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## The Political Economy of US Aid to Pakistan

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# HWWA Discussion Paper

# The Political Economy of US Aid to Pakistan

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General note: This paper is *not* meant to stress the long-term political rivalry between India and Pakistan which, fortunately, appears to be mitigated now through joint efforts from both sides. It is meant as an example that aid policies tend to be determined by the utility maximizing behavior of donor country politicians taking into account the particular characteristics of their respective constituencies among which the ethnic origin of the citizens seems to play a major role.

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# **The Political Economy of US Aid to Pakistan**

## **ABSTRACT**

Variations of bilateral aid flows are difficult to explain on the basis of official development objectives or recipient need. At the example of US aid to Pakistan, this paper suggests alternative political economic explanations, notably the relevance of ethnic lobbying and the relevance of US business interests. Time series regressions for the period from 1980 to 2002 and logistic regressions based on votes for the Pressler and the Brown Amendment confirm the significance of these political economic determinants. While in case of the Pressler Amendment, the direct influence of population groups of Indian and Pakistani origins seems to have played a predominant role, the role of ethnic business lobbies appears to have dominated in the context of the Brown Amendment. Time series analysis also provides some evidence for the impact of US business interests based on FDI and exports, but these effects appear to be comparatively small.

**Key words:** Public Choice, ethnic lobbying, foreign aid

**JEL-Classifications:** D70, F35

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## **1 Introduction**

A growing literature in political economy suggests that development aid is determined by the economic and political interests of powerful interest groups within donor countries. This perspective on aid was first suggested in the debate on donor interests versus recipient needs which was largely based on an empirical cross-country analysis of the geographical allocation of aid resources to different countries (see e.g. McKinlay 1978, McKinlay and Little 1979, Maizels and Nissanke 1984, Boone 1996, Trumbull and Wall 1994, Alesina and Dollar 2000, Berthélemy and Tichit 2002). Other authors have provided political economic explanations for the functioning of aid agencies and for the use of specific aid instruments (see e.g. Vaubel 1991, Frey 1991, 1997, Martens et al. 2002, Easterly 2002, Michaelowa 2003, Dreher 2003, 2004, Hefeker and Michaelowa forthcoming). Most recently, Lahiri and Raimondos-Møller (1997, 2000) as well as Mayer and Raimondos-Møller (2004) have suggested theoretical models explaining specific decision making processes in the donor country.

This paper applies the political economic analysis of decision making processes in the donor country to the special case of US aid to Pakistan. Pakistan is not an extremely poor country but nevertheless, it is among the 5 major recipients of foreign aid. Over the last decades, Pakistan's aid receipts show considerable shifts for which no obvious development related reasons can be provided. This calls for explanations related to reasons other than developmental efficiency which require a closer look at decision making processes on the donor side.

Looking at the United States as the single most important bilateral donor, we draw upon earlier analyses of the effect of lobbying on congressional decision making. Numerous studies, like Coughlin (1985), Tosini and Tower (1987), Harper and Aldrich (1991), Marks (1993) and Baldwin and Magee (1998) empirically tested the hypothesis of domestic lobbies affecting congressional voting behavior with respect to US trade policy. A more recent study by Gawanda et al. (2004) also includes the effect of lobbies working for foreign principals, e.g., for foreign governments and foreign business groups.

Anecdotal evidence suggests that similar effects might govern US decision making with respect to aid to Pakistan. Pakistani officials allegedly complained that India was

lobbying to block US aid to Pakistan (Anonymous 2003). Within the United States, the US-India Political Action Committee (USINPAC), one of the Indian expatriates' lobbies, focused on US assistance to Pakistan while defining its US policy objectives towards India (USINPAC 2003). The Washington Post noted the financial implications of the fight between the south Asian rivals in the context of Senatorial elections in South Dakota (Morgan and Merida 1997). Today, Pakistan is among the major US allies in the so-called war against terrorism and reaping the fruits of it in the form of strongly increased economic assistance.

While the latter is a one-time effect, the relevance of ethnic groups within the US can be measured throughout the last decades and therefore represents a suitable basis for systematic empirical analysis. Similarly, it is possible to analyze the impact of US business interests in the South Asian countries concerned. The objective of this paper is to provide a systematic empirical analysis of these political economic influences and to answer the following questions: Instead of justifying aid on development grounds put forward by donors, is it possible to explain it on the basis of economic and political interests of the population and / or special interest groups in the US? In particular, does the strength of foreign lobbies (both Indian and Pakistani) or the relevance of economic ties with either of the countries concerned matter in determining the allocation of aid to Pakistan?

The study is divided into four sections. Section 2 provides a brief overview over the development of aid flows to Pakistan during the last decades and clarifies the role of the US as the major bilateral donor. In section 3 hypotheses about determinants of political decision making will be presented and tested econometrically on the basis of data on the voting behavior of individual members of Senate as well as on the available time series observations on aid volumes. Conclusion will be presented in section 4.

## **2 Aid flows to Pakistan: The evidence**

Pakistan belongs to the developing countries most heavily depending on foreign aid after independence. According to data provided on official development assistance (ODA) by the OECD's Development Assistance Committee (DAC), a total amount of US\$ 73.14 billion (bilateral and multilateral, at constant 2001 prices) was disbursed to

Pakistan from 1960 to 2002. The data in Table 1 show the different sources of these resources. More than 72% of official development assistance come from bilateral sources of which again near to half are provided by a single bilateral donor, namely the US. Therefore, over the period as a whole, the US clearly appears as the major contributor. This is true despite the fact that for the period of 1990-1998 US aid was almost negligible (see Figure 1). During this period, Japan emerged as the most relevant bilateral donor whose funding made up partly for the missing flows of US aid. Considered over the whole period from 1960-2002, Japanese and US aid resources combined amounted to over 66% of total bilateral ODA to Pakistan. Funding of the third most relevant donor Germany reached only 11% and other donors contributed a maximum of slightly above 5%.

**Table 1: Gross Disbursement of ODA to Pakistan 1960-2002**

<i>2001 prices- US\$ Millions</i>		
<b>Total</b>	<b>73143.65</b>	<b>100 %</b>
1. Multilateral ODA	20328.84	27.79 % (of total ODA)
2. Bilateral ODA	52814.81	72.21 % (of total ODA)
<i>(of which)</i>		
Non DAC	4299.43	8.14 % (of bilateral ODA)
DAC	48515.38	91.86 %
<i>(of which)</i>		<i>% of DAC ODA</i>
Canada	2561.9	5.28
France	960.56	1.98
Germany	5470.90	11.27
Netherlands	1093.88	2.25
Japan	10178.34	20.97
UK	3890.45	8.01
USA	21864.86	45.06
Others	2494.49	5.14

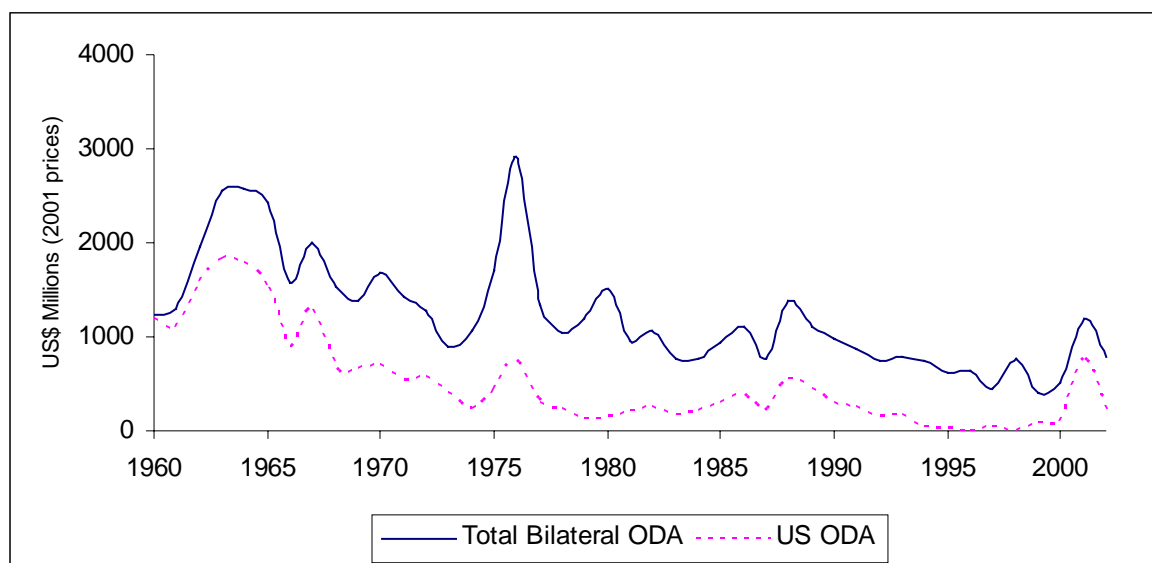
Source: OECD / DAC (2004, Table 2a)

Even though offset partly by contributions of Japan, the irregular contributions of the US as the major bilateral donor led to considerable shifts in Pakistani aid receipts (see



Figure 1). The major reasons for changes in US contributions were the passage of the Pressler Amendment and the Brown Amendment in the aid authorization bills by the US Senate in 1985 and 1995 respectively. The Pressler Amendment requested the US President to personally certify that there would be no risk of nuclear arms development in Pakistan, and without this certification, no more aid could be committed to this country. The presidential certification was no more provided after 1989 so that US aid disbursement to Pakistan, which was as high as US\$ 452 million in 1989, fell during the early 1990s and touched the bottom of only US\$ 5.4 million in 1998. However, in 1995 the passage of the Brown Amendment lifted the clauses of the Pressler Amendment referring to development assistance and ended the legal binding of aid flows to the presidential certification on development aid. New aid commitments were made and - somewhat ironically - turned into the first noticeable disbursements just after the atomic explosions by Pakistan in May 1998. They then went up to US\$ 77.8 million in 1999 and further to US\$101.4 million in 2000. One year later the aid volume increased to 7 times as much and reached US\$ 776.5 million. Most of this US aid was disbursed in the framework of the Economic Support Fund as a reaction on September 11. While disbursements fell to US\$ 208 million once again in 2002, the US President announced another US\$ 3 billion five-year economic assistance package for Pakistan in June 2003.

**Figure 1: Bilateral ODA disbursement to Pakistan 1960-2002**



It is obvious that more than pure development economic consideration drive the US aid to Pakistan and thereby, to a large extent, the overall bilateral aid received by this country. The development of aid flows before and after the atomic explosions casts some doubts even about the relevance of the officially stated political motives for foreign aid. In the following section, the US-Pakistan aid relations will therefore be investigated in the framework of a Public Choice approach analyzing the determinants of the political decision making process in the US. As general geopolitical developments are difficult to capture in empirical analysis, the focus will be on ethnic and business interests for which information can be collected in a more systematic way.

### **3 The political economy of aid flows to Pakistan**

This section draws largely from Lahiri and Raimondos-Møller's (2000) theoretical paper on ethnic lobbying with respect to aid as well as from studies on the political economy of US decision making on trade policy. It is assumed that politicians are maximizing political support by considering positions of different groups in the population while attributing weights to their economic power and political influence as well as to the strength of their interest. If overall political support is conceived as an additive function of support for various mutually independent policy measures, maximizing overall political support is equivalent to maximizing support for each individual measure. Under this assumption, we can consider decision making on aid within the same theoretical framework as we would consider decision making on trade or other major policy issues such as employment, education etc.

In order to avoid confusion, it should be noted that we adopt a rather broad definition of "political support" encompassing not only direct political support by voters benefiting from certain policy choices, but also political support via the lobbying activities of organized special interest groups who may carry out propaganda in exchange for desired policies or "pay" for their preferred policies in the form of campaign contributions (Grossman and Helpman 1994). It is considered that the weight attributed to any particular group by politicians should be proportional to the direct votes potentially obtained from this group plus the votes this group may indirectly mobilize on which ever way. This rather wide conceptual approach has the advantage to leave the

determination of the most relevant channels of political influence to the empirical analysis rather than to restrict, right from the beginning, the options to be tested for significance in the econometric model.

In the following, we will discuss which particular groups should be taken into account when considering political decision making on US aid to Pakistan. On this basis, we will derive hypotheses on factors increasing or decreasing the influence of these groups, thereby changing the weights in the political support function and – potentially – the overall outcome of the decision making process. These hypotheses will then be tested empirically in different ways: first through a time series regression of aid resources allotted to Pakistan over time, and second through a logistic regression of congressional decision making with respect to the two most decisive amendments on US foreign aid to Pakistan, the Pressler Amendment in 1985 and the Brown Amendment in 1995.

### **3.1 Incentives for decision making: some theoretical hypotheses**

According to the press statements quoted in section 1, one might expect that ethnic groups of Pakistanis and Indians within the US should exert a major influence on political decision making on aid to Pakistan. Given the cultural ties to their home country, family relations and economic linkages, expatriates in donor countries can be expected to care for aid inflows into their countries of origin (Lahiri and Raimondos-Møller 2000). Therefore, Pakistanis in the US can be expected to favor any policy decision leading to increased development assistance. At the same time, as far as aid to Pakistan and to the neighboring country India must be considered as substitutes, Indians in the US might oppose such decisions. Moreover, India and Pakistan being long-term political rivals, political decisions favoring Pakistan may also face some general opposition by Indians and vice versa.<sup>1</sup>

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<sup>1</sup> While there is no rivalry assumption in Lahiri and Raimondos-Møller's (2000) model, the assumption of a substitution of aid flows to one country by aid flows to another country is a central pillar of their model, too. This assumption reflects the hypothesis that the overall amount of aid (and in our case, even more specifically, the amount allocated to the South Asian region) remains constant when financial resources to one particular recipient are increased. In practice, overall resources do not need to remain fully constant, but they should not increase correspondingly. As this appears to be a realistic

Having identified two major population groups potentially interfering with decision making on aid to Pakistan, we also need to discuss under which conditions their interest will be given more or less weight in the politicians' political support function. As the most direct political support arises through voting, the numbers of US citizens of Pakistani origin on the one hand, and of Indian origin on the other hand, should play a relevant role. Smith (2000) provides some general evidence about how ethnic groups influence the US foreign policy through their voting power. We can resume this discussion in an initial testable hypothesis:

*1. US aid to Pakistan is positively related to the number of Pakistanis living in the country and negatively related to the number of Indians.*

Moreover, as influence can be exerted through lobbying as well, Pakistanis and Indians living in the US could also play an important role by influencing other voters. Their influence can be considered to be particularly high when they play a relevant role in the economy, e.g. when they own many firms, make high profits and employ many employees. High profits also allow ethnic lobbies to support politicians through campaign contributions. Campaign contributions are the central factor considered in Lahiri and Raimondos-Møller's (2000) model on lobbying by ethnic groups. If a lobby's potential to provide campaign contributions or its potential to directly influence people's votes rises due to a higher number of interested firms, higher profits and / or an increased number of employees, policy makers can be expected to increase the weight given to this group. Baldwin and Magee (1998) empirically tested lobbies' influence along these lines on US trade policy and found it significant. This leads us to the formulation of our second hypothesis:

*2. US aid to Pakistan will tend to rise when the economic power of Pakistani firms in the US increases, while it will tend to decrease with the economic power of Indian firms.*

Evidence from trade policy further suggests that besides domestic ethnic groups, lobbies from abroad may also interfere with political decision making in the US (Gawande et al.

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scenario, we decided to always consider Indian groups simultaneously with Pakistani groups and to let the empirical results decide upon the actual relevance of both in the context of aid to Pakistan.

2004). According to the US law it is permissible that any lobby registered in the US can lobby for the interests of a foreign principal. It is often reported that foreign governments and foreign business groups provide campaign contributions through their agents in US to buy policy in their favor (Kim 1999). Gawande et al. (2004) show that in the context of trade policy, the impact of such foreign lobbies is significant. Assuming a similar relationship in the case of aid, we can formulate our third hypothesis:

*3. Any lobbying expenses made by Pakistani government and non-government lobbies will be positively related to aid flows to Pakistan, and lobbying expenses made by Indian lobbies will be negatively related to aid to Pakistan.*

So far, we have only considered ethnic lobby groups, both domestic and foreign. However, there are also powerful US business groups with economic interests related to foreign direct investment (FDI) in developing economies like Pakistan and India. These interest groups would like to ensure a high profitability of their investment as compared to alternative investment possibilities (Schneider and Frey 1985). For this purpose they strive for more foreign aid to these economies, so that foreign aid can build the physical, social and educational infrastructure necessary for profitable economic activity (Harms and Lutz 2003). As already pointed out by Maizels and Nissanke (1984) aid to such countries would, in fact, constitute an external subsidy to ensure the continuing profitability of the foreign investment of enterprises of the donor country. Thus, foreign aid activity should be positively linked with the lobbying effort of these business groups and FDI from the US. The higher the investment, the stronger should be their interest and the higher should be the weights they obtain in the political support function politicians attempt to maximize.

Politicians providing aid to Pakistan can expect to be rewarded in the form of campaign finance by firms involved in FDI in Pakistan. At the same time, again, if overall aid for the region is fixed, competition will arise between those favoring aid to Pakistan and those favoring aid to India. Moreover, investors in India might fear that strengthening Pakistan through inflows of development assistance could deteriorate the geo-political conditions. It is therefore conceivable that firms with FDI in India might oppose aid to Pakistan. This leads us to the formulation of Hypothesis 4:

*4. US aid to Pakistan is positively related to FDI of US firms in Pakistan while it is negatively related to FDI of US firms in India.*

Another factor which can influence the legislators while formulating the aid policy can be the business lobbies' export interest towards these economies. Foreign aid is often regarded as a means to establish a close business relationship thereby encouraging imports from the donor country, rather than from any competing exporter. Moreover, government negotiations fuelled by aid funds can be the source of lower tariffs to enhance the exports from these donors (Morrissey 1996, Lahiri and Raimondos-Møller 1997). Many empirical studies find that major donors adopt export oriented aid policies (see e.g. Morrissey 1993). In order to maximize their profits, trade lobbies push the policy makers to give more aid to those economies which constitute a relevant market for their exports. In return the legislators get more political support and funds for their campaigns in the next elections.

Assuming that the pressure for export promotion via aid depends upon the interest in a particular export market which in turn is proportional to current exports, and assuming that again, we have a certain competition between India and Pakistan, we can formulate Hypothesis 5:

*5. US aid to Pakistan is positively related to US exports to Pakistan while it is negatively related to US exports to India.*

Looking at the decision making by each individual legislator, there are some additional factors which may affect the utility function of the representatives. While they do not provide a concrete explanation of the policies at hand, they are relevant control variables and therefore need to be taken into account. In US trade policy studies, the most commonly used factor is party affiliation (see e.g. Hersch and McDougall 2000). Generally, it is anticipated that the representatives vote in party line. Peltzman (1984) considers parties as interest groups which affect voting behavior in a similar way than other interest groups. Coughlin (1985) clarifies that legislators vote in party line because they will be rewarded for their party loyalty in the future. In particular, they will be nominated for relevant committees and will be given various important assignments. In this way they can use their position for future reelection and political and economic gains. Although no ideological position predefines the party lines in the case of aid to Pakistan, it is anticipated that some distinct party positions will emerge and that

legislators will orient their votes at these positions once they are fixed. This leads us to the formulation of our last hypothesis:

formulation of our last hypothesis:

*6. For both the Pressler and the Brown Amendment, US senators can be expected to vote in party line.*

Some economic studies of US legislation also consider ideology (e.g. liberal or conservative) as a relevant determinant for policy decisions (see e.g. Kalt and Zupan 1984 and Kang and Green 1999). However, Harper and Aldrich (1991) note that the American for Democratic Action's (ADA) score used for "ideology" might simply be another proxy for party affiliation. In any case, both factors are strongly correlated and many authors believe that among these two, party affiliation is the more relevant determinant of voting behavior (see e.g. Peltzman 1984). Anyway, as aid bills to Pakistan do not suggest any ideological position, "ideology" does not seem to be of any relevance for our analysis.

Overall, we retain the influence of domestic and foreign ethnic groups, the relevance of US economic interests, and legislators' party affiliation as potential determinants of decision making on US aid to Pakistan.

### **3.2 Empirical analysis of US aid to Pakistan over time**

In order to empirically test these hypotheses, this section provides an initial analysis of the determinants of aid flows over time. Since for many relevant variables data are available only from the 1980s onwards, we are constrained to limit our empirical investigation to the period from 1980 to 2002. This leaves us with a rather short annual time series of only 23 observations and limits the scope for in depth econometric analysis. Moreover, it should be noted that the discussion in this section can only refer to those hypotheses which are not related to decision making by individual legislators. Empirical analysis on the basis of a greater data set of individual legislators' decisions on specific aid bills will be discussed in section 3.3.

To explain the development of US aid to Pakistan over time, we use the data on gross disbursements of ODA (in '000 US\$ at constant 2001 prices) (*usaid*) provided in OECD/DAC (2004). Disbursements rather than commitments reflect the actual

spending of aid funds, and gross as opposed to net ODA avoids the consideration of debt repayments which are carried out under the authority of the recipient rather than the donor country.

In order to check the impact of ethnic groups as suggested by Hypotheses 1 to 3, we require information on the relative strength of the population of Pakistani and Indian origin within the US, on the economic relevance of Pakistani and Indian firms, and on the relative power of foreign sponsored Indian and Pakistani lobby groups. While population surveys and business surveys are carried out only every ten and every five years respectively, the data on lobbying activity in the US is available on an annual basis from US Department of Justice reports (US Department of Justice various years). Under the US Foreign Agent Registration Act (FARA), every lobby working in the US as the agent of foreign governments or business associations is required to register with the justice department and to provide details including the name of the foreign principal, the purpose of the lobbying activity and the financial resources received from the foreign principal. The resulting reports are presented annually to the Congress by the US Attorney General.<sup>2</sup>

The data on financial resources are further divided into expenses of the Pakistani and Indian government (government lobbying expenses, *glepak* and *gleind* respectively) and the expenses of other, non-governmental institutions like industrial or commercial organizations (non-government lobbying expenses, *nglepak* and *ngleind*). While government lobbies are generally considered as lobbying for the broad range of issues in international economics and politics, non-governmental lobbies are more specific in their objectives like investment and trade relations. Just as aid data, lobbying expenses are reported in '000 US\$ at constant 2001 prices.

While annual population data are not available, the relevance of the population pressure of the Pakistani and Indian communities in the US can be approximated by data on naturalization. In fact, this variable might even capture the political influence of these ethnic groups more accurately than simple population figures since only US citizens belong to the electorate wooed by political decision makers. Annual data on naturalization of Pakistanis (*paknat*) and Indians (*indnat*) is available from the Year Book of Immigration Statistics (US Department of Homeland Security 2003).<sup>3</sup>

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2 For further details about political activity by foreign lobbies, see Gawanda et al. (2004).

3 Formerly entitled "Statistical Year Book of Immigration and Naturalization Service" (US Department of Justice 1986, 1994 and 1999).



In order to test the impact of US economic interests in aid to Pakistan as suggested by Hypotheses 4 and 5, we also require data on FDI as well as on exports. Data on US direct investment in Pakistan (*usfdipak*) and India (*usfdiind*) are provided by the US Department of Commerce - Bureau of Economic Analysis (2004) while US exports to Pakistan (*usexpak*) and India (*usexind*) are available from the US Census Bureau - Foreign Trade Division (2004). All figures are again adjusted to constant 2001 prices and reported in '000 US\$.

We finally consider two control variables one of which is a simple dummy (*dummy01*) for the year 2001 which must be expected to exceptionally affect aid as a reaction to September 11 and the new strategic partnership with Pakistan. The second is US aid to Pakistan lagged by one period (*usaid(-1)*) which should reflect a certain sluggishness of changes in aid disbursements.

Table 2 presents the results of our regression analysis. As could be expected, the 2001 dummy and lagged US aid are highly significant in all regressions in which they are included. *Ceteris paribus*, the effect of September 11 led to an increase of US aid to Pakistan of 700-800 million US\$.

As compared to this huge one-time effect, coefficients of other political variables appear rather modest in size. Nevertheless, their impact is non-negligible and significant in most specifications. Regarding ethnic lobbying, the variable finally selected for the regression models presented here is non-government lobbying expenses. It is included in specifications 1 and 3. Regression coefficients show the expected sign indicating that Pakistani lobbying positively affects aid while Indian lobbying has the opposite effect. According to Regression 1, a one thousand US\$ increase in Pakistani lobbying expenses leads to an 8 million increase in US aid to Pakistan. The same increase in Indian lobby expenses reduces US aid to Pakistan by about 0.1 million US\$. While the size of the coefficients is not robust across specifications, it clearly comes out that Pakistani lobby expenses have a much higher effect than Indian lobby expenses. This could reflect that aid to Pakistan is regarded only as a partial substitute for aid to India. In this case, the higher effectiveness of Pakistani lobbies with respect to aid to Pakistan is easily explained since US aid to Pakistan then be a central objective of Pakistani lobbying expenses, while most of the Indian lobbying resources can be assumed to be spent on other issues.

It is interesting to note that the same significant results could not be found with respect to government lobbying expenses. This may be interpreted as an indication that lobbying driven by private business interests has a stronger focus and impact than

government lobbying. However, as both variables are correlated and the available evidence is based on rather few observations, this interpretation should be considered with caution. It could also be that government lobbying is simply not so well measured as governments may try to hide their channels of influence.

Including the naturalization variable is not significant either. This might be due to the reason that during the period of analysis the naturalization process was very strict so that there were very few Pakistanis and Indians that were effectively naturalized (see Annex A, Table A2). In fact, the naturalization of just a few individuals cannot really be expected to show any significant effect on US aid policy.

There is another problem related to the small sample size. Increasing the number of explanatory variables to more than four or five makes it very difficult to find any significant effects due to the limited degrees of freedom in the regression. For this reason, not all variables thought to be relevant could be included in the regression simultaneously. Including lagged aid but leaving the specification of Regression 1 and 3 unchanged otherwise, leads to regression coefficients which still show the expected signs, but are almost all just below the level of significance. The same problem arises with respect to the variables introduced to measure the influence of US business interests abroad. When both exports and FDI are included into the regression simultaneously, hardly any significant impact can be distinguished. However, when either of the two is included separately, they turn out to be significant (Regressions 2 and 4).

For a given amount of funds spent on either FDI or exports, it seems that FDI induces a stronger business pressure with respect to aid. This is reflected both in the values of the coefficients and in their level of significance. The variables indicating exports and FDI to India are significant in all four specifications presented in Table 2, while this is not the case for those to Pakistan. A possible reason could be that the volume of US exports and FDI to Pakistan is relatively limited (cf. Annex A, Table A2) so that small absolute errors in measurement can lead to important relative divergences blurring the true underlying relationship. Regression coefficients in Regression 1 where FDI to both countries is significant, indicate that US aid to Pakistan increases by 1800 US\$ if FDI to Pakistan rises by 1000 US\$, while it decreases by 1620 US\$ if FDI to India rises by the same amount. Note that even though this seems to again imply a stronger impact of lobbies directly involved with Pakistan as compared to those primarily involved with India, the relatively higher importance is much less pronounced (and also much less robust across specifications) than in the case of foreign lobbying expenses discussed above. But anyhow, the impact of one US\$ spent on lobbying has a much higher impact

than one US\$ spent on FDI or exports. This could be expected since exports and FDI are not primarily carried out with the objective to fight for aid, and the US exporters and investors will only start to seriously lobby US government interventions like development cooperation once they are heavily financially involved in a particular country.

**Table 2: Regression results for US aid to Pakistan over time**

<b>usaid</b>	<b>Regression 1</b>	<b>Regression 2</b>	<b>Regression 3</b>	<b>Regression 4</b>
dummy01	771840.00***	717957.00***	817829.50***	747279.40***
usfdipak	1.80**	-0.04		
usfdiind	-1.62**	-0.47***		
usexpak			0.08	0.13
usexind			-0.17**	-0.06**
nnglepak	8152.41**		2062.79*	
nngleind	-105.70*		-64.54	
usaid(-1)		0.64***		0.38***
constant	379046.10***	118861.10***	579352.10**	150530.50
N	18	21	20	23
R <sup>2</sup>	0.75	0.79	0.67	0.71
adj.R <sup>2</sup>	0.64	0.74	0.55	0.65
<i>Breusch-Godfrey (small)</i>				
F	0.06	4.65	1.2	0.38
p-value	0.81	0.05	0.29	0.54

Notes: \*\*\*, \*\* and \* denote significance at the level of 1%, 5% and 10% respectively. For detailed descriptions of the variables and their sources, see Annex A, Table A1.

Overall, the regression results appear to be plausible and relatively robust across differences in specifications. General regression statistics are satisfactory. Depending on specifications, the variables included in the model explain between two-thirds and three-fourth of total variation. Using the Breusch-Godfrey test for small samples, the hypothesis of no autocorrelation of residuals must be rejected only for one specification (Regression 2 with FDI and the lagged aid variable). While the number of observations is limited, this initial time series analysis still provides relatively consistent evidence for both the relevance of ethnic lobbying and the influence of US business interest. With the data at hand, Hypothesis 3 finds support with respect to the influence of non-

government lobbying expenses, Hypothesis 4 on the relevance of FDI finds clear support throughout, and Hypothesis 5 on the importance of exports finds a somewhat positive support although less relevant in size and less significant than in the case of FDI. Interestingly, while donor business interests have been emphasized in many earlier studies, the relevance of ethnic lobbying first highlighted in the theoretical work by Lahiri and Raimondos-Møller (2000) can be empirically shown to be much stronger in its impact per dollar invested. Finally, it should be emphasized that with respect to each of the factors discussed above, the indirect effect through interest groups involved with India is found significant as well (with the expected negative sign).

### **3.3 Empirical analysis of Senate voting on aid to Pakistan**

Let us now adopt a different perspective and consider political decision making at the level of each individual legislator. Using logistic regressions, senators' votes for or against the Pressler and the Brown Amendment can be estimated as a function of various characteristics of their constituencies. We first consider each amendment separately whereby the dummy variable (*senate\_vote*) is assigned a 1 if the vote is cast in favor of the amendment and 0 otherwise. For both the senate roll call and for the senators' party affiliation (*party\_affln*) which should be a relevant explanatory variable according to Hypothesis 6, the data has been acquired from Congressional Quarterly Reports (Congressional Quarterly Inc. 1985) and from the US Senate (2004). If the senator is a Republican, then he is assigned a 1 while he is assigned a 0 if he is a Democrat.

As opposed to the time series analysis in the previous section, we now also have data on the population of the different ethnic groups within the US (and the individual constituencies). This data is based on the US Census of Population for the years 1980, 1990 and 2000 (US Census Bureau - Population Division 1983, 1992, 2004). For the year 1980, the data used for both Pakistanis and Indians in each US state is based on a sample census whereas for 1990 and 2000 it is a 100% count. The population variables used in the context of the Pressler Amendment in 1985 and the Brown Amendment in 1995 are computed as simple mean values of data for the beginning and the end of the decade. In order to control for the size of the different constituencies, we divide these means by the corresponding values for the total population in each state. This yields four variables for the relative strength of both Pakistani (*poppak85*, *poppak95*) and Indian (*popind85*, *popind95*) ethnic groups in each constituency.

As the US Federal Election Commission (FEC) did not categorize the Political Action Committees (PACs) on ethnic affiliation, there is no data available for domestic lobbies of expatriate Pakistanis and Indians. However, since we assume that effective lobbying through financial contributions and economic pressure depends upon economic power, we have looked at minority owned businesses data. The Surveys of Minority Owned Business and Enterprise conducted every five years since 1982 by the US Census Bureau - Department of Commerce (1991, 2001) provide data on the number of all firms and firms with paid employees, their sales and the number of employees working in these firms. Unfortunately, data is available only for India and not for Pakistan. As the surveys were not carried out during the exact years of the amendments and linear approximations using two subsequent surveys was rendered impossible due to changes in definitions, we selected the closest years, i.e. 1987 and 1997 for the Pressler and the Brown Amendment respectively.

While it would have been interesting to make use of the detailed information of firm numbers versus firms' sales and firms' employees, it turns out that these variables are so strongly correlated that if taken together, none of them is significant any more.<sup>4</sup> For this reason, the regressions displayed in Table 3 and 4 include only the variable of Indian firms' numbers (*allfirmsn87* and *allfirmsn97* respectively). Results using only sales or employees are very similar. As the correlation is very high even with the population variable, a second specification introduces the variables *powerind* and *powerpak* which encompass all available information on ethnic influences, be it on the basis of pure population pressure or economic power. To create these indices, in a first step, all underlying variables were standardized to a mean of zero and a standard deviation of one, and in a second step, the average was taken across all these variables for each state<sup>5</sup> (see Annex A, Table A1 for a description of all variables includes in each case).

Table 3 and 4 show the results for the Pressler and the Brown Amendment respectively. As a vote for the Pressler Amendment can be considered as "against Pakistan", and a vote for the Brown Amendment can be considered as "pro Pakistan", the coefficients of ethnic influences in both tables are reversed. Overall, the results are consistent with the hypothesis of ethnic lobbying. Interestingly, it seems, however, as if the impact of the

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4 Annex B presents the correlation matrix for the different variables.

5 Example:

$$powerpak_i \text{ (for 1995)} = \left( \frac{poppak95_i - \mu_{poppak95}}{\sigma_{poppak95}} + \frac{stexppak_i - \mu_{stexppak}}{\sigma_{stexppak}} \right) \times \frac{1}{2}, \text{ for each state } i = 1, \dots, 50$$

direct political support through the population of Indians and Pakistanis has played a much stronger role for the Pressler than for the Brown Amendment. This could be due to the fact that ever since the early 1980s, due to the Soviet-Afghan war aid flows to Pakistan had been a major issue of discussion. Therefore, as opposed to the time of the Brown Amendment, the general population was already well aware of the issue and followed the debates. Hypothesis 1 suggesting the relevance of ethnic population groups therefore seems to be influenced by certain precondition of the voting process. At the same time, business lobbies with vested interests and an existing lobbying structure appear to closely follow policy making in any case. Consequently, the number of Indian firms is significantly and negatively related to pro-Pakistani voting (i.e. in favor of the Brown, and against the Pressler Amendment). This provides some support for Hypothesis 2 on the influence of ethnic business lobbies.

The index of Indian ethnic power in the US including both aspects of potential ethnic influences on decision making is significant with the right sign in both regression tables.

In the context of the Brown Amendment, we can introduce an additional explanatory variable in order to test Hypothesis 5 on the impact of export related US business interests in Pakistan and India. As opposed to the 1980s where these data were not available, exports by state are reported by the Foreign Trade Division of the US Census Bureau and the Global Trade Information Services, Inc. from 1993 onwards (US Census Bureau 1995). Assuming a proportional relationship between the volume of exports and the strength of vested interests, the volume of state exports to Pakistan and India *stexpak* and *stexpind* is included in Regression 9. State exports to India show the expected significant negative coefficient while state exports to Pakistan do not turn out to be significant. Moreover, we again face strong correlations between the different explanatory variables, so that *stexpind* loses its significance when introduced jointly with other variables. As opposed to the similar regression in Table 3, the general *powerind* and *powerpak* variables in Regression 8 include this additional aspect of lobby influence. In fact, this implies that strictly speaking, they not only encompass ethnic lobbying but also potential US business interests. Given the high correlation coefficients, it appears to be difficult to effectively separate the different effects (see Annex B).

Finally, it should be noted that business lobbying variables as used in Regressions 5-9 all rely on absolute figures, rather than on figures relative to state size. While relative figures appear to be intuitively more compelling and seem to be the preferred choice in most other papers on congressional voting decisions (e.g. Coughlin 1985, Tosini and Tower 1987, Baldwin and Magee 1998), we seem to face threshold effects here which

cannot be adequately captured by a relative variable. Figure C1 in Annex C shows a graph motivating the idea of possible threshold effects at the example of the number and sales of Indian firms. It seems that only from a minimum absolute number onwards, firms are able to organize lobbying activities and therefore start to influence policy making. Annex C also shows the alternative regressions with state exports relative to total state exports, and the number of Indian firms and Indian firms' employees relative to total state population. In these specifications, the corresponding variables *ifn* and *fpind* are no more significant.

**Table 3: Logistic regression results for the Pressler Amendment**

<b>senate_vote</b>	<b>Regression 5</b>	<b>Regression 6</b>
party_affln	1.22**	1.09**
poppak85	-14948.04**	
popind85	1471.71**	
allfirmsn87	0.0023(*)	
powerpak		-1.24
powerind		7.83**
constant	-0.54	5.32***
N	94	94
Pseudo R <sup>2</sup>	0.21	0.18

Notes: \*\*\*, \*\* and \* denote significance at the level of 1%, 5% and 10% respectively. (\*) indicates that the estimate is just below the 10% significance level ( $\alpha < 11\%$ ). In Regression 6 *powerpak* is simply the standardized value of *poppak85*, as there is no other suitable variable available for Pakistani lobbying power in 1985. For detailed descriptions of the variables and their sources, see Annex A, Table A1.

**Table 4: Logistic regression results for the Brown Amendment**

<b>senate_vote</b>	<b>Regression 7</b>	<b>Regression 8</b>	<b>Regression 9</b>
party_affln	2.22***	2.12***	2.28***
poppak95	3036.84		
popind95	-205.78		
allfirmsn97	-0.0002**		
stexpak			-2.44e-09
stexpind			-5.95e-09**
powerpak		0.19	
powerind		-1.62**	
constant	-0.55	-1.70***	-0.61*
N	100	100	100
Pseudo R <sup>2</sup>	0.26	0.25	0.23

Notes: \*\*\*, \*\* and \* denote significance at the level of 1%, 5% and 10% respectively. For detailed descriptions of the variables and their sources, see Annex A, Table A1.

In Table 5 finally, voting patterns for the Pressler and the Brown Amendments are analyzed jointly. For this purpose votes cast in the Senate are recoded in a way that 1 always indicates a vote "pro Pakistan" (*senate\_vote\_pp*), i.e. against the Pressler and in favor of the Brown Amendment. As Republicans tended to vote against Pakistan at the times of the Pressler Amendment and in favor of Pakistan in the context of the Brown Amendment, the party affiliation variable needs to be taken into account separately for the two years (*party\_affln85*, *party\_affln95*). Comparing estimation results for these two variables, it appears that in fact, voting in party line has been more relevant for the Brown than for the Pressler Amendment. In regression specification 11, *party\_affln85* is not even significant. Similar differences between the decision making processes in 1985 and 1995 have already been noted above with respect to the influence of the population of Indian and Pakistani expatriates in the US. If we allow the coefficients of *poppak* and *popind* to take a different value for 1995, we obtain a correction factor which suggests a greatly reduced impact in the context of the Brown Amendment. In the Indian case, the correction factor is clearly significant.

As far as the influence of ethnic business lobbies is concerned, no such difference between the two amendments can be observed and it seems that the corresponding variables can be safely estimated jointly across the two years. Again the number of Indian firms within the state shows the expected negative effect on pro-Pakistan votes.



The effect becomes even more strongly significant when we replace the variable *allfirmsn* by the joint variable including the average of standardized values for firm numbers, employees and sales ("firm power India" *fpind*). The index is constructed in the same way as *powerind* above, but does not include the population variables as they need to be split over the two years.

The *year\_dummy* variable introduced to capture unobserved differences between the two years is insignificant in most specifications or just at the margin of the 10% significance level. This shows that most of the relevant differences in the voting procedures of the two amendments should be captured by the other explanatory variables. Nevertheless, we tend to keep the year dummy in the regression, as it improves the significance of other coefficients.

All in all, we find consistent evidence for the influence of ethnic groups. While the impact of ethnic business lobbies is equally relevant all through, the relevance of the share of the state population from India and Pakistan plays a much greater role in 1985 than in 1995. As export and FDI data by state are unavailable or available only for recent years, their impact could not be tested in Table 5. Evidence from the Brown Amendment in 1995 displayed in Table 4 shows that there might be some influence exerted by US exporters to India, but correlations with variables such as population and Indian firms are so high that this influence cannot be isolated. Finally, as expected, senators are found to typically vote in party line. However, party positions seem to have emerged much more clearly in 1995 than in 1985. Moreover, even in 1995, we find some variation and in fact, even the Democrat president opted against the majority of his senators.

Methodologically, it may be observed that the above results have been derived under the hypothesis that each senator takes a decision independently of any other senator once party affiliation and all other explanatory variables are corrected for. It could be imagined, however, that there are unobserved effects within each state drawing its two representatives in the Senate into the same direction. If this were true, the independence assumption would be correct and lead to an underestimation of standard errors, i.e. to coefficients appearing significant while in reality, they are not. To test the robustness of the above results, all regressions have been run again with an error structure allowing for state specific random effects. The results indicate that while indeed the influence of some variables appears slightly less significant, the overall outcomes reinforce our confidence in the robustness of the regression results discussed above (see Annex D).

**Table 5: Logistic regression results for the Pressler and the Brown Amendment jointly**

senate_vote_pp	Regression 10	Regression 11	Regression 12	Regression 13
party_affln85	-0.92**	-0.69	-1.01*	-1.09*
party_affln95	2.48***	2.12***	2.26***	2.32***
poppak	5150.91**	4936.38**	12276.71*	12157.24*
poind	-502.78**	-529.78**	-2248.89**	-1822.66**
poppak95			-9014.11	-9073.44
popind95			2050.18**	1698.47**
allfirmsn	-0.0002**	-0.0002**	-0.0002**	
fpind				-2.77**
year_dummy		0.51	-1.36	-1.37(*)
constant	-0.4511	-0.63	0.78	-1.57
N	194	194	194	194
pseudo R <sup>2</sup>	0.26	0.27	0.29	0.31

Notes: \*\*\*, \*\* and \* denote significance at the level of 1%, 5% and 10% respectively. (\*) indicates that the estimate is just below the 10% significance level ( $\alpha < 11\%$ ). For detailed descriptions of the variables and their sources, see Annex A, Table A1.

## 4 Conclusions

In line with the growing literature on the political economy of development assistance, this paper analyzes US aid to Pakistan under the particular perspective of the potential influence of two opposing ethnic groups, i.e. Pakistanis and Indians living in the US. Inspired by Lahiri and Raimondos-Møller's (2000) theoretical model, these two groups are shown to exert a relevant influence on the development of aid disbursements over time, as well as on the outcome of votes for specific amendments passed in the Senate. While US business interests abroad also play a relevant role, time series analysis reveals that the impact of ethnic lobbying per dollar invested is even stronger. Analyzing voting patterns in the Senate, US business interests and ethnic lobbying cannot fully be disentangled due to the high correlation between these variables. In any case, evidence for ethnic lobbying is rather strong for the Pressler Amendment in 1985 as well as for the Brown Amendment in 1995. Both of these greatly influenced US development cooperation with Pakistan.

While in case of the Pressler Amendment, the direct influence of population groups of Indian and Pakistani origins seems to have played a predominant role, the role of ethnic business lobbies appears to have dominated in the context of the Brown Amendment.

This may reflect some differences in the political background of the voting process which implied that the Pressler Amendment in the midst of the Afghan war was much more directly perceived as an anti-Pakistani decision making endeavor. Finally, as expected, party affiliation also plays an important role to explain voting behavior, but much more so in 1995 than in 1985 and with parties switching positions between the two amendments.

All in all, using various estimation techniques and regression specifications, at the example of US aid to Pakistan, this paper provides compelling evidence for political economic determinants of bilateral aid. Although certain additional political economic factors such as geopolitical considerations have not even been considered here, the overall explanatory power of the regression models used is relatively high. As political economic factors in the donor country cannot be expected to be closely related to the actual needs of the recipient, this raises difficult questions with respect to aid effectiveness and the efficiency of funds invested in development cooperation. It remains an open question how the direct interest of political decision makers in donor countries can be brought in line with the objectives of actual development.

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## Annex A

**Table A1: List of Variables**

Variable Name	Definition	Source	Notes
allfirmns	joint vector of allfirmns87 and allfirmns97	See allfirmns87 and allfirmns97	
allfirmns87	total number of Indian owned firms in each US state in 1987 and 1997 respectively	Survey of Minority Owned Business Enterprises, Economic Census Branch, US Census Bureau – Department of Commerce (1991, 2001)	
allfirmns97			
allfirmss87	Indian owned firms in each US state sales in 1987 and 1997 respectively	Survey of Minority Owned Business Enterprises, Economic Census Branch, US Census Bureau – Department of Commerce (1991, 2001)	
allfirmss97			
dummy01	dummy for the year 2001		Assigned 1 for year 2001 and 0 for other years in the time series regression
fpind	Joint vector of row mean of standardized allfirmns87, allfirmss87, fwpen87, fwpes87, fwpeen87 and fwpeap87 for 1985 and allfirmns97, allfirmss97, fwpen97, fwpes97, fwpeen97 and fwpeap97 for 1995		
fwpeap87	Indian owned firms in each US state with paid employees annual pay roll in 1987 and 1997 respectively	Survey of Minority Owned Business Enterprises, Economic Census Branch, US Census Bureau (1987, 1997)	
fwpeap97			
fwpeen87	Indian owned firms in each US state with paid employees total number of employees in 1987 and 1997 respectively	Survey of Minority Owned Business Enterprises, Economic Census Branch, US Census Bureau (1987, 1997)	
fwpeen97			
fwpen87	Indian owned firms in each US state with paid employees numbers in 1987 and 1997 respectively	Survey of Minority Owned Business Enterprises, Economic Census Branch, US Census Bureau (1987, 1997)	
fwpen97			
fwpes87	Indian owned firms with paid employees in each US state sale in 1987 and 1997 respectively	Survey of Minority Owned Business Enterprises, Economic Census Branch, US Census Bureau (1987, 1997)	
fwpes97			
glepak	Pakistani and Indian government lobbying expenses via lobby organizations located in the US ('000 US\$ 2001 constant prices)	US Department of Justice (various years)	Divided in to government and non government lobbies from the FARA annual reports. Government lobbies are those hired by govt. and non government lobbies are hired by business groups etc.
gleind			
ifn	total number of Indian owned firms in each US state relative to state size	Survey of Minority Owned Business Enterprises, Economic Census Branch, US Census Bureau (1987, 1997)	
nglepak	non government lobbying expenses, i.e. lobbying expenses by private business groups of Pakistan and India in the US via lobby organizations located in the US ('000 US\$ 2001 constant prices)	US Department of Justice (various years)	
ngleind			
paknat	number of Pakistani and Indians naturalized	US Department of Justice (1986,1994, 1999)	
indnat			
party_affln	party affiliation of each senator whether he is Democrat or Republican	US Department of Homeland Security (2003) Congressional Quarterly Inc. (1985) and US Senate (2004)	Assigned 1 if senator is Republican and 0 if he is Democrat



**Table A1 (continued)**

Variable Name	Definition	Source	Notes
popind	joint vector of popind85 and popind95	See popind85 and popind95	
poppak	joint vector of poppak85 and poppak95	See poppak85 and poppak95	
poppak85	number of Pakistanis and Indians in each US state relative to the total population of each state in 1985.	US Census Bureau - Population Division (1983, 1992)	Average of population of 1980 and 1990 based on 1980 census sample data and for 1990, 100% count.
popind85			
poppak95	number of Pakistanis and Indians in each US state relative to total population of each state in 1995.	US Census Bureau - Population Division (1992, 2004)	Average of population of 1990 and 2000 based on 1990 and 2000 census
popind95			
powerind	mean across states of the standardized variables popind85, allfirm87, allfirmss87, fwpen87, fwpes87, fwpeen87 and fwpeap87 for 1985, and mean across states of the standardized variables stexpind, popind95, allfirm97, allfirmss97, fwpen97, fwpes97, fwpeen97 and fwpeap97 for 1995		
powerpak	standardized poppak85 for 1985 and mean across states of the standardized variables stexppak and poppak95 for 1995		
senate_vote	dummy for senators' vote on Pressler and Brown amendment (=1 if he votes for the amendment, =0 if he votes against amendment)	Congressional Quarterly Inc. (1985) and US Senate (2004)	Voting in favor of Pakistan is considered as a vote against the Pressler Amendment and in favor of the Brown Amendment
senate_vote_pp	dummy for senators' votes on both amendments jointly(=1 if he votes in favor of Pakistan, =0 if he votes against Pakistan)		
stexppak	US exports by each state to Pakistan and India, 1995 Value in US\$	Foreign Trade Division, Data Dissemination Branch, US Census Bureau (1995)	
stexpind			
usaid	Gross disbursed ODA from US to Pakistan ('000 US\$ 2001 constant prices) and its one period lag	IDS/DAC, table 2a (OECD/DAC 2004)	
usaid (-1)			
usexpak	US exports to Pakistan and India ('000 US\$ 2001 constant prices)	US Census Bureau - Foreign Trade Division, (2004)	
usexind			
usfdipak	US foreign direct investment to Pakistan and India ('000 US\$ 2001 constant prices)	US Department of Commerce - Bureau of Economic Analysis (2004)	
usfdiind			
year_dummy	1 for year 1995 and 0 for 1985		

**Table A2: Descriptive statistics of variables analyzed in the time series model**

Variable	Obs	Mean	Units	Std. Dev.
usaid	23	218220.90	'000 US\$, 2001 Constant prices	185983.00
usexpak	23	859754.70	'000 US\$, 2001 Constant prices	237836.70
usexind	23	2568587.00	'000 US\$, 2001 Constant prices	827505.90
usfdipak	23	19438.26	'000 US\$, 2001 Constant prices	55965.32
usfdiind	21	146102.10	'000 US\$, 2001 Constant prices	202273.80
glepak	19	392.79	'000 US\$, 2001 Constant prices	375.71
nglepak	20	14.80	'000 US\$, 2001 Constant prices	30.54
gleind	20	4820.10	'000 US\$, 2001 Constant prices	2146.39
ngleind	20	902.55	'000 US\$, 2001 Constant prices	966.78
paknat	23	4073.04	numbers of persons	2736.58
indnat	23	16604.48	numbers of persons	10015.64

**Table A2:**

Variable	Obs	Mean	Units	Std. Dev.
<b>Pressler Amendment</b>				
poppak85	94	0.00011	persons/state population	0.00013
popind85	94	0.00155	persons/state population	0.00140
allfirmsn87	94	956.00000	number of firms	1776.419
<b>Brown Amendment</b>				
poppak95	100	0.00026	persons/state population	0.000303
popind95	100	0.00296	persons/state population	0.002810
allfirmsn97	100	3342.38000	number of firms	6759.945000
stexppak	100	16600000	US\$	34200000
stexpind	100	57700000	US\$	94100000

## Annex B

### Correlation matrix for the Pressler Amendment<sup>1</sup>

(obs=538)

	popind85	allfirmsn87	allfirmss87	fwpen87	fwpes87	fwpeen87	fwpeap87	Powerind
popind85	1.0000							
allfirmsn87	0.7619	1.0000						
allfirmss87	0.7067	0.9932	1.0000					
fwpen87	0.7037	0.9907	0.9939	1.0000				
fwpes87	0.6984	0.9915	0.9996	0.9932	1.0000			
fwpeen87	0.6246	0.9588	0.9767	0.9829	0.9762	1.0000		
fwpeap87	0.7396	0.9882	0.9867	0.9839	0.9871	0.9696	1.0000	
powerind	0.7803	0.9963	0.9922	0.9909	0.9906	0.9671	0.9919	1.0000

<sup>1</sup> For Pakistan *poppak* is the only variable available in 1985.

### Correlation matrices for the Brown Amendment

(obs=530)

	popind95	allfirmsn97	allfirmss97	fwpen97	fwpes97	fwpeen97	fwpeap97	stexpind	powerind
popind95	1.0000								
allfirmsn97	0.7176	1.0000							
allfirmss97	0.6440	0.9785	1.0000						
fwpen97	0.7287	0.9846	0.9720	1.0000					
fwpes97	0.6472	0.9792	1.0000	0.9728	1.0000				
fwpeen97	0.6964	0.9642	0.9570	0.9842	0.9580	1.0000			
fwpeap97	0.7039	0.9571	0.9802	0.9583	0.9804	0.9645	1.0000		
stexpind	0.5896	0.9271	0.9014	0.9497	0.9016	0.9545	0.8792	1.0000	
powerind	0.7542	0.9888	0.9788	0.9943	0.9797	0.9849	0.9776	0.9354	1.0000

	poppak95	stexppak	powerpak
poppak95	1.0000		
stexppak	0.3040	1.0000	
powerpak	0.8073	0.8076	1.0000

## Annex C

**Table C1: Logistic regression results for the Pressler Amendment with lobby variables relative to state size (rel.)**

<b>senate_vote</b>	<b>Regression 5 (rel.)</b>	<b>Regression 6 (rel.)</b>
party_affln	1.07*	0.86
poppak85	-12562.09*	
popind85	1839.67	
ifn	7426.55	
powerpak		0.29
powerind		1.23**
constant	-0.99	1.97**
N	94	94
Pseudo R <sup>2</sup>	0.17	0.10

Notes: \*\*\*, \*\* and \* denote significance at the level of 1%, 5% and 10% respectively. In Regression 6 (rel.) *powerpak* is simply the standardized value of *poppak85*, as there is no other suitable variable available for Pakistani lobbying power in 1985. For detailed descriptions of the variables and their sources, see Annex A, Table A1.

**Table C2: Logistic regression results for the Brown Amendment with lobby variables relative to state size (rel.)**

<b>senate_vote</b>	<b>Regression 7 (rel.)</b>	<b>Regression 8 (rel.)</b>	<b>Regression 9 (rel.)</b>
party_affln	1.99***	2.06***	2.25***
poppak95	1354.84		
popind95	-212.58		
ifn	-1151.80		
stexppak			-40.36
stexpind			24.60
powerpak		-0.23	
powerind		-0.57	
constant	-0.16	-1.17***	-1.04**
N	100	100	100
Pseudo R <sup>2</sup>	0.22	0.22	0.19

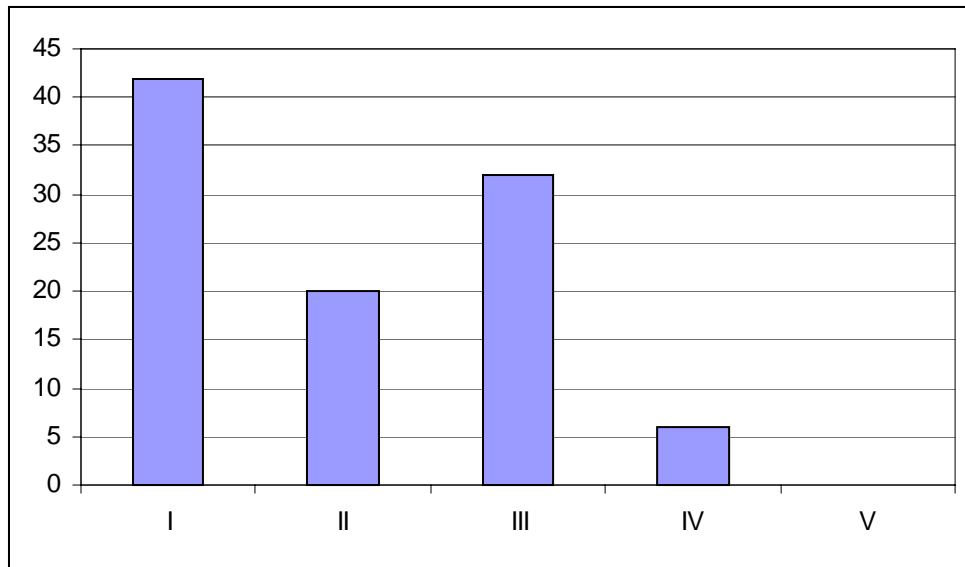
Note: \*\*\*, \*\* and \* denote significance at the levels of 1%, 5% and 10% respectively. For detailed descriptions of the variables and their sources, see Annex A, Table A1.

**Table C3: Logistic regression results for the Pressler and Brown Amendment jointly with lobby variables relative to state size (rel.)**

<b>senate_vote_pp</b>	<b>Regression 10 (rel.)</b>	<b>Regression 11 (rel.)</b>	<b>Regression 12 (rel.)</b>	<b>Regression 13 (rel.)</b>
party_affln85	-0.92**	0.66	-0.98*	-1.03*
party_affln95	2.28***	1.98***	1.99***	1.96***
poppak	2767.17	2896.78	12049.59(*)	11180.75
popind	-736.89**	-685.67**	-2298.38**	-2111.12**
poppak95			-10655.73	-10004.95
popind95			2130.2**	1880.68**
ifn	1138.25	358.18	-1525.87	
fpind				-0.38
year_dummy		0.64	-1.05	-1.002
constant	-0.19	-0.44	0.89	0.34
N	194	194	194	194
Pseudo R <sup>2</sup>	0.24	0.24	0.28	0.28

Notes: \*\*\*, \*\* and \* denote significance at the level of 1%, 5% and 10% respectively. (\*) indicates that the estimate is just below the 10% significance level ( $\alpha < 11\%$ ). For detailed descriptions of the variables and their sources, see Annex A, Table A1.

**Figure C1: Votes against the Pressler Amendment in %, by Indian firms in the state <sup>1</sup>**



<sup>1</sup> Category I: Number of Indian firms in the state are  $< 90$

Category II:  $90 \leq$  number of Indian firms  $< 240$

Category III:  $240 \leq$  number of Indian firms  $< 440$

Category IV:  $440 \leq$  number of Indian firms  $< 1\,500$

Category V:  $1\,500 \leq$  number of Indian firms

The five categories are defined such that we have an equal number of states in each category.

## Annex D

**Table D1: Logistic regression results for the Pressler Amendment with state random effects (re)**

senate_vote	Regression 5 (re)	Regression 6 (re)
party_affln	1.30**	1.20*
poppak85	-15385.11*	
popind85	1542.53(*)	
allfirmsn87	0.002(*)	
powerpak		-1.18
powerind		8.29**
constant	-0.57	5.77**
N	94	94
Wald Chi <sup>2</sup>	7.22	6.40

Notes: \*\*\*, \*\* and \* denote significance at the level of 1%, 5% and 10% respectively. (\*) indicates that the estimate is just below the 10% significance level ( $\alpha < 11\%$ ). In Regression 6 (re) *powerpak* is simply the standardized value of *poppak85*, as there is no other suitable variable available for Pakistani lobbying power in 1985. For detailed descriptions of the variables and their sources, see Annex A, Table A1.

**Table D2: Logistic regression results for the Brown Amendment with state random effects (re)**

senate_vote	Regression 7 (re)	Regression 8 (re)	Regression 9 (re)
party_affln	2.22***	2.12***	2.28***
poppak95	3036.84		
popind95	-205.77		
allfirmsn97	-0.0002**		
stexppak			-2.44e-09
stexpind			-5.95e-09**
powerpak		0.19	
powerind		-1.62**	
constant	-0.55	-1.69***	-0.61*
N	100	100	100
Wald Chi <sup>2</sup>	22.81	23.16	23.96

Notes: \*\*\*, \*\* and \* denote significance at the level of 1%, 5% and 10% respectively. For detailed descriptions of the variables and their sources, see Annex A, Table A1.

**Table D3: Logistic regression results for the Pressler and Brown Amendment jointly with state random effects (re)**

senate_vote_pp	Regression 10 (re)	Regression 11 (re)	Regression 12 (re)	Regression 13 (re)
party_affln85	-0.92**	-0.69	-1.00*	-1.08*
party_affln95	2.48***	2.21***	2.25***	2.32***
poppak	5150.91**	4936.38**	12276.71*	12157.24*
popind	-502.78**	-529.78**	-2248.88**	-1822.66**
poppak95			-9014.11	-9073.44
popind95			2050.17**	1698.47**
allfirmsn	-0.0002**	-0.0002**	-0.0002**	
fpind				-2.77**
year_dummy		0.51	-1.36	-1.37(*)
constant	-0.45	-0.63	0.77	-1.56
N	194	194	194	194
Wald Chi <sup>2</sup>	43.31	43.96	43.79	43.75

Notes: \*\*\*, \*\* and \* denote significance at the level of 1%, 5% and 10% respectively. (\*) indicates that the estimate is just below the 10% significance level ( $\alpha < 11\%$ ). For detailed descriptions of the variables and their sources, see Annex A, Table A1.