistance for development
• Failure of aid agenda is ‘myopic behavior’ of the recipient to appreciate opportunity for development
• Aid appears as easy money and lacks ownership, no appreciation of opportunity cost
Aid to conflict

• Donor offers aid contract for strategic and political agenda
• Recipient agrees on the contract, and shows willingness for reforms without counting indirect consequences
• Recipient and donor both have short term interests
• Money in and out is not without long term effect
Aid to Conflict

• Aid creates economic inequalities by affecting distribution of income
• It appears as easy money that creates an adverse selection problem
• Conflict emerges as an outcome by pursuing donors’ agenda
• Withdrawal of aid generates shock, and creates capacity issues

(Collier, 2007, 2009; Balla and Reinhardt, 2008; Nielsen et al., 2010).
Research Question

- Develop a framework for finding the missing link from aid to conflict
Hypotheses

• Conflict emerges as incompatibility of goals between donor and recipient
• Conflict makes government more impatient and less responsive to people’s needs
Research framework

- High discount rate policies create negative investment for private sector capital accumulation (Easterly, 2002)
- Food Imports form donor badly affect agriculture: food production declines and food prices rise
- Inflation erodes purchasing power; declining real wages
Maximizing welfare of the recipient

\[ \text{maximize } W(x) \]

\[ R(x) = E(x) \]

\[ R(x) = \alpha t_0 + (1 - \alpha) t_1 \]

\[ E(x) = CY^t + S(x) - D(x) - R(x) \]

R(X) = Total resources available

t_0 = Domestic resources, \( \alpha \) = weight assigned on the basis of the tax rate

t_1 = Official development assistance, \( 1 - \alpha \) is weight assigned to ODA rate

E(x) = Expenditure

C_y^t = All other expenditures

S(x) = Social Sector Expenditure

D(X) = Defence related expenditure due to conflict being a strategic ally

R(x) = Reform related expenditure
Welfare function

\[
W(x) = \sum_{t=1}^{T} \left[ \frac{R1t}{(1+r)^t} - E(x)(at) \right]
\]

Subject to

\[
S_1(x) \ldots b_1
\]
\[
D_2(x) \ldots b_2
\]
\[
R3(x) \ldots b_3
\]

Lagrangian function

\[
L(x, \lambda) = W(x) - \sum_{i=1}^{m} \lambda_i (g_i(x) - b_i)
\]
Defining Conflict

• Incompatible goals based on interests, not need (Singer, Small, Burton, Galtung)
• Assertive and non cooperative

Conflict is an outcome of aid that appears as an intervention into societal expectations

Strategic and political alliance with donor entails external conflict and its fallout is internal conflict
Incompatibility of goals

• Residual value of Lagrangian function will generate a set of values depicting incompatibility of aid agenda

\[ P = P(L) \]

when \[ w(x) < \sum \lambda(g_i(x)) - bi \]
Conflict distribution

- Conflict \((yt)\) is a discrete variable, which is measured as a positive integer.
- In any time period there are four types of conflict that can occur in Pakistan.
- Conflict is measured as one event per unit of time (year) and as a multinomial scale in discrete intervals \((0-4)\):
  - zero means no conflict
  - 1 means interstate conflict
  - 2 means intrastate conflict which is ethnic in nature
  - 3 means interstate and intrastate ethnic conflict
  - 4 means intrastate ethnic and religious conflict
Conflict

• Conflict in Pakistan was differentiated on the basis of intensity, cumulative intensity, conflict type, incompatibility of the objective
  1 = minor and 2 = major or war
  1= history of the conflict, ‘0’= otherwise or no history
  1= armed conflict is interstate and 2=internal armed conflict
  1= to get the territory, 2= to get the government and  3= to get both government and territory
Conflict and foreign economic assistance in Pakistan
Foreign economic assistance and conflict
Conflict, aid, growth, investment and military expenditure (annual averages)

<table>
<thead>
<tr>
<th>Regimes</th>
<th>Incidence of Conflict (Number)</th>
<th>Aid as % of GDP</th>
<th>GDP Growth Rate</th>
<th>GDP Per Capita Growth</th>
<th>Aid as % of Total Investment</th>
<th>Military Expenditure as % of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field Marshal Ayub Khan [1961-1969]</td>
<td>2(L, H,T)</td>
<td>8.49 (0.22)</td>
<td>6.43 (0.3)</td>
<td>4.52 (0.5)</td>
<td>46 (0.2)</td>
<td>3.13 (0.23)</td>
</tr>
<tr>
<td>General Yahya Khan [1970-1972]</td>
<td>2(H,T)</td>
<td>4.60 (0.33)</td>
<td>4.21 (1.47)</td>
<td>1.29 (4.35)</td>
<td>30 (0.3)</td>
<td>3.93 (0.12)</td>
</tr>
<tr>
<td>Zulfikar Ali Bhutto [1973-1977]</td>
<td>3(L, T)</td>
<td>6.17 (0.30)</td>
<td>4.05 (0.5)</td>
<td>2.17 (0.8)</td>
<td>37 (0.3)</td>
<td>6.24 (0.10)</td>
</tr>
<tr>
<td>General Zia-ul-Haq [1978-1988]</td>
<td>3(L,T)</td>
<td>6.96 (0.15)</td>
<td>5.91 (0.3)</td>
<td>2.04 (0.9)</td>
<td>28 (0.2)</td>
<td>5.94 (0.11)</td>
</tr>
<tr>
<td>Benazir Bhutto and Nawaz Sharif [1989-99]</td>
<td>7(L,T)</td>
<td>4.25 (0.26)</td>
<td>4.54 (0.5)</td>
<td>1.34 (1.3)</td>
<td>25 (0.2)</td>
<td>5.55 (0.13)</td>
</tr>
<tr>
<td>General Pervez Musharraf [2000-2007]</td>
<td>15(L, H, G)</td>
<td>2.53 (0.29)</td>
<td>5.35 (0.4)</td>
<td>2.91 (0.8)</td>
<td>14 (0.4)</td>
<td>3.66 (0.07)</td>
</tr>
<tr>
<td>Asif Ali Zardari [2008-2011]</td>
<td>4(H,G)</td>
<td>3 (0.45)</td>
<td>2.89 (0.6)</td>
<td>2.14 (0.2)</td>
<td>17 (0.4)</td>
<td>3.16 (0.09)</td>
</tr>
</tbody>
</table>
### Ordered Probit Regression

| Conflict | Coefficient | Standard Error | Z     | P>|z| | 95% Confidence Interval |
|----------|-------------|----------------|-------|-----|-------------------------|
| Oda      | 0.2950068   | 0.1349235      | 2.19  | 0.029 | 0.0305616 - 0.5594521   |
| Mexp     | 0.0011995   | 0.0002774      | 4.32  | 0.000 | 0.0006559 - 0.0017432   |
| Taxes    | -0.1221559  | 0.1004788      | -1.22*| 0.224 | -3.190906 - 0.0747789   |
| Cpi      | 0.1015626   | 0.0324506      | 3.13  | 0.002 | 0.0379605 - 0.1651647   |
| /cut 1   | 2.5443      | 1.764774       |       |       | -0.914592 - 6.003193    |
| /cut 2   | 3.59998     | 1.799615       |       |       | 0.0727998 - 7.12716     |
| /cut 3   | 4.349878    | 1.802045       |       |       | 0.8179345 - 7.881822    |
| /cut 4   | 4.877664    | 1.799695       |       |       | 1.350326 - 8.405002     |

Number of obs = 51  
LR Chi 2(4) = 36.60  
Prob > Chi 2= 0.000  
Log likelihood = -53.36  
Pseudo R2= 0.2553

*Insignificant result
Heckman Selection Model

• Outcome Equation: Conflict = f(Aid, military expenditure)
• Selection Equation: War = f (Aid, Military Expenditure, Inflation, Taxes)
## Heckman Selection model

| Conflict | Coefficient | Standard Error | z     | P>|z| | 95% Confidence Interval |
|----------|-------------|----------------|-------|-----|-------------------------|
| Oda      | 0.266567    | 0.13568        | 1.96  | 0.049 | 0.0006401 - 0.532494    |
| Mexp     | 0.001107    | 0.000288       | 3.84  | 0.000 | 0.0005419 - 0.001671    |
| _cons    | -2.07561    | 1.085052       | -1.91 | 0.056 | -4.202271 - 0.051056    |
| War      |             |                |       |       |                         |
| Cpi      | -0.03561    | 0.004461       | -7.98 | 0.000 | -0.044354 - 0.02687     |
| Taxes    | 0.07081     | 0.00887        | 7.98  | 0.000 | 0.0534243 - 0.088195    |
| Oda      | 0.342729    | 0.122779       | 2.79  | 0.005 | 0.1020858 - 0.583372    |
| Mexp     | 0.001299    | 0.000276       | 4.7   | 0.000 | 0.0007574 - 0.00184     |
| Cons     | -4.33876    | 1.01605        | -4.27 | 0.000 | -6.330185 - 2.34734     |
| /athrho   | 16.35542    | 262.0043       | 0.06  | 0.950 | -497.1637 - 529.8745    |
| /Insigma | 0.128338    | 0.125269       | 1.02  | 0.306 | -0.117184 - 0.37386     |
| Rho      | 1           | 6.46E-12       |       |       | -1 - 1                  |
| Sigma    | 1.136937    | 0.142422       |       |       | 0.8894216 - 1.453333    |
| Lambda   | 1.136937    | 0.142422       |       |       | 0.8577943 - 1.41608     |

LR test of indep. eqns. (rho = 0): chi2(1) = 19.05  Prob > chi2 = 0.0000
Final Stage of Heckman Procedure

Average truncation effect = \( \lambda \times [\text{average mills value}] = 1.13 \times 0.879 = 0.993 \).

| Conflict | Coefficient | Standard Error | \( z \) | \( P>|z| \) | 95% Confidence Interval |
|----------|-------------|----------------|--------|-------------|------------------------|
| Oda      | 0.342932    | 0.17928        | 1.91   | 0.056       | -0.0084504             | 0.6943144              |
| Mexp     | 0.000889    | 0.000486       | 1.83   | 0.067       | -0.0000634             | 0.0018404              |
| Cpi      | 0.026745    | 0.044372       | 0.6    | 0.547*      | -0.060222              | 0.1137118              |
| Taxes    | 0.058914    | 0.162933       | 0.36   | 0.718*      | -0.260428              | 0.3782567              |
| Invmills | 0.878677    | 0.640023       | 1.37   | 0.170       | -0.3757451             | 2.133098               |
| _cons    | -6.5148     | 2.837588       | -2.3   | 0.022       | -12.07637              | -0.9532338             |

*Insignificant
Truncation effect = [ \exp(0.99327)-1] \times 100 = 169\%
Conclusion

• Incompatibility of goals and short sightedness of the donor is a cause of reverse moral hazard
• Aid increases incidence of conflict in Pakistan
• Governments are more responsive to donors than to the people’s needs