Stockholm Institute of Transition Economics

WORKING PAPER

July 2012

No. 17

Aid Motivation in Early and Mature Partnerships: Is there a Difference?

Emmanuel Frot Anders Olofsgård Maria Perrotta

STOCKHOLM INSTITUTE OF TRANSITION ECONOMICS

Aid Motivation in Early and Mature Partnerships: Is there a difference?*

Emmanuel Frot[†] Anders Olofsgård[‡] Maria Perrotta[§]

This version July 12, 2012.

Abstract

We argue that the nature of aid flows early on in a bilateral partnership may be different from that at a later stage. Commercial and strategic interests may carry particular weight after a significant regime change when new relationships need to be established, whereas development concerns come to carry greater weight as the relationship matures. We test this argument using the natural experiment of the break-up of communism in Central and Eastern Europe and the former Soviet Union. By looking at the allocation of aid across recipients, how that allocation has changed over time, and the urgency by which donors entered certain markets, we get a sense of the donors' changing priorities. We find that trade flows and geographical proximity lead to more aid during the early period, 1990-95, but not after that. On the other hand, political openness and natural disasters have no effect in the early going but are correlated with more aid in the later time period. We also find that donors are in more urgency to enter into countries with higher per capita incomes and with which they trade, but they also prioritize more democratic countries in this respect. Our results hold up to a thorough sensitivity analysis, including using a gravity model to instrument for bilateral trade flows. Our findings may have implications for what to expect about partnerships, and the role of aid, emerging between Western donors and new regimes put in place by the Arab Spring.

Keywords: Foreign Aid, Aid Allocation, Transition Countries.

*We are grateful for comments and suggestions from seminar participants at Georgetown University, University of Namur and the Stockholm School of Economics. Anders Olofsgard and Emmanuel Frot are also grateful for research funding from Handelsbankens Forskningsstiftelser.

[†]Microeconomix, 5 rue du Quatre Septembre, 75 002 Paris, France; SITE, SSE, P.O. Box 6501, SE-113 83 Stockholm, Sweden. Email: emmanuel.frot@microeconomix.fr.

[‡]SITE, SSE, P.O. Box 6501, SE-113 83 Stockholm, Sweden. Email: anders.olofsgard@hhs.se.

[§]SITE, SSE, P.O. Box 6501, SE-113 83 Stockholm, Sweden. Email: maria.perrotta@hhs.se.

1 Introduction

The global development architecture has changed substantially during the last 10 years. Non-OECD bilateral donors have grown more important, non-state actors such as global NGOs and philanthropists have proliferated, and many aid recipients have also become donors in their own right (Kharas, 2011). At the same time, there has been political turnover in many recipient countries, most dramatically recently in the Middle East and North Africa region. New regimes have come to power, political elites have changed and competition for economic rents has become more open. Altogether this means that many new partnerships between donors and recipients have been established, and often in a setting in which the political and economic future of recipient countries is uncertain. In this paper we argue that when such new partnerships are established, aid appears to serve somewhat different purposes compared to what is typically the case in more mature relationships. In particular, when new relationships need to be established, commercial and strategic interests may carry particular weight, whereas development concerns may become more salient as the relationship matures.

Commercial and strategic interests, such as trade relationships, natural resource extraction and strategic alliances, typically involve competition. In such competition there is a clear "first mover advantage": commercial gains from being the first to establish trade contacts or first to gain exploration rights, or strategic gains from being first to establish political connections with new regimes. There are several historical cases in which global powers have had conflicting interests in the future path of aid recipient countries. Think for instance of Western donors versus the Soviet Union during the Cold War, Western donors versus Russia in regards to other members of the Commonwealth of Independent States (CIS) in the 2000s, or Western donors versus the Gulf countries in regards to the current situation in the Middle East and North Africa region. In these cases, foreign powers have used aid as a tool (among others) to gain supporters and bolster the power of those with supportive views (Boschini and Olofsgård, 2007; Carothers, 2006) [1]. A similar logic applies to commercial relationships. An early foothold into a market with commercial potential can give an investor or an exporter an important advantage relative to its competitors, since it is generally costly to change investor and trade relationships once established. To gain an edge in that competition, donor countries sometimes provide aid as an additional sweetener to seal the deal for a domestic company (Schraeder et al., 1998).

[1] Egypt turned down a 3 USD billion credit from the IMF in 2011 in anticipation of equally generous loans but with less strings attached from Saudi Arabia and the Emirates.

Humanitarian concerns, on the other hand, are a public good and largely non-competitive (at least not excludable). As such, there should be less urgency to establish relationships with countries targeted primarily for humanitarian reasons. Rather the opposite, as with all public goods there is a tendency for under-provision of resources since the full cost of the expenditures, but only part of the benefits, are internalized (Stone, 2010). By holding out, donors can also learn from other donors' mistakes operating in the environment of a particular recipient, and thereby increase the effectiveness of their effort.

Over time, as strategic and trade relationships become more solid, aid becomes a less essential instrument to achieve commercial benefits and ideological loyalty. Certain strategic concerns, such as nuclear containment in the former Soviet Union and access to military bases in countries neighboring conflict zones, are temporary in nature. Trade relationships become more dependent on actual commercial value as they mature, and alternative ways to maintain the relationship evolve. Aid remains instead the primary and essential tool for promotion of economic development and humanitarian support, also as the relationship matures. Over time we therefore expect humanitarian motives to become relatively more important, and commercial and strategic ones relatively less so.

A current case in point is aid flows to the Middle East and North Africa (MENA) region. The Arab spring has naturally attracted an enormous attention, with Western countries offering foreign aid for governments pursuing democratic reforms and liberalizing their economies. The EU countries refer to their strategy for the southern neighborhood as "more for more": more financial support but only in exchange for what is deemed as credible *de facto* political and economic reforms. At the same time, foreign policy is also guided by other priorities, such as commercial ties (in particular with resource rich countries such as Libya), security concerns and fear of mass-immigration. There is also a battle for influence in the region, with in particular affluent Gulf kingdoms supporting domestic groups with a more religiously conservative, authoritarian and inward looking agenda for the future. How these different objectives in the end will shape western aid policy in the region is too early to say. Instead we focus in this paper on the case of Central and Eastern Europe (CEEC) and the Commonwealth of Independent States (CIS, most of the former Soviet Union countries) in the early years of their transition towards market economies. Also on that occasion western donors stood ready to offer foreign aid in support of transition towards democracy and market economy, but strategic and commercial interests were in the mix as well. The future path of Russia was uncertain, pushing Western Europe to quickly embrace the Eastern and Central European countries in order to secure their loyalty. Russia, Ukraine, Belarus and Kazakhstan had nu-

clear arms, and countries such as Russia, Poland, Czechoslovakia (later divided into the Czech Republic and the Slovak Republic) and Ukraine were perceived as having great commercial potential. Despite the common denominator of being part of the Eastern Block, these countries varied substantially in terms of strategic importance, commercial potential, and levels of economic development and poverty. The sudden opening up of these countries therefore serves as a natural experiment to investigate the early motivation behind aid partnerships. In particular, by looking at the allocation of aid across recipients, how that allocation has changed over time, and the urgency by which donors entered certain markets, we get a sense of the relative role of strategic interests, commercial interests, and the ambition to alleviate poverty in the early goings, and how that has changed over time.

The paper is organized as follows. In the next section we offer a discussion of the relevant literature. In Section 3 we look at aid allocation to CIS and CEEC countries in the years 1990-1995, and how it compares to the allocation to other recipients at the time. In Section 4 we look at trends over a longer time period, showing how aid allocation to the region changed with the maturity of relationships between donors and recipients. Section 6 addresses entry decisions looking at the speed of entry into CIS and CEEC countries. In Section 5 we do a sensitivity analysis of our main results, and in Section 7 we conclude.

2 The literature on aid allocation

There is by now a quite sizable literature on the motivation for aid. Most of this literature uses a "revealed preferences" argument and studies the allocation of aid across recipients with different characteristics to derive an idea of what donors really prioritize. If aid was predominantly motivated by the ambition to alleviate poverty, we would expect to see donors predominantly target poor countries. Given that the chances that aid will reduce poverty also depend on the economic and political environment in the recipient country, we may also expect that the quality of macroeconomic policies, level of political accountability, and the strength of institutions matter (Burnside and Dollar, 2000; Svensson, 1999).

It has long been argued, though, that the purpose of development aid goes far beyond the warm glow effect from giving to people in need (McKinlay and Little, 1977; Maizels and Nissanke, 1984). Aid is often (though not always) found to decrease with an increase in income, but the economic significance of poverty is typically trumped by strategic and commercial concerns. For instance, Alesina and Dollar (2000) find that aid decreases when comparing middle income to low income countries, but that within the group of low income countries, income has no significant effect. Instead

measures of historical ties (former colonial status), strategic alliances (as measured by the correlation of voting records in the UN general assembly) and the Israel-Palestine conflict have a much greater explanatory power and larger economic effects on the margin. This is true also compared with measures of political openness and the quality of macroeconomic policies. Other proxies of strategic importance that have been used, and found to be significant, in the literature include arms imports (Hess, 1989; Maizels and Nissanke, 1984), arms expenditures (Schraeder et al., 1998), and membership on the UN Security Council (Kuziemko and Werker, 2006; Dreher et al., 2009). The impact of the cold war (Boschini and Olofsgård, 2007) and the "war on terror" (Fleck and Kilby, 2010) suggests that strategic motives have been of particular importance in certain time periods.

Commercial interests, in particular captured by trade flows or exports, have also been shown important in many studies. Berthélemy and Tichit (2004) find that trade flows became a more important determinant of aid allocation after the end of the cold war. Fleck and Kilby (2010) find that exports have a significant and positive effect for US bilateral aid during the time period 1955-2006. This is confirmed by Neumayer (2003), who finds similar results for most major bilateral donors[2]. Younas (2008) finds that aid is positively correlated to imports of capital goods, but no other category of goods. He interprets this as evidence of the importance of commercial interests for aid allocation from OECD donors, since they are major producers and exporters of capital goods. Finally, some studies have also investigated the impact of geographical distance between donors and recipients, arguing that certain donors can have a particular interest in supporting a neighboring region for strategic and/or commercial reasons. The US has been shown to favor Latin America, Japan East Asia, Australia and New Zealand the Pacific nations, and Germany, Austria and Switzerland countries in the near East or South (Neumayer, 2003).

But does the motivation for aid matter for its ability to alleviate poverty? It does if it means that the allocation of aid is directed away from the countries or sectors in which it is most likely to have an impact, if it undermines aid conditionality, if it helps incompetent and corrupt regimes stay in power, and if commercial interest leads to practices such as tied aid. Stone (2010) finds that the impact of aid depends on its motivation, and argues that this at least partially has to do with the credibility of aid conditionality. If aid is motivated by commercial interests, conditions on economic

[2]Interestingly, Stone (2010) finds that, conditional on receiving aid in the first place, aid flows from France, UK, Germany and EU are all positively and significantly correlated with exports, whereas for the US the result is the opposite. A possible explanation could be that, in the US case, exports matter more for the selection of which countries to give to, rather than how much to give to those selected.

and political reforms will not carry much clout, and it is no secret that nations of strategic importance have received large flows of aid despite deplorable human rights records in the ages of the cold war and the war on terror. This is especially relevant for the EU donors in their strategy to offer "more for more" to their southern neighbors. In the end, if aid becomes dominated by commercial interests, stronger conditions on paper will mean nothing. If enforcing conditionality goes against the interests of the donors, it will not be credible. Collier and Dollar (2002) compare actual aid allocation with a model of efficient aid allocation, developed based on the paper by Burnside and Dollar (2000) emphasizing the role of proper economic policies. They argue that a reallocation based only on where aid is most likely to contribute to development, could lift 50 million more individuals over the poverty line.

Very little has been written about the evolution of development partnerships over time. Some studies have illustrated how the emergence of sudden strategic concerns can lead to a dramatic increase in aid, or how events like the end of the cold war can shift donor priorities and leverage more generally (Fleck and Kilby, 2010; Boschini and Olofsgård, 2007). The only paper we know of that explicitly identifies a systematic difference between early and mature partnerships is Frot (2009), who shows how aid quantities depend critically on the length of the partnership. The impact on the predicted level of aid from entering a partnership roughly 7 years later is a drop in aid by approximately USD 20 million (or equivalent to the effect of having a GDP per capita level around USD 5 000 higher). This paper thus illustrates a significant difference between early and mature relationships, but it does not discuss how motivation behind aid may vary depending on the maturity of the relationship[3]. To our knowledge, this is the first paper to address this in a systematic way.

3 Aid to CIS and CEEC in 1990-95

The end of communism in the former Eastern Bloc suddenly opened up a new set of low and middle income countries for the potential to receive western aid. These countries varied substantially in levels of underdevelopment, strategic importance and commercial potential. In this sense, the fall of the Berlin Wall constitutes almost a unique natural experiment to test how the motivation for aid may be different in the beginning of a partnership compared to the later period.

[3]Based on this finding, Frot and Perrotta (2010) use time of entry as an instrument to reevaluate the impact of aid on economic growth. They find a more robust positive effect than is usually found using alternative instruments.

As a first step we offer some descriptive statistics of aid allocation from DAC members to CEEC and CIS countries in the early stages of their transition. Given the current focus on decreasing aid fragmentation, as expressed for instance in the Paris Declaration, the Accra Agenda and the European Council 2007 Code of Conduct, we show below a graph of how the number of recipient countries for the average DAC member has changed over time. As can be seen, fragmentation increased slowly from 1976 to 1985 and then stayed constant until 1990, after which it started to increase again up until 1995. After that it stayed flat until 2004, after which it has fallen somewhat. The end of the cold war is thus associated with a substantial increase in aid fragmentation, as new recipients emerged in the CEEC and CIS while very few established relationships were terminated.

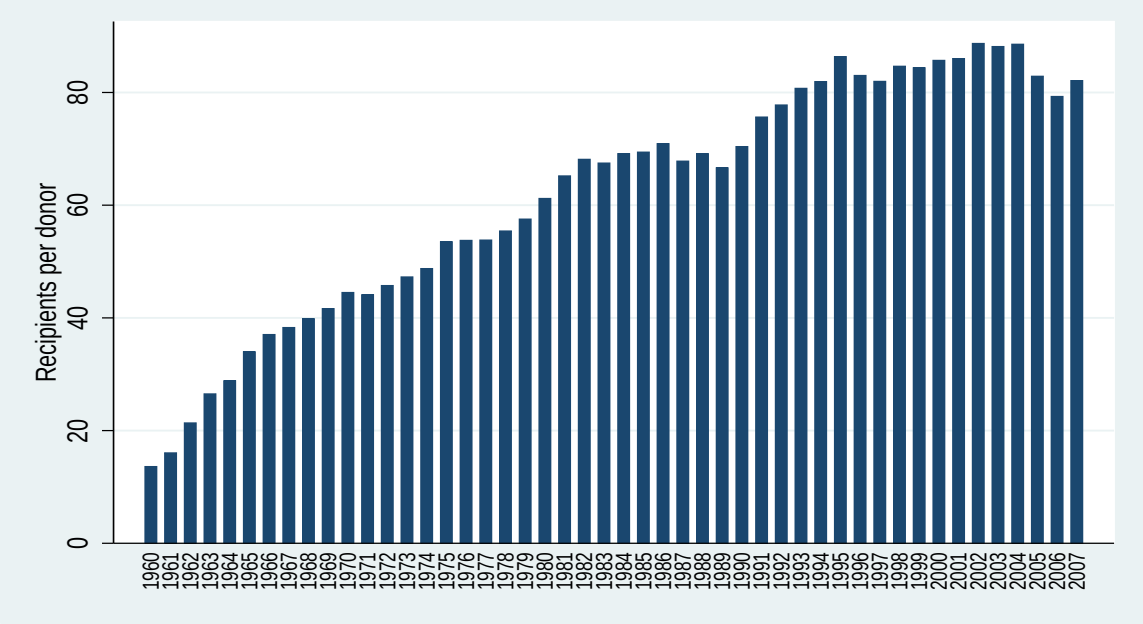

Figure 1

Another way to illustrate the impact on fragmentation is to look at the number of the CEEC and CIS countries that the DAC members had entered in 1995. As is clear from Figure 2, the major donors entered between 50 and 75% of the 27 new countries. This suggests that the current attention paid to the events in the Arab world may challenge the intentions of the donors to concentrate aid in a more narrow set of recipients.

To test if the motivation for aid to CIS and CEEC countries differed from the norm in the early stages of development cooperation, we first estimate a parsimo-

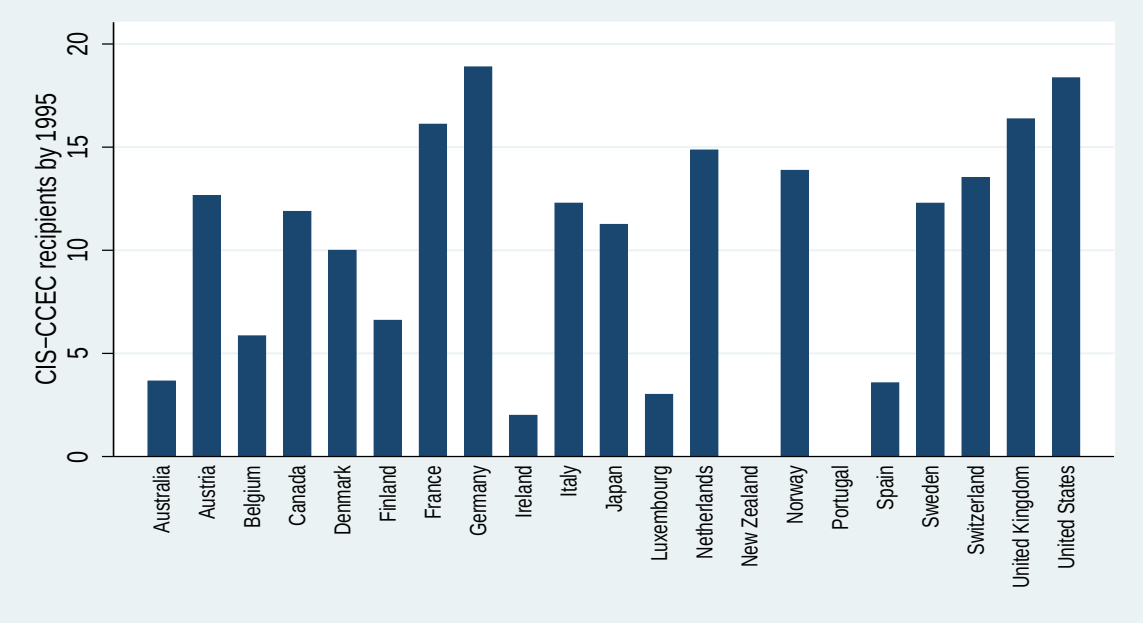

Figure 2

nious aid allocation model using all recipient countries and group interactions for the years 1990-95. Based on the existing literature (Alesina and Dollar, 2000; Fleck and Kilby, 2010), we assume that aid depends on income per capita, level of democracy, population size, colonial status, commercial and strategic importance and exposure to natural disasters. Some parts of aid flows to the region in the early goings were explicitly strategic, such as military aid for nuclear disarmament. What we are interested in is to analyze whether aid that officially is disbursed for purposes of development and directly or indirectly (through aid fungibility) is used at the discretion of the recipients is also correlated with strategic and commercial motives. We therefore use Country Programmable Aid (CPA) as our dependent variable, an alternative to Official Development Assistance (ODA), to better capture the proportions of aid expenditures over which the recipient countries actually do have some authority (Benn et al., 2010). CPA excludes from ODA debt relief, humanitarian aid, in-donor costs and aid from local governments, core funding to international NGOs, aid through secondary agencies, ODA equity investments and aid which is not possible to allocate by country.

Income per capita, included to capture need, is measured in purchasing power parity terms and is in log terms to reduce the impact of outliers. The level of democracy is measured using the Polity data, and the log of population size is included to

capture the well-known effect that more populous countries tend to get more aid in total but less in per capita terms. Colonial status is a dummy that takes on the value of 1 for all countries previously being western colonies, and disasters is the number of natural, biological or technological disasters[4] that the country experienced during the previous year. Finally, to capture commercial interests we look at trade volumes between each recipient and the aggregate of donors, measured as total export and import flows over GDP[5].

The standard in the aid allocation literature is to use the log of total aid as the dependent variable, and then use a linear estimator such as the OLS, with or without fixed effects. The conditional mean can then be written as

$$E[ln(aid_{it})|x_{it}] = b_0 + x_{it}b \tag{1}$$

where subscripts i and t signify country and year, x signify a vector of explanatory variables and b a vector of corresponding parameters. This approach has been criticized in other contexts, though, in particular in the context of health expenditures and trade (Ai and Norton, 2000; Santos Silva and Tenreyro, 2006, respectively). Firstly, it is not possible, without questionable alterations, to include observations in which the dependent variable is 0. Secondly, to calculate predicted values of the dependent variable requires a transformation since

$$E[aid_{it}|x_{it}] = e^{b_0+x_{it}b} * E[e^{\epsilon_{it}}] \tag{2}$$

where

$$E[e^{\epsilon_{it}}] = e^{\frac{\sigma^2}{2}} \tag{3}$$

when ϵ_{it} $N(0, \sigma^2)$. The recommended alternative is to use the Poisson model with the Huber/White/Sandwich linearized estimator of variance (robust standard errors) and the absolute level of aid as the dependent variable[6]. The Poisson model, most commonly applied to count data, assumes that

$$E[aid_{it}|x_{it}] = e^{b_0+x_{it}b}. \tag{4}$$

[4]Data from EM-DAT: The OFDA/CRED International Disaster Database, www.emdat.be, Université Catholique de Louvain, Brussels, Belgium.

[5]Just looking at exports over GDP, as is done in some papers, leads to similar results. Ideally we would have liked to include also investments from the donors, but such data is very spotty in the early period.

[6]An alternative to the use of robust errors is to cluster the errors at the recipient level. This is generally not recommended when the number of clusters falls below 35, since clustered standard errors are only valid asymptotically, and the asymptotic properties are based on the number of clusters, not the number of observations (as is the case with robust standard errors). Since we have fewer than 35 clusters for most of our regressions, we choose to use robust standard errors throughout.

This solves the aforementioned concerns, the only remaining difference being the distinction between $lnE(aid_{it}|x_{it})$ and $E[ln(aid_{it})|x_{it}]$. A very restrictive assumption with the conventional Poisson model is that it assumes that $E(y_{it}) = Var(y_{it})$, which only holds true in quite special cases. However, the Huber/White/Sandwich estimator for the variance-covariance matrix does not need this assumption, it does not even require that $Var(y_{it})$ be constant across i (homoscedasticity)[7].

Column (1) of Table 1 shows the results from a Poisson regression on aid using a dummy for CEEC and CIS countries included linearly and interacted with all independent variables. As expected, aid increases with population size, but the marginal effect is significantly larger in the CEEC and CIS countries, with an elasticity not far from 1 (suggesting that aid per capita is almost unaffected by population size in the CEEC and CIS countries, but falls with population size in the other set of recipients). There is no significant difference in the impact of income per capita, which across both groups has a negative correlation with aid inflows. As in earlier studies, former colonies receive more aid while natural disasters have no significant effect (CPA does not include humanitarian aid, so this is not surprising). Trade is negative and insignificant in the control group, but turns positive and significant in the CIS and CEEC countries, suggesting a more prominent role of commercial interests. Polity turns from negative to positive, indicating that aid may have been used more proactively in the CIS and CEEC group to encourage countries that early on reformed their political institutions. Finally, the regional dummy itself is negative and significant suggesting that aid to these countries on average was lower than to other recipients with similar levels of income, democracy, etc.

The results in Column (1) highlight average differences across the two groups, but there is of course also a lot of individual variation within groups. In Figure 3 below we show for each CIS and CEEC country the difference between actual aid inflows and expected aid inflows had they been like other aid recipient countries[8]. Results are ordered from the largest to the smallest difference. There are a couple of things to note just eyeballing the figure. First, among CIS countries there is a clear distinction between Russia, Ukraine and Belarus and the countries in the Caucasus and Central Asia. Second, countries closer to the core of Western Europe seem to be getting more aid than countries further away. Third, Russia, a country not very

[7]Nevertheless we replicate Table 1 using the log of aid and the OLS estimator in the appendix. The results are very similar. If anything, our key results come out slightly stronger in the linear model.

[8]Expected aid inflows are derived based on the estimated non-interacted coefficients from Column (1) and the average values on the independent variables for each country across the 6 years. This is compared to the actual average aid inflows across the same years.

representative of a typical aid recipient, gets substantially more aid than expected.

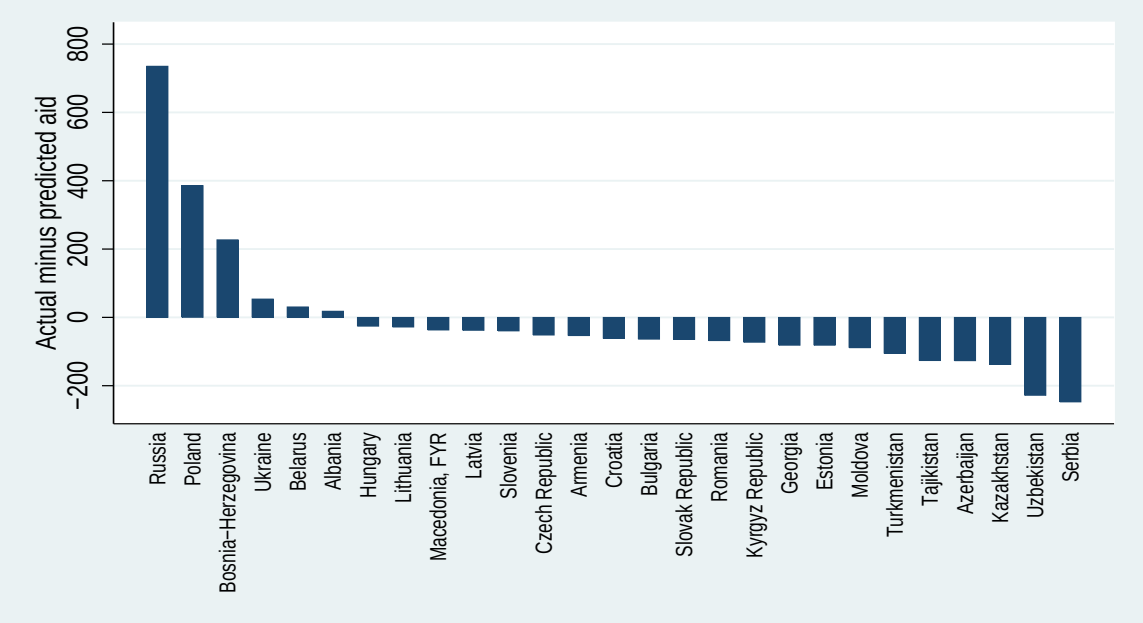

Figure 3

Given these observations, we first rerun the regression in Column (1) excluding Russia to make sure that the differences were not driven by its inclusion. The results are presented in Column (2), and as can be seen, the previous conclusions still hold true. In Column (3) we look at the CEEC and CIS countries in isolation and include two variables that may explain the patterns from above; a dummy for nations in possession of nuclear arms at the time of the dissolution of the Soviet Union (Russia, Ukraine, Belarus and Kazakhstan) and a measure of the average distance between the capitals of the recipient and its donors. In particular in Western Europe, there was a strong desire to help countries in Eastern and Central Europe (including the Baltic countries) to transition toward democratic and liberal market economies. Part of this motivation was commercial, but it was also driven by security concerns and at least for some donors to make right what was perceived as a historical failure dating from the end of the Second World War. Another great concern at the end of the cold war was political chaos in countries with nuclear warheads. Military aid was offered in exchange for dismantling these warheads and measures were taken to reduce the risks that the technology would spread to other countries. This might have resulted in more development aid. Geographic distance turns out highly significant and negative suggesting that donors favored countries in proximity to Western Europe. Note also

Table 1: Aid allocation in 1990-95

	(1) All recipients	(2) No Russia	(3) CEEC-CIS	(4) No Germany	(5) 3-yrs av.
aid					
ln_pop	.41***	.41***	.61***	.61***	.47***
	(.045)	(.045)	(.096)	(.13)	(.14)
CCC_lnpop	.34***	.46***			
	(.12)	(.11)			
ln_gdpc	-.11*	-.11*	-.75***	-1.22***	-.42
	(.054)	(.054)	(.22)	(.21)	(.45)
CCC_lngdpc	-.22	-.40*			
	(.24)	(.23)			
trade	.00043	.00043	.048***	.11***	.053***
	(.0021)	(.0021)	(.0094)	(.026)	(.012)
CCC_trade	.038***	.026**			
	(.011)	(.011)			
polity2	-.015	-.015	-.039	-.025	.0088
	(.0094)	(.0094)	(.029)	(.035)	(.056)
CCC_polity	.079***	.11***			
	(.022)	(.023)			
L.disasters	.021*	.021*	-.093***	-.070	.095
	(.011)	(.011)	(.018)	(.044)	(.25)
L.CCC_disa	-.077***	-.38***			
	(.022)	(.067)			
CISCEEC	-4.49	-4.84*			
	(3.14)	(2.90)			
colony	.33**	.33**			
	(.13)	(.13)			
distcap			-.11***	-.13***	-.094*
			(.023)	(.029)	(.049)
nuclear			.47***	-1.86***	.17
			(.14)	(.39)	(.26)
N	526	522	86	85	21
Chi2_*p-value*	0	9.3e-231	1.2e-208	4.2e-35	4.9e-324

Note: Dependent variable is aid flows. Yearly observations for the period 1990-1995, 3-year averages in Column (5). Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

that the negative effect of income now becomes much larger and polity switches sign to become negative, suggesting that the previous results were driven by the fact that geographically close countries also tended to be economically wealthier and more politically open. The nuclear dummy turns out positive as expected, but insignificant.

Another possible reason for the differences may be that different donors carry different weights in the two groups of recipients. It is known from previous studies that some donors are more motivated by commercial interests than others (Stone, 2010). Maybe those donors stand for a larger share of aid in the CIS and CEEC countries than in the other group? To reduce this bias we eliminate one by one donors that have a strongly disproportionate relative size in one or the other recipient group. Germany stands for as much as 61 percent of total aid to the CIS and CEEC countries in this time period, but only 12 percent to the other group. The role of Germany is also special due to the necessity to calm worried neighbors in the face of the political consequences of a reunification between East and West Germany. After eliminating Germany, Japan stands for 30 percent of total aid to the more mature recipients, but only 11 percent to the CEEC and CIS countries. After eliminating Japan, Austria stands for 11 percent of total aid to CIS and CEEC but only 0.4 percent to the other group. After having eliminated these three donors, the relative weights among the remaining donors across the two groups of recipients look much more similar. In Column (4) we show the results using the same model as in Column (3) but excluding Germany (results are very similar excluding also Japan and Austria). Two results stand out compared to Column (3). First, the nuclear dummy is now negative and significant. This suggests that Germany took on the prime responsibility of providing aid to the strategically important nuclear powers. To the extent that aid was in exchange for nuclear disarmament, this was essentially an international public good providing increased security for all donor countries. The negative coefficient may then reflect free-riding on behalf of the other donors in response to the role taken by Germany[9]. Secondly, the coefficient size on trade increases by a factor of almost three, while that on income doubles (in absolute terms) suggesting that

[9]We have also run regressions including a dummy for countries belonging to the former Soviet Union (FSU). This does not change any of the other results, but the effect of the FSU dummy depends on whether Germany is included or not. When Germany is included, the FSU dummy is negative, but only significant when controlling also for the nuclear weapons dummy (which is positive). When Germany is excluded, the FSU is always strongly significant and negative while the nuclear weapons dummy is significant only when the FSU variable is excluded. This further suggests that other donors generally prioritized CEEC, while Germany took responsibility for the nuclear armed former Soviet Union states. The negative coefficient on nuclear in Column (4) does thus reflect more a general bias against FSU countries, rather than a bias against nuclear powers.

the previous findings were not driven by the inclusion of Germany; if anything the opposite[10]. Another interpretation is that Germany dominated the by far largest market, Russia, and that other donors instead focused primarily on other countries with great trade potential, and these were not primarily the other nuclear powers.

Finally, in Column (5) we show the results using averages for 1990-92 and 1993-95. Yearly disbursements fluctuate a lot so maybe our results are driven by a few extreme observations. By looking at this short panel with three year averages we take one step towards reducing potential bias from high yearly volatility. The trade-off is that we are now down to only 42 observations. The results largely confirm the previous findings, except for the effect of disasters that now turns positive and significant. This suggests that CPA may still be affected by disasters but this effect kicks in only with a lag, i.e. after the actual disaster as part of reconstruction.

Overall the picture that emerges from the analysis above is that development aid in the early stages may have been partly driven by ambitions to alleviate poverty; countries with lower per capita income did get more aid, in particular when we control for geographical proximity and nuclear warheads. However, commercial and strategic interests did clearly also loom large. A one standard deviation increase in trade, taking the conservative estimate from Column (3), yields an increase in aid corresponding to 18% of a standard deviation of the log of aid. Doing the same for distance to capital yields a 64% reduction, while the effect of the nuclear dummy corresponds to a 15% percent increase. The corresponding number for log of income is a 25% reduction.

4 Trends over time in aid to CIS and CEEC

In Table 2 below we show results from looking at data from 1990 to 2007 in the subset of CIS and CEEC recipients. In Column (1) we show the results from a naïve regression in which we constrain the marginal effects to be identical across different time periods. As can be seen, the effect of the different factors looks dramatically different compared to the results in the previous section. Per capita income is now positive, although the coefficient is statistically insignificant. Democracy is positive and significant. On the other hand, geographic distance, trade and the nuclear indicator become insignificant.

In columns (2) to (5) we test our argument that the motivation for aid is different in the early going by introducing two dummies for the time periods 1990 to 1995 and

[10]Both Germany and Japan have been found to be motivated by commercial interests in other papers, e.g. Stone (2010).

Table 2: Aid to CIS and CEEC over time

	(1) Pooled	(2) Pooled	(3) Pooled - No Russia	(4) Fixed Effects	(5) 3-yrs av.
td95_gdpc		-.62**	-1.05***	.65*	-1.26***
		(.28)	(.26)	(.38)	(.39)
td01_gdpc		.091	-.065	.36***	-.27
		(.17)	(.20)	(.12)	(.32)
ln_gdpc	.079	-.044	.23	-.60*	.29
	(.13)	(.13)	(.16)	(.33)	(.27)
td95_pop		1.02***	1.15***	-.23	.23
		(.28)	(.27)	(.39)	(.24)
td01_pop		.089	.073	-.070	.026
		(.15)	(.16)	(.13)	(.24)
ln_pop	.73***	.40***	.68***	-3.75	.54***
	(.080)	(.100)	(.12)	(2.46)	(.21)
td95_disasters		-.15***	-.040	-.045	-.15**
		(.042)	(.11)	(.034)	(.069)
td01_disasters		-.10***	-.072	-.065**	-.19***
		(.023)	(.047)	(.028)	(.069)
disasters	.025	.11***	.012	.069**	.21***
	(.017)	(.022)	(.036)	(.032)	(.067)
td95_polity		-.13***	-.15***	.071*	-.13***
		(.038)	(.035)	(.041)	(.045)
td01_polity		-.017	-.027	.036**	-.012
		(.022)	(.021)	(.016)	(.029)
polity2	.037**	.069***	.089***	.0059	.072***
	(.014)	(.016)	(.016)	(.048)	(.021)
td95_trade		.040***	.057**	-.0093	.044**
		(.014)	(.024)	(.0096)	(.017)
td01_trade		.0094	.020*	-.010**	.026*
		(.0065)	(.012)	(.0042)	(.015)
trade	-.0032	-.0051	-.033***	-.0045	-.022*
	(.0036)	(.0044)	(.0095)	(.0048)	(.013)
td95_distcap		-.16***	-.19***		-.23***
		(.031)	(.032)		(.031)
td01_distcap		-.0096	-.016		-.0089
		(.016)	(.017)		(.022)
distcap	-.00049	.027**	.034***		.030**
	(.014)	(.012)	(.013)		(.015)
td95_nuc		-.13	.092		.17
		(.34)	(.41)		(.49)
td01_nuc		.055	.26		.43
		(.24)	(.28)		(.46)
nuclear	.055	.32	-.18		-.047
	(.15)	(.21)	(.23)		(.42)
N	332	324	311	322	126
Chi2_*p-value*	7.6e-121	0	2.6e-117	0	0

Note: Dependent variable is aid flows. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

1996 to 2001 respectively. These dummies are introduced separately and interacted with the independent variables. Columns (2) and (3) pool the yearly data, using both cross-country and time-series variation. The only difference between columns (2) and (3) is that we exclude Russia in Column (3). In Column (4) we introduce recipient country fixed effects, and in Column (5) we use three year averages of the data to diminish the effect of random yearly variation. Throughout we use the Poisson model. The results show that the effects of trade, geographic location, democracy, income and disasters have changed substantially over time. Looking at the pooled regressions, the overall effect of trade was positive in the first part of the 1990s, basically zero in the latter part of the 1990s and, when excluding Russia, negative between 2002 and 2007[11]. Geographic distance shows a similar pattern, with countries close to the donors (i.e. close to Western Europe) getting more aid in the early 1990s, and less aid after that.

More democratic countries receive less aid in the early period and more aid in the subsequent periods using the pooled data. This effect is quite different in the fixed effects regressions, though, suggesting that countries got more aid as they became more democratic in the early and intermediary periods, while this effect tapers off with time to become insignificant in the last period. Taken together these results suggest that aid initially may have been used to try to foster democratic reforms in countries lagging behind, but that over time donors have started leaving countries where little progress has been made. Income has a negative correlation with aid in the early period in the pooled data, turning insignificant after that. In the fixed effects regressions, income initially plays no or little role, but over time becomes negative. Finally, disasters are positively correlated with aid since 2002, but slightly negatively or not at all correlated before that. The time dummy for 1995 itself is positive in Column 3 and negative in Column 4. This suggests that a few strategically and commercially important countries like Russia and Poland got a lot of aid early on, which then over time fell substantially, while the majority of smaller aid recipients have seen a moderate increase in aid inflows over time. Overall the results suggest that the motivation for development aid to the CEEC and CIS countries have changed over time, and in particular that strategic and commercial interests were of particular relevance early on in the partnership.

At this point it might be argued that the end of the cold war not only meant the emergence of a new set of recipients, but also a more general shift in aid motivation and allocation. The end of the battle over the "hearts and minds" of developing and emerging countries in the bipolar world order led to an overall reduction in aid levels,

[11] In the fixed effects regressions, trade is insignificant in the early and late periods and negative in the intermediary period.

but also an opportunity to reallocate aid in order to better target altruistic, commercial or other objectives (Boschini and Olofsgård, 2007) . It is therefore possible that the pattern that we see above for CEEC and CIS countries also holds true for other recipients, which would invalidate our argument that motivations depend on the level of maturity of the relationship. To rule out that the effect observed above is driven by a more general pattern valid for all aid recipients at the time, we rerun the regressions from Columns 1 and 2 on all other recipients. As can be seen in Table 3 below, no such pattern can be found in the other group of aid recipients.

5 Sensitivity analysis

To check further for the robustness of our results, we introduce some additional tests in this section. In Table 4 below, we first replace Country Programmable Aid (CPA) with Official Development Assistance (ODA). Recall that we used CPA in our base specification because it is the narrowest definition of development aid, so we expect an even stronger bias toward strategic and commercial interests when looking at the ODA flows instead. This is indeed what we find. In Column (1) we replicate Column (3) from Table 1, using only the early time period. Trade and geographic distance are measured with even stronger precision, and in particular the coefficient for trade increases substantially in size. In Column (2) we look at data from 1990 to 2007, using interactions for the three different time periods. The results largely confirm those from using CPA, that is, the importance of trade and distance in the early period is not matched as the relationships mature.

The positive correlation between trade and aid is typically interpreted in the literature as an indication that aid is used to push current donor country's exports or secure imports of vital interest (energy or rare earth metals for instance). We argue that this commercial motive may be particularly important in the early stage of the partnership, not only to promote current trade, but rather to gain a competitive advantage that can help promote trade also in the future. If this is correct, then we should expect also *future* trade flows to be correlated with aid in the first years of the partnership. To the extent that trade in those early years only reflects part of the potential for trade in the future, the estimated effect of future trade may be even stronger. We re-run Column (3) from Table 1 replacing current trade with trade in five years time, which makes almost no difference, not very surprisingly given that these measures are correlated almost at a level of 0.95. Statistical significance is higher, while the estimated coefficient is slightly lower, but not significantly different. Introducing both current trade and trade five years later makes current trade insignificant, while trade five years later retains statistical significance. This sug-

Table 3: Aid to other recipients over time

	(1)	(2)
td95_gdpc		.12**
		(.056)
td01_gdpc		.073
		(.055)
ln_gdpc	-.073***	-.13***
	(.027)	(.033)
td95_pop		-.046*
		(.025)
td01_pop		-.042*
		(.026)
ln_pop	.44***	.45***
	(.019)	(.023)
td95_disasters		.012
		(.0099)
td01_disasters		.0029
		(.010)
l_disasters	.00011	-.0013
	(.0036)	(.0033)
td95_polity		-.0036
		(.011)
td01_polity		.0058
		(.011)
polity2	-.0029	-.0012
	(.0047)	(.0074)
td95_trade		.0012
		(.0018)
td01_trade		.00079
		(.0015)
trade	-.00035	-.00024
	(.00037)	(.00038)
N	1628	1628

Note: Dependent variable is aid flows. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 4: Sensitivity analysis - ODA

	(1)	(2)
td95_gdpc		-1.46***
		(.35)
td01_gdpc		-.24
		(.31)
ln_gdpc	-1.06***	.19
	(.20)	(.29)
td95_pop		1.48***
		(.33)
td01_pop		.14
		(.19)
ln_pop	.94***	.81***
	(.13)	(.25)
td95_disasters		-.15
		(.16)
td01_disasters		-.064
		(.070)
disasters	-.17***	-.057
	(.045)	(.051)
td95_polity		-.11***
		(.031)
td01_polity		-.037
		(.023)
polity2	-.025	.092***
	(.025)	(.018)
td95_trade		.11***
		(.025)
td01_trade		.030
		(.019)
trade	.90***	-.021
	(.12)	(.018)
td95_distcap		-.16***
		(.024)
td01_distcap		-.022
		(.018)
distcap	-.13***	.031**
	(.020)	(.013)
td95_nuc		.66
		(.56)
td01_nuc		.52
		(.51)
nuclear	-.18	-.61
	(.27)	(.47)
N	99	314
Chi2_*p-value*	8.1e-114	1.9e-313

Note: Dependent variable is aid flows, using ODA rather than CPA. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

gests that the little variation there is between the two measures indicates that trade potential may be more important than current trade.

Table 5: Sensitivity analysis - Trade potential

	(1)	(2)
ln_gdpc	-.67***	-.66***
	(.23)	(.24)
ln_pop	.67***	.63***
	(.13)	(.13)
f5_trade	.027***	.045**
	(.0079)	(.020)
trade		-.028
		(.029)
polity2	-.068**	-.071**
	(.032)	(.032)
disasters	-.018	.022
	(.033)	(.052)
distcap	-.0013***	-.0013***
	(.00026)	(.00025)
nuclear	.45*	.52**
	(.23)	(.22)
N	98	98
Chi2_*p-value*	2.5e-92	2.2e-88

Note: Dependent variable is aid flows. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Another indication of the role of trade in the early period comes from looking at bilateral rather than aggregated data. If donors use aid to increase their chances of trade deals at the expense of other potential trading partners, then one would expect the correlation at the dyadic level to be even stronger[12]. In Table 6 we use dyadic data from 1990 to 1995 and once again replicate Column (3) from Table 1 to test if this is true. Trade comes out highly significant, with the size of the coefficient almost

[12]If the trade potential of different recipients differs across donors, then one would expect the aggregated data to show a smaller effect than the dyadic data.

8 times as large as in Table 1. In Column (2) we replace current trade with trade five years later. The effect is similar but slightly smaller The coefficients are almost not affected when controlling, in Column (3), for two additional factors that might also be correlated with trade and aid: (i) a dummy indicating whether, for each pair, the two countries were, at some point in time, part of the same country, and (ii) for each pair, the number of migrants from one country that in 1990 were present in the other country. The latter is not significant, while the former has a positive effect on aid flows.

Our results so far are only capturing correlations between aid and trade flows, and our estimates may suffer from endogeneity bias. The causal link between aid and trade may well be bidirectional, in the sense that bigger actual and expected trade flows "cause" bigger aid disbursements, as we argued so far, because donors want to secure good relationships; but on the other hand, if the expectations of the donor in this respect turn true, then more generous aid disbursements will "cause" a better relationship and hence more trade flows. To deal with this, and try to isolate only one arm of this bidirectional causality, we specify a gravity model for bilateral trade[13] , and use the predicted values from that model as instruments in the original specification. As shown in Table 7, the results do not change much at all in the Poisson specification, while the coefficient for trade becomes stronger (consistent with previous findings) in the OLS setting. The table also reports two statistics that inform about instrument strength. The first is the p-value of the Angrist and Pischke (2009) test of excluded instruments. The second is the Kleibergen and Paap (2006) Wald statistic. Both are tests of instrument weakness. The null hypothesis of the Angrist and Pischke test is strongly rejected, and the Kleibergen and Paap Wald statistic is large, suggesting that the instrument is not weak.[14]

Summing up, in this section we put to the test the main result uncovered in this study: that the balance between commercial and humanitarian motivations for disbursing aid shifts over the course of the relationship between donor and recipient. We test the robustness of this pattern by using an alternative measure of aid, different ways to isolate commercial potential rather than current trade flows, a higher level of disaggregation of the data, and using a gravity model to instrument for trade flows. In all cases the result is confirmed.

[13]The external instruments for trade are, following Frankel and Romer (1999), both countries' size in terms of land area, donor country population, a dummy for shared borders, and its interaction with all the other instruments. Table A.6 in the Appendix reports the first stage.

[14]Although critical values only exist for the Cragg-Donald Wald statistic, which is not robust to heteroskedasticity, the 25% maximal IV size value is 5.53.

Table 6: Sensitivity analysis - Dyadic data

	(1)	(2)	(3)
ln_gdpc	-.27	-.28	-.27
	(.18)	(.20)	(.22)
ln_pop	.75***	.61***	.59***
	(.14)	(.16)	(.18)
trade	.28***		
	(.030)		
trade t+5		.20***	.17***
		(.020)	(.033)
polity2	.043*	.030	.030
	(.025)	(.027)	(.027)
disasters	-.065	.019	.029
	(.054)	(.056)	(.061)
distance	-.098***	-.11***	-.10***
	(.035)	(.037)	(.035)
nuclear	.41	.71*	.79*
	(.39)	(.42)	(.44)
samecountry			1.26*
			(.72)
migrant1990			.00043
			(.00046)
N	2124	2124	2124
Chi2_*p-value*	1.5e-89	3.1e-63	2.9e-67

Note: Dependent variable is aid flows at the partnership level. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 7: Sensitivity analysis - IV for trade

	(1) Poisson	(2) Poisson IV	(3) OLS	(4) OLS IV
ln_gdpc	-.27	.19	.18**	.17*
	(.18)	(.33)	(.079)	(.089)
ln_pop	.75***	.81***	.28***	.29***
	(.14)	(.19)	(.048)	(.051)
trade	.28***	.28***	.48***	.62***
	(.030)	(.056)	(.051)	(.12)
polity2	.043*	.019	.0054	.0068
	(.025)	(.038)	(.0090)	(.0098)
disasters	-.065	.0087	-.027	-.031
	(.054)	(.074)	(.028)	(.035)
distance	-.098***	-.16***	-.031***	-.031***
	(.035)	(.045)	(.0082)	(.0089)
nuclear	.41	.33	-.41***	-.43***
	(.39)	(.41)	(.13)	(.14)
N	2124	1892	2124	1892
R2			.14	.14
AP test (p-val)				1.1e-15
KP F stat				63.9

Note: Dependent variable is aid flows at the partnership level. AP: Angrist-Pischke. KP: Kleibergen-Paap. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

6 Entry decisions

As a final test of our arguments, we analyze the data in a somewhat different way in this section. An alternative approach to gauge motivation for aid in the early stages is to look at which partner countries donors prioritize to enter. If a group of countries suddenly open up for aid receipts, or undergo transformations forcing new partnerships to develop, then donor countries should be in the most hurry to enter the poorest countries if aid initially is motivated by poverty alleviation[15]. On the other hand, if donors were predominantly motivated by commercial interests, then they should be in the most hurry to enter relatively better off countries, and in particular those with which they trade. In the case of the transition countries, the Berlin Wall fell on November 9, 1989, whereas the Union of Soviet Socialist Republics (USSR) was formally dissolved on December 25, 1991[16]. All former states of the Soviet Union (except Russia of course) declared their independence earlier than so, but except for Lithuania who declared independence already in 1990, they all declared independence during the year 1991. The opening up was thus taking place roughly at the same time, but with a difference of roughly two years between the republics of the former Soviet Union and countries in Eastern and Central Europe.

As dependent variable we construct an indicator measuring the number of years it took before a donor entered into an aid relationship with a transition country. Taking 1989 as the benchmark, we define the variable as the year of entry minus 1989. For example, if Sweden first gave aid to Kyrgyzstan in 1992, the value for that partnership is given by 3. We exclude the countries of the former Yugoslavia, the Czech Republic and the Slovak Republic from the set of recipients, since they did not come into existence until later. From the set of donor countries we exclude those who did not emerge as donors until after 1989, including some CEEC countries such as Poland and the Czech Republic.

The dependent variable is a count variable, so we use a count model to generate our results. The figure below shows the distribution of the dependent variable. As can be seen, the data is over-dispersed; the mean is significantly lower than the variance. As discussed earlier, with robust standard errors the Poisson model does no longer rely on the restrictive assumption that $E(y_{it}) = Var(y_{it})$, so we can still use

[15]The effectiveness of aid for poverty alleviation has been found to be conditional on the quality of macroeconomic policies and the level of political accountability, so the target may be poor countries with good policies and relatively open political institutions (Burnside and Dollar, 2000; Svensson, 1999).

[16]The government of East Germany announced that East Germans were free to leave for West Germany on November 9, leading to the tearing down of the Berlin Wall and later German reunification.

the Poisson model. To follow more closely the convention in the literature, though, we use the less restrictive negative binomial model (which allows for a difference between mean and variance) with robust estimation of the standard errors in our base specification. We report the results using the Poisson model, which are almost identical, in the appendix.

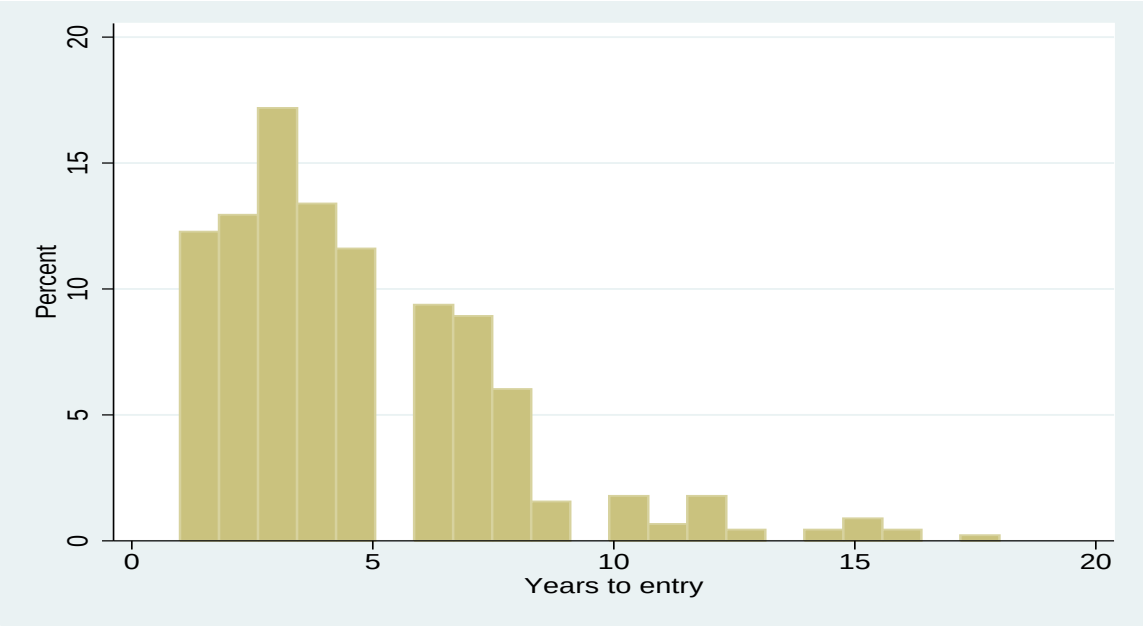

Figure 4

Results are presented in Table 8 below. In Column (1) we test a parsimonious model with just income, level of democracy, population size and a dummy taking on the value of 1 if the country once was part of the Soviet Union. The results suggest that DAC donors entered into partnership earlier with countries that were relatively richer and politically more open[17]. The coefficient value on the FSU dummy suggests that entry into countries of the former Soviet Union is expected to be delayed by 1.77 years, holding the other variables constant[18]. In Column (2) we add a dummy

[17]We use GDP per capita at year of entry. This could bias the effect of income since almost all of these countries suffered from a substantial output drop during the first half of the 1990s. The negative coefficient can then be due to the fact that income had shrunk more at stages of later entry, rather than because donors favored early entry into higher income countries. To test this we have also run all regressions using GDP per capita in 1992 (earliest year for which we have data for all our countries) irrespective of time of entry. The results (available upon request) were very similar and did not change any substantial findings.

[18]1.77 is derived from the fact that the negative binomial regression models the log of the expected

for countries with nuclear armaments and another dummy for countries rich in oil and gas (Azerbaijan, Kazakhstan, Poland, Romania, Russia, Turkmenistan, Ukraine and Uzbekistan). None of the variables come out significant, suggesting that being a nuclear power may have mattered early on for the amount of aid received (though this was driven by German aid as we saw in Section 3) but not for the time of entry into a new partnership.

In Column (3) we also add trade and distance between capitals, two variables that vary not only across recipients but also at the recipient-donor pair level. We measure trade as the total volume of trade between 1990 and 1995. This is partly done because yearly trade flows were very volatile at this point, but also because expectations of future trade flows should matter as much as current trade flows if commercial potential is a reason to prioritize a partnership. We find that trade is significant and negative, suggesting that donors prioritized early entry into countries in which trade potential was greater. Distance to capital is insignificant, though part of geographical distance most likely is picked up by the FSU dummy. Finally, in Column (4) we run our regression without Germany given the special role it took during these years. The impact of trade is now measured with less precision, but the null-hypothesis can still be rejected at the 10 percent level. All other variables are basically unchanged[19].

The story that comes out of the analysis of the entry decisions is somewhat different from that of the aid allocation. What is consistent is that donor countries have on average entered earlier into aid relationships with countries with which they have stronger trade relationships. On the other hand, they also tend to enter quicker into countries with higher per capita income and more democratic institutions. For aid allocation, democracy was not significant, while aid flows were larger to poorer countries. That donors enter earlier in richer countries reinforces the argument that aid partnership is driven by commercial interest in the initial stages. Aid may be an important component to signal good intentions early on in a new partnership expected to be mainly focused around commercial exchange, even if the amount of that aid package may be limited by the official role of development assistance as primarily a tool for poverty alleviation. This could explain the apparent contradiction

count as a function of the predictor variables, so that the coefficient corresponds to the expected difference in the log of the dependent variable for a unit change in the regressor. The level change is hence e^{β}.

[19]We have also run the above regressions for multilateral rather than bilateral donors. Those regressions yield very different results, and neither income per capita nor trade come out as significant. This is also what we should expect if the reason for bilateral donors to target aid to richer countries with which they trade is commercial motivation, a motivation that should not be present in the same way for multilateral organizations.

Table 8: Years to entry

	(1)	(2)	(3)	(4)
gdpc_ppp_co	-.044**	-.046**	-.048**	-.046**
	(.021)	(.021)	(.022)	(.023)
polity2	-.016**	-.018**	-.022***	-.023***
	(.0075)	(.0084)	(.0083)	(.0083)
pop	-.0049	-.0054	.0028	.00053
	(.011)	(.013)	(.013)	(.014)
FSU	.57***	.51***	.58***	.59***
	(.13)	(.15)	(.15)	(.16)
GasOildummy		-.067	-.086	-.087
		(.092)	(.088)	(.089)
nuclear		.094	.10	.10
		(.098)	(.097)	(.098)
distcap			-.0090	-.011
			(.0075)	(.0076)
trade			-.018***	-.018*
			(.0068)	(.010)
N	369	369	362	345
Chi2_*p-value*	4.1e-22	1.3e-20	1.2e-40	2.0e-33

Note: Dependent variable is years to entry after 1989 for each donor in each recipient. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

between the effect of income on the amount of aid and that on the urgency of aid entry. That donors entered earlier into more democratic countries may have to do with the intention to support a swift and clean break with the old autocratic socialist system, not primarily through offering more aid but by quickly offering political support for the democratic transition.

7 Conclusions

Looking at the countries in CEEC and CIS we have identified a pattern of aid disbursement that suggests that commercial and strategic incentives may be particularly important for bilateral donors in the early stages of a new relationship. This suggests that aid may have been used, at least partly, to pave the way for domestic firms and to achieve more general foreign policy objectives than recipient country development. This may not be very surprising, but it is worthwhile to note that we use the most restrictive definition of aid, country programmable aid, that excludes not only military aid, but also debt relief, humanitarian aid, in-donor costs and other components that are outside the control of the recipient government. Furthermore, new to the literature, we find that the role of commercial and strategic interests weakens over time, suggesting that it is primarily in the beginning of a partnership with a new regime, when future commercial and political orientation is largely determined, that aid gets to serve as a carrot to sweeten the deal.

The fall of the Berlin Wall and the transition that took place after that was indeed a historical event. It is therefore reasonable to question to what extent the experience of these countries has any bearing for other countries going through regime change. It is always difficult to offer definitive answers to questions of external validity, and replication studies looking at other cases in other parts of the world would be a great future research agenda. However, the group of countries in our sample vary substantially across dimensions of poverty, commercial potential, historical ties with donor countries and strategic importance, variables typically found to be important for aid allocation. We have also shown that the results hold up when excluding Russia (the most obvious "special case" among the recipients) and donors being either more or less involved in these countries compared to other aid recipients, such as Germany, Austria and Japan.

It is also hard to offer a definitive interpretation of what our findings mean more generally for aid effectiveness since we do not have a model for what would be the optimal allocation of aid. Papers such as Collier and Dollar (2002) and Svensson (1999) argue that aid is most effective in increasing growth and reducing poverty if channeled to countries that are poor and democratic and have good macroeconomic policies. This would suggest that aid has become more effective over time in our sample, as commercial potential and strategic relevance diminished over time in relative importance whereas good institutions (democracy) became more important. More mature relationships are thus generally more likely to be effective. On the other hand, it may be the case that development aid as measured by CPA was a crucial complement to the carrot of EU membership and the attached convergence

criteria to motivate countries in the CEEC to undertake economic and political reforms. It may also have played a role in nuclear disarmament in CIS, undoubtedly an important factor to reduce political and military uncertainty in the whole region. In this perspective, if development aid was important to secure these vital strategic interests, then the long term developmental impact may not have been larger had aid been targeted more towards the countries in Central Asia and the Caucasus were poverty was (and still is) concentrated. This is also consistent with Stone (2010) who finds that aid has the highest growth effects when motivated by security externalities.

Commercial interest is a more complicated story. Establishing commercial ties can be a way of developing the competitiveness of the private sector in the recipient country, a worthwhile developmental objective. Furthermore, aid that helps establish a viable business and investment environment may be more effective in a setting in which the geographical potential for trade and FDI is higher to start with, suggesting a potential effectiveness motive for channeling aid to recipients with high levels of trade. What speaks against this motivation is that we find much stronger effects looking at bilateral trade flows than when we look at total trade flows from each recipient to all donors, suggesting that donors are primarily concerned about their own trading partners. Aid in exchange for trade or investments is typically a question of competition across donors in securing benefits for their own companies, not provision of a public good such as nuclear disarmament. Aid for the purpose of making sure that trade ties are established with donor A instead of with donor B do not serve the purpose of developing the recipient country private sector. In the worst case, aid money could tilt the deal in favor of inferior commercial contracts if recipient country governments impose undue pressure on private companies.

Finally, looking forward, what are the implications of our findings? The current events in the Middle East and North Africa (MENA) region are sometimes pitched as the potential for a new economic and political transition (Meyersson et al., 2011). A new political leadership is emerging in countries such as Tunisia, Libya, Egypt and Yemen, and more may come. With the new political leadership also comes a gradual change in economic ownership and control, and the region may start opening up for more foreign investments and trade as the social contract in the region becomes less dependent on the state, and more on the private sector. Strategic concerns related to terrorism, migration and access to oil and gas also guarantees that governments in western countries will be involved in the process of change taking place. If the experience of the CEEC and CIS countries repeat itself, then what we should expect to see is that aid at least initially will predominantly flow to countries with a relative commercial potential, like Libya and Egypt. Yemen, despite being the poorest country, should expect to see less aid flows, except for the strategic interest in con-

taining the local affiliates of Al Qaeda. Tunisia, despite having the best political and economic institutions, should have the hardest time attracting aid flows. This is just speculation at this time, but hopefully in a few years time, a follow up study on the MENA region can be used to test the generality of our current findings.

References

Ai, C. and E. Norton (2000). Standard errors for the retransformation problem with heteroscedasticity. *Journal of Health Economics 19*(5), 697–718.

Alesina, A. and D. Dollar (2000, March). Who gives foreign aid to whom and why? *Journal of Economic Growth 5*(1), 33–63.

Angrist, J. D. and J.-S. Pischke (2009). *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton: Princeton University Press.

Benn, J., A. Rogerson, and S. Steenson (2010). Getting closer to the core–measuring country programmable aid. Technical Report 1.

Berthélemy, J. and A. Tichit (2004). Bilateral donors' aid allocation decisionsŮa three-dimensional panel analysis. *International Review of Economics & Finance 13*(3), 253–274.

Boschini, A. and A. Olofsgård (2007). Foreign aid: An instrument for fighting communism? *Journal of Development Studies 43*(4), 622–648.

Burnside, C. and D. Dollar (2000). Aid, policies, and growth. *The American Economic Review 90*(4), 847–868.

Carothers, T. (2006). The backlash against democracy promotion. *Foreign Affairs*, 55–68.

Collier, P. and D. Dollar (2002). Aid allocation and poverty reduction. *European Economic Review 46*(8), 1475–1500.

Dreher, A., J. Sturm, and J. Vreeland (2009). Development aid and international politics: Does membership on the un security council influence world bank decisions? *Journal of Development Economics 88*(1), 1–18.

Fleck, R. and C. Kilby (2010). Changing aid regimes? us foreign aid from the cold war to the war on terror. *Journal of Development Economics 91*(2), 185–197.

Frankel, J. and D. Romer (1999). Does trade cause growth? *American Economic Review*, 379–399.

Frot, E. (2009). Early vs. late in aid partnerships and implications for tackling aid fragmentation. *SITE Working Paper Series*.

Frot, E. and M. Perrotta (2010). Aid Effectiveness: New Instrument, New Results? *SITE Working Paper Series, No 11*.

Hess, P. (1989). Force ratios, arms imports and foreign aid receipts in the developing nations. *Journal of Peace Research 26*(4), 399–412.

Kharas, H. e. a. (2011). From aid to global development cooperation. In *From Aid to Global Development Cooperation*. Brookings Blum Roundtable.

Kleibergen, F. and R. Paap (2006, May). Generalized reduced rank tests using the singular value decomposition. *Journal of Econometrics 133*(1), 97–126.

Kuziemko, I. and E. Werker (2006). How much is a seat on the security council worth? foreign aid and bribery at the united nations. *Journal of Political Economy 114*(5), 905–930.

Maizels, A. and M. Nissanke (1984). Motivations for aid to developing countries. *World Development 12*(9), 879–900.

McKinlay, R. and R. Little (1977). A foreign policy model of us bilateral aid allocation. *World Politics 30*(01), 58–86.

Meyersson, E., A. Olofsgård, and J. Roine (2011). Transition all over? lessons from the experience of the post-communist countries for the countries of the arab spring. In IEMed (Ed.), *PapersIEMed*.

Neumayer, E. (2003). *The pattern of aid giving: the impact of good governance on development assistance*, Volume 34. Psychology Press.

Santos Silva, J. and S. Tenreyro (2006). The log of gravity. *The Review of Economics and Statistics 88*(4), 641–658.

Schraeder, P., S. Hook, and B. Taylor (1998). Clarifying the foreign aid puzzle: A comparison of american, japanese, french, and swedish aid flows. *World Politics 50*(02), 294–323.

Stone, R. (2010). Buying influence: Development aid between the cold war and the war on terror. *Unpublished Working Paper*.

Svensson, J. (1999). Aid, growth and democracy. *Economics & Politics 11*(3), 275–297.

Younas, J. (2008). Motivation for bilateral aid allocation: Altruism or trade benefits. *European Journal of Political Economy 24*(3), 661–674.

8 Appendix

8.1 Data appendix

ln_pop. Natural log of population, thousands. Source: World Development Indicators.
ln_gdpc. Natural log of GDP per capita, constant 2000 USD. Source: World Development Indicators.
trade. Sum of imports and exports as a share of recipient's GDP. Source: Barbieri, Katherine and Omar Keshk. 2012. Correlates of War Project Trade Data Set Codebook, Version 3.0. Online: http://correlatesofwar.org.
polity2. Polity score, -10 to 10. Source: PolityIV Project.
disasters. Number of any kind of events classified as natural or technological disasters, lagged one period. Source: EM-DAT.
colony. Dummy variable equal to 1 if the recipient was a former colony, alt. if the pair has ever had a colonial link (in dyadic data). Source: CEPII. Online: `ttp://www.cepii.fr/anglaisgrap`/bdd/distances.htm
distance. Distance in 100,000 of kilometers between the two main cities of the two countries (in dyadic data). Source: CEPII.
distcap. Average distance in 100,000 of kilometers between each recipient and the donors' capitals. Source: CEPII.
nuclear. Indicator for the presence of nuclear armaments. Source: U.S. State Department.
td95. Indicator for the period 1990-1995.
td95. Indicator for the period 1996-2001.
GasOildummy. Indicator for the presence of natural gas or oil resources. Source: BP Statistical Review of World Energy, Historical data.
FSU. Indicator for former Soviet Union members.
samecountry. Dummy variable equal to 1 if the pair was part of the same country in the past (in dyadic data). Source: CEPII.
migrant1990. Stock of international migrants from recipient country living in the donor country in 1990 (in dyadic data). Source: World Bank.

8.2 Summary statistics

Table A.1: Summary statistics based on data from CIS and CEEC from 1990 to 2007

Variable	**Mean**	**Std. Dev.**	**N**
aid	139.648	219.626	411
ln_pop	15.785	1.059	431
ln_gdpc	8.436	0.789	421
distcap	4375.786	911.757	429
disasters	1.195	2.248	401
polity2	3.462	6.442	392
trade	8.596	15.831	395

Table A.2: Correlation table based on data from CIS and CEEC from 1990 to 2007

Variables	ln_pop	ln_gdpc	distcap	disasters	polity2	trade
ln_pop	1.000					
ln_gdpc	0.034	1.000				
distcap	0.089	-0.726	1.000			
disasters	0.516	0.072	0.010	1.000		
polity2	-0.135	0.554	-0.757	0.079	1.000	
trade	0.566	0.517	-0.291	0.576	0.321	1.000

Table A.3: Summary statistics based on dyadic data from 1990 to 2007

Variable	**Mean**	**Std. Dev.**	**N**
cpa_net_cu	6.140	39.062	9344
ln_pop	15.784	1.057	9344
ln_gdpc	8.439	0.789	9133
distcap	4736.179	4106.804	5799
disasters	1.201	2.251	8696
polity2	3.456	6.445	8503
trade	0.363	1.78	9344
samecountry	0.011	0.102	8280
migrant1990	15396.911	102878.743	8280

Table A.4: Correlation table based on dyadic data from 1990 to 2007

Variables	ln_pop	ln_gdpc	distcap	disasters	polity2	trade	samecountry	migrants1990
ln_pop	1.000							
ln_gdpc	0.032	1.000						
distcap	0.041	-0.148	1.000					
disasters	0.517	0.072	0.017	1.000				
polity2	-0.136	0.554	-0.152	0.080	1.000			
trade	0.221	0.180	-0.131	0.237	0.116	1.000		
samecountry	-0.030	0.101	-0.086	-0.016	0.065	0.073	1.000	
migrants1990	0.151	0.088	-0.041	0.081	0.086	0.595	0.019	1.000

8.3 Additional tables

Table A.5: Aid allocation in 1990-95, OLS

	(1) All recipients	(2) No Russia	(3) CEEC-CIS	(4) No Germany	(5) 3-yrs av.
ln_pop	.48***	.48***	.57***	.54***	.54**
	(.038)	(.038)	(.15)	(.15)	(.21)
CCC_lnpop	.31**	.35**			
	(.14)	(.16)			
ln_gdpc	-.31***	-.31***	-.98**	-.86**	-.91*
	(.061)	(.061)	(.37)	(.41)	(.47)
CCC_lngdpc	.16	.17			
	(.31)	(.31)			
trade	-.0031	-.0031	.084***	.17***	.056*
	(.0026)	(.0026)	(.022)	(.043)	(.033)
CCC_trade	.064***	.050**			
	(.020)	(.024)			
polity2	.021***	.021***	-.017	-.015	-.052
	(.0070)	(.0070)	(.038)	(.042)	(.055)
CCC_polity	.086***	.089***			
	(.031)	(.031)			
disasters	.031**	.031**	-.19**	-.23*	-.16
	(.013)	(.013)	(.095)	(.12)	(.14)
CCC_disa	-.14	-.24			
	(.087)	(.18)			
CISCEEC	-7.44**	-8.07**			
	(3.57)	(3.83)			
colony	.36***	.36***			
	(.12)	(.12)			
distcap			-.13***	-.099**	-.18***
			(.033)	(.038)	(.044)
nuclear			1.14***	-1.21**	1.27***
			(.34)	(.53)	(.46)
N	627	623	98	97	42

Note: Replication of Table 1 using the OLS estimator and log of aid as dependent variable. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.6: First stage

	(1) trade
ln_pop	-.0074
	(.026)
ln_gdpc	.20***
	(.023)
polity2	-.0054***
	(.0020)
disasters	.13***
	(.038)
distance	-.021***
	(.0027)
nuclear	-.17***
	(.041)
trade_iv	.53***
	(.066)
N	1892
R2	.47

Note: First stage of Table 7 , Column (4). Dependent variable is trade. The external instrument trade_iv is obtained from a gravity model. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.7: Years to entry, Poisson

	(1)	(2)	(3)	(4)
gdpc_ppp_co	-.042*	-.045**	-.047**	-.046*
	(.023)	(.023)	(.023)	(.024)
polity2	-.016**	-.018**	-.022**	-.022**
	(.0078)	(.0088)	(.0087)	(.0087)
pop	-.0048	-.0065	.0015	-.0012
	(.012)	(.013)	(.014)	(.015)
FSU	.58***	.52***	.58***	.60***
	(.14)	(.15)	(.15)	(.16)
GasOildummy		-.053	-.070	-.068
		(.090)	(.087)	(.088)
nuclear		.093	.10	.10
		(.097)	(.096)	(.097)
distcap			-.0099	-.012
			(.0078)	(.0080)
trade			-.019**	-.018
			(.0076)	(.011)
N	369	369	362	345

Note: Replication of Table 8 using the Poisson model with robust standard errors. Dependent variable is years to entry after 1989 for each donor in each recipient. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.