



# Relevance of poverty and governance for aid allocation

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## Abstract

The argument that aid can bolster growth and poverty reduction only in a conducive policy environment has generated attention on some conditions of the economic, political and institutional context in the recipient country which can allow aid to contribute to *pro-poor* growth. This has clear implications in terms of aid allocation.

This paper tries to contribute to such discussion by proposing a combined framework to address the aid-growth-poverty-governance nexus. Results show that aid is more effective – both for poverty reduction and for growth – when its allocation is inspired by a poverty-focused perspective and, to a certain extent, by a conducive environment in the recipient country.

A review of aid allocation over the past thirty years supports the criticism that this does not seem to be inspired by poverty-reducing aims, but it reveals as well how this has remarkably changed.

It is highlighted how both donors' poverty-focused aid allocation and recipients' proper aid utilization are necessary to improve aid effectiveness. At the same time it is considered how the ongoing changes of the poverty landscape will require some changes of the aid architecture.

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## 1. Introduction

Since the middle of the last century international aid has expanded to become a key component of contemporary international relations. Yet the benefits of aid have often been contested. Few would question the provision of emergency aid aiming at saving lives; doubts have been raised, however, on the extent to which development aid manages to achieve the poverty reduction expected. In such a situation of global discomfort such initiatives as the 2005 Paris Declaration and the 2008 Accra Agenda for Action have been key steps in the attempt to ensure 'better aid'.

Since the start of the discussion over aid effectiveness, various factors and conditions have been highlighted as major determinants. The factor which in recent studies has attracted most agreement is the quality of civil and political capacity and, more

in general, of the institutional environment in the recipient country. This has led to calls for some substantial adjustment of the long criticized aid allocation criteria.

The present analysis provides a contribution to the discussion drawing together insights from a plurality of perspectives in order to analyze the overall aid-growth-poverty-governance nexus. The methodological and empirical sections are arranged in two parts. The first part develops a systemic framework in order to highlight the various aid-related links, with particular focus on the relevance of poverty and governance on the allocation of aid. The second part is focused on the allocation of aid and its evolution.

## 2. Literature review

The impact of aid on poverty is quite heterogeneous and, as [Degnol-Martinussen and Engberg-Pedersen \(2003\)](#) put it, it is still something of an enigma. While most of the analysis has traditionally focused on the effectiveness of aid on growth, it is only with the establishment of the Millennium Development Goals (MDGs) that more focused analysis has been conducted on specific aspects of human development and poverty reduction. [Masud and Yontcheva \(2005\)](#) find aid to significantly affect mortality rates, while its effect on education seems to be less relevant. Furthermore, this is achieved without drastically crowding

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out government expenditure. The analysis of the effectiveness of aid on poverty reduction is hampered by lack of knowledge on how great the share of aid is that is aimed directly towards the poor. According to Baulch (1996) in the case of low income countries such a share is at most 15–20%. According to Asra et al. (2005), aid appears to have a positive impact on poverty reduction, but with diminishing returns, with the critical value of effectiveness set by the absorptive capacity of the country concerned.

Despite the new international perspective on development, which has shifted from a focus on growth to one on poverty reduction, Heltburg (2004) argues that economic growth is ‘...in practice, the main tool for fighting poverty.’ From such a perspective, growth is still the necessary interface between aid and poverty or its various sectoral dimensions. In other words, the real focus is the growth elasticity of poverty reduction, and the recognition that different types of economic growth have different effects on inequality and thus poverty reduction.

Exploring the neoliberal view of governments acting as a constraint to development, Burnside and Dollar (2000) and Collier and Dollar (2001, 2002) show how aid can bolster growth, but only in a conducive policy environment. This positive condition requires governments to create sound macroeconomic policies in line with market-oriented and liberal views. Similarly, Gomanee et al. (2003) and Mosley et al. (2004) tackle the fungibility of aid and conclude that aid can contribute to increase welfare only if it manages to raise the budget allocated to *pro-poor* expenditures. Chauvet and Guillaumont (2004) suggest that aid effectiveness is linked to political stability and Kosack (2003) concludes that aid’s capacity to improve human welfare is effective only in democratic political conditions. The last point recalls strongly the many studies highlighting the relevance of policy for growth.<sup>1</sup> Burnside and Dollar (2004) find strong evidence that institutional quality is a determinant for aid effectiveness. Verschoor and Kalwij (2006) argue that aid can contribute not just to growth but also to *pro-poor* growth, suggesting that both aid itself and a recipient government’s budget share allocated to social services tend to increase the income elasticity of poverty, and that, moreover, aid tends to increase this budget share. Asra et al. (2005) suggest that the impact of aid is not contingent upon the quality of governance and macroeconomic policy, although the latter is relevant for poverty reduction.

From a reciprocal perspective, that is about the capacity of aid to affect policy, Lele and Nabi (1991) assert that aid improves economic policies, while Burnside and Dollar (2000) and Collier and Dollar (2001, 2002) claim that aid is

ineffective, despite any effort to make it conditional upon certain behaviours.<sup>2</sup>

In general, in a conducive policy environment good governance has multiple possible manifestations, ranging from civil and political liberties, to sound economic policy, lack of corruption and solidity of institutions. Most aid-growth regressions include an index of trade openness as a specific aspect of policy. Asra et al. (2005) find that more openness helps accelerate poverty reduction.

Some identify the problem of absorption capacity as one of the major constraints to aid effectiveness. In particular, it is often argued that those who need external assistance most are often the ones least able to use it effectively.<sup>3</sup>

Feeny and McGillivray (2009) focus on the effectiveness of aid in the so-called *fragile states* and find that the situation is rather diversified, with a number of fragile states capable of efficiently absorbing more aid than they have received, while a number receive far more aid than they can efficiently absorb.

It has been shown that the analysis of aid effectiveness is far from reaching a consensus and this leads to the need to refine the analysis. At the same time the subject is of high policy relevance, because of its implications in terms of aid allocation.

Trumbull and Wall (1994) find needs and human rights as determinants of aid allocation. In contrast, Alesina and Dollar (2000) highlight the relevance of colonial ties.

Some views assume that allocation depends on need and effectiveness, typically identified with governance, but expressed with different measures, as shown by Amprou et al. (2007). The consideration of the role played by the good policy environment mentioned above has led to a certain advocacy for performance-based selectivity, stressing an assumed higher effectiveness of aid on poverty reduction in the presence of friendly and committed governments. From such a perspective, Collier and Dollar (2001) compare actual with poverty- and policy-efficient aid allocations, estimating a substantial increase in the number of people that could be lifted out of poverty through the latter system. Interestingly, the main reallocation proposed is not from poor- to good-policy countries, but from middle-income countries to low-income countries. This proposal was based on the consideration that most of the world’s poor used to live in countries with high poverty and good policies; however, shifts in the global poverty landscape away from stable low-income environments urge new strategies.

McGillivray et al. (2006) call for further investigation of the link between policy and aid effectiveness through a better understanding of the transmission mechanisms, while arguing for a broad selectivity approach combining policy with a number of other contingencies such as political stability, democracy

<sup>1</sup> It is also worth mentioning how in this respect findings are far from being uncontroversial. Rodrik and Wacziarg (2005) conclude that ‘... democratization comes at no discernible costs in terms of growth, and with likely benefits in the form of a short-run boost in growth and reduction in economic volatility’. Barro (1996) postulates that, holding other things constant, there are positive but diminishing returns to democracy. Tavares and Wacziarg (2001), taking into account the entire system, identify a slight negative impact of democracy on growth, mainly through physical capital accumulation. Gerring et al. (2005) argue that the ‘effect of regime type on growth is mediated by a country’s secular-historical experience of democracy and authoritarianism’.

<sup>2</sup> The justification of conditionality is that aid is thought to improve policy. The mechanism by which this works is thought to be two-fold. First, aid can be used to ‘reward’ countries that have good policies, and thus incentivize policy changes for other countries. Second, aid is thought to work as a ‘catalyst’ for policy changes.

<sup>3</sup> See Clemens et al. (2012) among others.

and structural vulnerability. According to Degnbol-Martinussen and Engberg-Pedersen (2003), reallocating aid to low-income countries with the largest number of poor people would be more effective than a reallocation based only on the quality of policies and institutions. Anderson and Waddington (2007) go a step further and offer advice on which type of poverty-based reallocation could be more effective: a poverty-gap-efficient allocation would be preferable than a country-by-country poverty target allocation and a poverty-headcount-efficient one, since in the former case it would allow *ceteris paribus* a larger reduction in poverty headcount at global level, and in the latter case it would achieve a larger reduction in the depth of poverty at the global level.

### 3. Methodology

#### 3.1. A systemic approach

The relevance of aid on poverty reduction can be presented in simple terms as follows:

$$\text{Poverty reduction} = \alpha_0 + \alpha_1 (\text{Initial conditions}) + \alpha_2 \text{Aid} \quad (1)$$

Eq. (1) implies the assumption that all its right-hand-side variables are exogenous. However, very likely this is not the case, since poverty and aid may be expected to be determined simultaneously. In fact, while we want to test whether aid contributes to reduce poverty, it also needs to be considered how poverty levels may play an important role in aid allocation. Therefore, this analysis makes use of simultaneous equations in order to take account of problems of endogeneity while trying to capture more accurately estimates of the role of each variable within the system. Four equations are estimated: Aid allocation, Economic growth, Poverty reduction and Governance change. For each equation different specifications have been considered in order to test robustness. The analysis is arranged into five-year lags, in which the dependant variables, all in the year  $t_5$ , are expected to be determined by their value, as well as the value of other variables, in the year  $t$  and by the flows of aid and rates of growth occurred within the period  $t-t_5$ . The following equations have been estimated:

$$\begin{aligned} \text{Aid}_{t_5} = & \alpha_0 + \alpha_1 \text{Poverty}_t + \alpha_2 \text{Population}_t \\ & + \alpha_3 \text{GDP}_t + \alpha_4 \text{Governance}_t \end{aligned} \quad (2)$$

$$\begin{aligned} \text{GDP}_{t_5} = & \beta_0 + \beta_1 \text{Aid}_{t-t_5} + \beta_2 \text{Governance}_t + \beta_3 \text{Geography} \\ & + \beta_4 \text{Openness}_t + \beta_5 \text{Ethnic fragmentation} \end{aligned} \quad (3)$$

$$\text{Poverty}_{t_5} = \chi_0 + \chi_1 \text{Aid}_{t-t_5} + \chi_2 \text{GDP}_{t-t_5} \quad (4)$$

$$\begin{aligned} \text{Governance}_{t_5} = & \delta_0 + \delta_1 \text{Aid}_{t-t_5} + \delta_2 \text{GDP}_{t-t_5} \\ & + \delta_3 \text{Geography} + \delta_4 \text{Openness}_t \\ & + \delta_5 \text{Ethnic fragmentation} \end{aligned} \quad (5)$$

In Eq. (2) the value of aid in the year  $t_5$  is expected to be determined mainly by the levels of poverty and GDP *per capita* in the year  $t$ . The inclusion of the variable population tries to test the eventual presence of a population bias in the process of aid allocation. Finally, the variable governance will consider the relevance of the recent characteristics and eventual changes of the institutional environment in the recipient country.

In Eq. (3) GDP *per capita* is expected to be determined by some structural characteristics, exemplified by the invariant variables geography and ethnic fragmentation and by political and institutional variables, such as in this case, openness to the global market as well as domestic civil and political liberties. The aim of Eq. (3) is to assess the relevance of average amounts of aid received during the period  $t-t_5$  in affecting the change in GDP *per capita* through the period considered.

Eq. (4) allows a direct comparison between the two flows (aid and GDP, both in *per capita* terms) experienced by a recipient country during the period  $t-t_5$  in terms of their relevance for poverty reduction.

Finally, Eq. (5) combines aid and GDP flows with structural characteristics (geography and ethnic fragmentation) and the degree of country openness to the global market, as major determinants of governance.

Aid is expressed on a *per capita* basis, rather than as a percentage of GDP, as done in other studies. This reflects well the explicit aid allocation rules used by donors.<sup>4</sup> In fact, when considering the impact of aid on poverty, it is rather the average amount allocated *per poor* which should be used, but when considering the impact of aid on growth, the average *per capita* is considered as more appropriate. Furthermore, the use of aid *per capita* is expected to be more sensible in the investigation of eventual size bias in aid allocation.

As a measure of aid we make use of constant Official Development Assistance (ODA).<sup>5 6</sup>

Growth is expressed in terms of constant GDP *per capita*.

In Eqs. (3) and (5) poverty is expressed in absolute terms: i.e. as the number of individuals who are below the poverty line – set at two dollars a day expressed in PPP terms. Datasets of poverty are rather scanty and previous studies have tried to overcome such constraint mainly through the use of proxies, such as life expectancy, the human development index (HDI), infant mortality, or others. This study makes use of poverty data. Under the

<sup>4</sup> In favour of a *per capita* approach see Arndt et al. (2010) and Berthelemy and Tichit (2004) among others. For a different view see McGillivray and Oczkowski (1992) among others.

<sup>5</sup> In some studies a different measure of aid has been used: Effective Development Assistance (EDA). While ODA provides a measure of actual financial transfer to a country and includes both grants and concessional loans net of repayment of previous aid loans, EDA focuses on the overall grant equivalence of official financial flows and excludes the loan component of concessional loans. As Asra et al. (2005) put it, the main difference between the two measures is that EDA is the sum of grants and grant equivalents of official loans and ODA is the sum of grants and loans for which the grant element is more than 25%. As noted by Dalgaard and Hansen (2001), the difference between the two measures appears to be no more than a simple mathematical transformation.

<sup>6</sup> The data is drawn from The World Bank, World Development Indicators, and comes ultimately from the OECD DAC Creditor Reporting System database.

consideration that poverty adjusts slowly to underlying factors, in this study missing values in the poverty dataset have been partly estimated through linear interpolation.<sup>7</sup>

Nevertheless, it is noted that headcount poverty measures may not clearly identify the proportion of population below a fixed absolute consumption level over time (Reddy and Pogge, 2005; Ravallion, 2008).

In terms of governance, the major difficulty lies in deciding which proxy to use. The dimension considered in this analysis is not focused upon the macroeconomic spectrum as in other studies, but rather upon the civil and political environment in the recipient country.

In order to widen the spectrum of possible links between aid and governance, each variable is included into the other variable equation. In fact, the mechanism through which aid is thought to improve governance and policy in general can be twofold: aid can be used as a ‘catalyst’ for changes or as a ‘reward’ for the adoption of appropriate measures.

Civil and political liberties are expressed by the index POLCIV which has been constructed from data from Freedom House, *Freedom in the World*. The dataset scores for civil and political liberties are two categorical indexes ranging between 1 and 7. For ease of interpretation in this study the original scores have been inverted; such operation retains the original domain of the indexes. The index POLCIV used in this study is the average of the two scores.<sup>8 9</sup>

The inclusion of ethnic fragmentation is based on the social conflict theory of the origin of institutions, according to which bad institutions exist if ‘the groups with political power benefit from bad institutions’ (Acemoglu *et al.*, 2004). From such a perspective, ‘ethnic diversity may increase polarization and . . . create rents for the groups in power at the expenses of society at large’ (Easterly and Levine, 1997).<sup>10</sup>

Geography is expressed as latitude squared.<sup>11</sup>

As common in most aid-growth regressions, openness is expressed by the Sachs-Warner variable, which is a dummy for whether a country is open to international trade or not.<sup>12</sup>

Data on ethnic fragmentation, geography and openness has been extracted from the dataset used in Roodman (2004). Unless otherwise specified, the data used for the other variables in this

analysis has been sourced from the World Bank, *World Development Indicators*.

The dataset is formed by 78 countries and covers the period 1980–2008.<sup>13</sup> It is acknowledged that the panel structure of the dataset raises the problem of aggregation, which has regularly biased the aid-growth-poverty thesis.<sup>14</sup>

### 3.2. Aid allocation

The methodology used here to examine the allocation of aid makes use of the Suits index which summarizes the progressivity or regressivity of a distribution. White and McGillivray (1995) recommend the use of the Suits index after examining various possible summary measures of donors’ allocative performance. It has been used to assess the distribution of aid against the population of developing countries and against the population of the world’s extreme poor (Baulch, 2003) as well as against non-monetary indicators of poverty (Baulch, 2004).

For a continuous distribution the Suits index is calculated as:

$$S_d = 1 - \frac{1}{K} \int_0^{100} A_i(y) dy \quad (6)$$

where  $S_d$  is the Suits index for donor  $d$ ,  $A_i$  is the cumulative distribution of aid ranked in terms of *per capita* income  $y$ .

For a discrete distribution Eq. (6) can be approximated as follows:

$$S_d = 1 - \sum p_i (CA_i + CA_{i-1}) \quad (7)$$

where  $p_i$  is the population share of country  $i$  and  $CA_i$  is the cumulative aid share of country  $i$  and of all poorer countries.

The Suits index is an analogue of the Gini coefficient, but in this case the index ranges between  $-1$  and  $+1$ . A Suits index of  $-1$  would correspond to the case in which donor  $d$  were to give all its aid to the poorest country in the world, while a value of  $+1$  would correspond to the case in which donor  $d$  were to give all its aid to the richest country among the ones recipients of aid. Finally, a Suits index of zero would correspond to the situation in which donor  $d$  were to distribute its aid in exact proportion to population with no reference to the different levels of *per capita* income. In general terms, positive values of the Suits

<sup>7</sup> All necessary caution has been taken in the process of applying linear interpolation. Most of the gaps filled range between two and three years and never more than five years. Furthermore, interpolation has been applied only in the presence of a clear trend.

<sup>8</sup> That is: POLCIV = |Average (Freedom House Indexes) – 8|.

<sup>9</sup> Other proxies, such as the Kaufman’s World Governance Indicators and the World Bank CPIA measures could provide valid alternatives to the POLCIV index. Nevertheless, the latter is preferred here in view of its longer timeframe, which helps to optimize the dataset used in the study.

<sup>10</sup> As a reminder of the relevance of ethnic fragmentation in the process of growth it is worth considering how Easterly and Levine (1997) found that ‘ethnic diversity alone accounts for about 28 per cent of the growth differential between the countries of Africa and East Asia’.

<sup>11</sup> As an alternative, the percentage of land in the tropics, also popular in the literature, has been used for robustness tests and has provided similar results.

<sup>12</sup> While such a measure is quite simplistic, it is a better reflection of economic policy than other measures based on export and import performance.

<sup>13</sup> Countries in the sample: Albania, Algeria, Argentina, Armenia, Azerbaijan, Bangladesh, Bolivia, Botswana, Brazil, Burkina Faso, Burundi, Cambodia, Cameroon, Central African Republic, Chile, China, Colombia, Costa Rica, Cote d’Ivoire, Croatia, Djibouti, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, Gambia, Georgia, Ghana, Guatemala, Guinea, Guinea-Bissau, Guyana, Honduras, India, Iran, Jamaica, Jordan, Kazakhstan, Kenya, Kyrgyz Republic, Laos, Lesotho, Madagascar, Malawi, Malaysia, Mali, Mauritania, Mexico, Moldova, Mongolia, Morocco, Mozambique, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Panama, Paraguay, Peru, Philippines, Senegal, South Africa, Sri Lanka, Swaziland, Tajikistan, Tanzania, Thailand, Tunisia, Turkey, Uganda, Uruguay, Uzbekistan, Venezuela, Vietnam, Yemen, Zambia.

<sup>14</sup> It is acknowledged that aggregating for analytical purposes different countries over different economic periods could be problematic, since some countries may be experiencing either a favourable phase or a severe crisis, while others not.

Table 1  
The aid-growth-poverty-governance system.

	[2]		[3]		[4]		[5]	
dep. var.	IODA <sub>t5</sub>		IGDP <sub>t5</sub>		IPoverty <sub>t5</sub>		POLCIV <sub>t5</sub>	
ind. var.	IPoverty <sub>t</sub>	0.015	IODA <sub>avg</sub>	−0.277***	IODA <sub>avg</sub>	−0.080***	IODA <sub>avg</sub>	0.102**
	IPopulation <sub>t</sub>	−0.625***	Latitude	−0.015***	IGDP <sub>avg</sub>	−0.696*	IGDP <sub>avg</sub>	0.360***
	IGDP <sub>t</sub>	−0.549***	Openness <sub>t</sub>	0.588***	Constant	8.459***	Latitude	−0.026***
	POLCIV <sub>t</sub>	0.023	Ethnic	−1.733***			Openness <sub>t</sub>	0.507***
	Constant	16.720***	Constant	8.360***			Ethnic	−0.435*
							Constant	1.603***
Pseudo R <sup>2</sup>	0.630		0.350		0.760		0.316	
N. obs.	549		549		549		549	

Source: Author's estimation.

\* Significance = 10%.

\*\* Significance = 5%.

\*\*\* Significance = 1%.

index identify a more or less regressive allocation of aid, while negative values identify a more or less progressive allocation.

#### 4. Findings and discussion

In line with the systemic approach presented earlier on, a system of simultaneous equations has been applied and results are reported in Table 1 which combines the Eqs. (2)–(5) presented above.

First of all, Eq. (4) reports that aid contributes to reduce poverty. However, while the sign is favourable, the size of the coefficient is quite low: if aid *per capita* were doubled, the average effect on poverty rates would be a reduction of 8%. That is rather low, particularly when compared to the eightfold higher impact expected on average from economic growth. Surprisingly, in Eq. (3) a negative influence of aid on economic growth is detected, which seems to support the pessimistic view presented earlier on. In order to test this result, an interaction term ODA-POLCIV has been added in Eq. (3), aiming at highlighting the relevance of the governance factor in influencing the effectiveness of aid. Along a parsimonious approach, results of such modification are not reported here; however, it is worth considering how the positive sign of the coefficient of such interaction term remarks the positive influence of a favourable governance environment over aid effectiveness. From Eq. (5) we know that aid is effective on governance, though, as in Eq. (4), once again the coefficient results lower than in the case of GDP.

All other factors considered seem to play their expected role. Ethnic fragmentation is not conducive to a favourable governance environment and is a constraint towards growth. Openness towards the international environment, both in political and economic terms, seems to play a favourable role both in improving the domestic governance conditions and strengthening the process of economic growth.<sup>15</sup> The usual negative tropics-growth link is confirmed.

Finally, of particular relevance for this study is Eq. (2) which focuses on the determinants of aid allocation. Poverty does not seem to be a determinant in this process, as shown by its insignificant coefficient. This goes a long way in support of the frequent criticism about practices of aid allocation: aid is allocated independently of needs and, in particular, of poverty levels. The same is reflected in the case of governance. On the contrary, the highly significant and remarkable coefficient of GDP *per capita* indicates that wealth seems to be taken into account when allocating aid. The sign and size of the coefficient of population support the concern raised in a few occasions about the presence of a strong size bias in aid allocation towards small countries.<sup>16</sup> The consideration that the amount of aid *per capita* seems to be inversely related to average GDP hides a few simple but major limitations: (a) it does not take into account the distribution of income and wealth in general, often quite unequal in developing countries; (b) the number of poor is likely to be higher in a large population than in a small one, even when the former has a higher GDP *per capita*; (c) needs are not just a matter of number of poor, but also of depth of poverty – i.e. how poor are the poor. Such consideration provides a strong hint to explore a bit further the relevance of poverty in the system and how a more poverty-efficient – or poverty-focused – allocation of assistance could eventually improve it. In trying to do so, the system has been rerun after substituting *ceteris paribus* aid *per capita* with aid *per poor* (i.e. ODA is replaced by ODApp). While this is certainly a step towards a more poverty-focused approach, it is necessary to consider that poverty is here expressed as poverty-headcount and not poverty-gap, since data limitation does not allow to fully capture the dimension of depth of poverty as advised under (c) above. The new results are reported in Table 2.

As expected, the major changes between Tables 1 and 2 refer to aid and its interactions with other major components of the system. From the new perspective, contrary to previous results, aid seems not to have any influence on governance. At the same time, in support of previous results, governance appears not to

<sup>15</sup> This result contrasts with the criticism raised in various occasions against the role that globalization can play on economic growth, particularly in the case of the poorest countries. It is to be considered that while such issue deserves a lot of attention, it is not the focus of the present analysis.

<sup>16</sup> This can be explained pragmatically as donors' preference to maximize the number of countries benefiting of their assistance, or euphemistically as diminishing compassion returns to poverty for any given country.

Table 2  
The aid-growth-poverty-governance system with aid per poor.

	[6]	[7]	[8]	[9]
dep. var.	IODApp <sub>t5</sub>	IGDP <sub>t5</sub>	IPoverty <sub>t5</sub>	POLCIV <sub>t5</sub>
ind. var.	IPoverty <sub>t</sub>	IODApp <sub>avg</sub>	IODApp <sub>avg</sub>	IODApp <sub>avg</sub>
	IPopulation <sub>t</sub>	Latitude	IGDP <sub>avg</sub>	IGDP <sub>avg</sub>
	IGDP <sub>t</sub>	Openness <sub>t</sub>	Constant	Latitude
	POLCIV <sub>t</sub>	Ethnic		Openness <sub>t</sub>
	Constant	Constant		Ethnic
				Constant
Pseudo R <sup>2</sup>	0.650	0.301	0.800	0.315
N. obs.	549	549	549	549

Source: Author's estimation.

\* Significance = 10%.

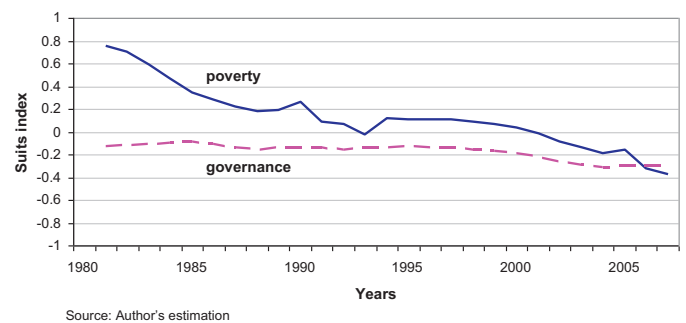
\*\*\* Significance = 1%.

influence aid allocation. Having said that, the main change under this new perspective refers to the poverty reduction power of aid. In Eq. (8) the direct poverty reduction power of aid results now almost doubled, and in Eq. (7) the direct contribution of aid towards growth is now positive. In other words, from a more poverty-focused perspective in the allocation of aid, the capacity that aid can play in terms of poverty reduction appears to be amplified. This is both in direct and indirect – that is, through growth – terms. In other words, when poverty is the determinant of aid allocation, aid seems to be effective both for poverty reduction and for growth.

However, once recognized the positive sign of aid effectiveness, it is necessary to remark how weak its power is. In particular, growth appears to be quite more effective than aid in achieving poverty reduction. Such finding raises the usual concerns over the mechanisms of aid. This consideration is supported by the negative sign of poverty in Eq. (6), which counterintuitively suggests a negative role in influencing aid allocation (i.e. the more poor people, the less aid *per poor*).

In order to test the robustness of the results on aid allocation, a variation of the model above has been considered. It has been argued that most aid goes to deal with social and welfare issues which are not captured necessarily via growth absolute poverty indicators (Bourguignon and Leipziger, 2006). In this regard HDI can be expected to be more effective in capturing social and welfare dimensions of development. Therefore, the model has been rerun using HDI as a proxy for poverty (rate of correlation:  $-0.86$ ). Results for revised Eqs. (2) and (6) are reported in Table 3. Among the results, it is remarkable the change of sign when shifting aid allocation from a *per capita* to a *per poor* basis. While, as expected, a HDI increase is reflected in a decrease of aid *per capita*, the opposite is the case when considering aid allocation on a *per poor* basis. This supports the criticism discussed earlier on.<sup>17</sup>

At this point it is appropriate to ask whether the various calls for more cautious aid allocation based on more careful



Source: Author's estimation

Fig. 1. Relevance of poverty and governance in the allocation of aid.

assessment of needs and of absorption capacity have received any attention and have they eventually yielded any improvement in aid effectiveness. The analysis of aid allocation is quite useful in this regard. Fig. 1 presents the evolution of the Suits index for the combined allocation of aid from all the DAC donors. The distribution is considered from both a poverty-based criterion and one based on civil and political liberties as proxies for governance. The values have been smoothed through a three-year moving average.

Fig. 1 shows a different progress on the two sides considered: in both cases moving along a progressive trend, but at different pace.

Some remarkable improvements have been done during the past three decades in the allocation of aid according to the poverty criterion. At the beginning of the eighties the distribution of aid was quite regressive, but during the past three decades has managed to change and reach a moderately progressive set-up, despite some resistance during the nineties.

At the same time, the distribution of aid according to the governance criterion, has been quite stable on a mildly progressive level during most of the period considered before slightly increasing recently its progressivity.

The evolution of progressivity in the allocation of aid according to poverty is quite appreciated and it is worth considering that there is still some ample margin for further improvement. This highlights the possibility to further improve the progressivity of aid distribution along both criteria.

<sup>17</sup> Among other results, it is interesting to consider how replacing poverty with HDI makes governance a significant determinant of aid allocation. However, it turns insignificant when dealing with aid per poor.

Table 3  
HDI and aid allocation.

	[2a]		[6a]	
dep. var.	IODA <sub>t5</sub>		IODApp <sub>t5</sub>	
ind. var.	IHDI <sub>t</sub>	−0.458**	IHDI <sub>t</sub>	0.557*
	IPopulation <sub>t</sub>	−0.533***	IPopulation <sub>t</sub>	−0.687***
	IGDP <sub>t</sub>	−0.469***	IGDP <sub>t</sub>	0.085
	POLCIV <sub>t</sub>	0.093***	POLCIV <sub>t</sub>	−0.029
	Constant	14.896***	Constant	15.088***
Pseudo R <sup>2</sup>		0.549		0.614
N. obs.		675		413

Source: Author's estimation

\* Significance = 10%.

\*\* Significance = 5%.

\*\*\* Significance = 1%.

Table 4  
Aid elasticity of poverty.

	1980–89	1990–99	2000–08
Aid per capita	−0.041	−0.059***	−0.139***
Aid per poor	−0.065**	−0.132***	−0.194***

Source: Author's estimation

\*\* Significance = 5%.

\*\*\* Significance = 1%.

Reflecting the considerations just made about the recently achieved progressivity of aid allocation in terms of poverty, the effectiveness of aid in poverty reduction has been re-estimated within sub-periods following the same systemic approach adopted above. Aid elasticities of poverty – i.e.  $\delta_{\text{poverty}}/\delta_{\text{ODA}}$  both *per capita* and *per poor* estimated through Eqs. (4) and (8) respectively – are in Table 4<sup>18</sup> and show a continuous and three-fold increase over the overall period. It is necessary to recognize how, despite the favourable trend, such elasticities are still low. Nevertheless, a vast room for improvement is still available in terms of reallocation of aid, mainly on the basis of poverty levels and, to a certain extent, on the grounds of conducive governance environment.

Finally, it is necessary to consider how recent and ongoing changes in the poverty landscape pose new questions about how to tackle poverty reduction. Aid effectiveness is a matter not just of allocating aid, but also of its utilization. The functionality of a poverty-efficient approach to aid allocation, whether based on aid *per poor* or aid *per capita*, is linked to the assumption of proper aid utilization by the recipient country. The increasing share of poor in fragile and middle-income countries highlights how the “poor and stable” profile of the ideal aid recipient country is no longer valid. It can be argued that in both conditions – i.e. middle-income and fragile countries – donors will find it harder to persuade governments to pursue *pro-poor* policy reforms and a poverty-oriented use of foreign assistance. This calls for a diversified – yet unclear – approach presenting an important area for new research. In any case poverty-focused allocation on the part of the donors is a necessary first step.

## 5. Conclusions

Aid is going through a series of drastic changes. Its volume is increasing, with new donors appearing on the scene; but aid flows are also increasingly fragmented and volatile. However, what seems to remain uncertain and controversial is its effectiveness in contributing to growth and particularly to poverty reduction.

Our results show that aid is more effective – both for poverty reduction and for growth – when its allocation is inspired by a poverty-focused perspective. It is possible to identify a direct and an indirect contribution provided by aid towards poverty reduction, the indirect one being mainly channelled through the wider process of growth. The indirect contribution does not get exhausted simply through the aid-GDP-poverty link, but it seems to involve governance as well. In fact, while it seems that governance does not influence aid allocation, the analysis provides mixed results about the influence of aid on governance.

Results show as well how over the past three decades aid allocation has drastically changed: from highly regressive to moderately progressive in terms of poverty. On the contrary the distribution has remained mildly progressive in terms of governance.

The drastic improvements in the allocation of aid with regard to poverty highlight the need to reconsider the analysis of aid effectiveness on a *per poor* basis. Under such perspective the aid elasticity of poverty has increased threefold over the past three decades.

Finally, this study highlights the vast amount of room remaining for further improvement in terms of the reallocation of aid, mainly on the basis of poverty levels and, to a certain extent, on the grounds of conducive governance environment. The recent changes in the global poverty landscape will make it harder for donors to promote and support *pro-poor* policy reforms and a poverty-oriented use of foreign assistance in recipient countries. While a new and diversified approach is required in this regard, donors' poverty-focused allocation of aid remains a precondition for improving the effectiveness of aid.

## Annex.

See Tables A.1 and A.2.

<sup>18</sup> All results are reported in Table A1 and Table A2 in the annex.

Table A.1  
The evolution of the aid-growth-poverty-governance system.

		[2]	[3]	[4]	[5]			
1980–89	dep. var.	IODA <sub>t5</sub>	IGDP <sub>t5</sub>	IPoverty <sub>t5</sub>	POLCIV <sub>t5</sub>			
	ind. var.	IPoverty <sub>t</sub>	1.523 <sup>***</sup>	IODA <sub>avg</sub>	0.247 <sup>**</sup>	IODA <sub>avg</sub>	0.868 <sup>***</sup>	
		IPopulation <sub>t</sub>	-1.166 <sup>***</sup>	Latitude	-0.055 <sup>***</sup>	IODA <sub>avg</sub>	-0.041	
		IGDP <sub>t</sub>	-0.273 <sup>*</sup>	Openness <sub>t</sub>	-0.528	IGDP <sub>avg</sub>	-0.529 <sup>***</sup>	
		POLCIV <sub>t</sub>	-0.118 <sup>*</sup>	Ethnic	1.203	IGDP <sub>avg</sub>	-0.109	
		Constant	19.667 <sup>***</sup>	Constant	7.018 <sup>***</sup>	Constant	7.356 <sup>***</sup>	
							Latitude	0.006
							Openness <sub>t</sub>	-3.843 <sup>***</sup>
						Ethnic	10.358 <sup>***</sup>	
						Constant	0.836	
	Pseudo R <sup>2</sup>	0.913	0.604	0.898	0.744			
	N. obs.	23	23	23	23			
1990–99	dep. var.	IODA <sub>t5</sub>	IGDP <sub>t5</sub>	IPoverty <sub>t5</sub>	POLCIV <sub>t5</sub>			
	ind. var.	IPoverty <sub>t</sub>	0.061	IODA <sub>avg</sub>	-0.253	IODA <sub>avg</sub>	0.173 <sup>***</sup>	
		IPopulation <sub>t</sub>	-0.632 <sup>***</sup>	Latitude	-0.015 <sup>***</sup>	IODA <sub>avg</sub>	-0.059 <sup>***</sup>	
		IGDP <sub>t</sub>	-0.483 <sup>***</sup>	Openness <sub>t</sub>	0.654 <sup>***</sup>	IGDP <sub>avg</sub>	-0.693 <sup>***</sup>	
		POLCIV <sub>t</sub>	0.013	Ethnic	-1.683 <sup>***</sup>	IGDP <sub>avg</sub>	0.382 <sup>***</sup>	
		Constant	16.305 <sup>***</sup>	Constant	8.415 <sup>***</sup>	Constant	8.398 <sup>***</sup>	
							Latitude	-0.026 <sup>***</sup>
							Openness <sub>t</sub>	0.475 <sup>***</sup>
						Ethnic	-0.345	
						Constant	1.106	
	Pseudo R <sup>2</sup>	0.628	0.388	0.768	0.348			
	N. obs.	321	321	321	321			
2000–08	dep. var.	IODA <sub>t5</sub>	GDP <sub>t5</sub>	IPoverty <sub>t5</sub>	POLCIV <sub>t5</sub>			
	ind. var.	IPoverty <sub>t</sub>	-0.117	IODA <sub>avg</sub>	-0.483 <sup>***</sup>	IODA <sub>avg</sub>	0.060	
		IPopulation <sub>t</sub>	-0.540 <sup>***</sup>	Latitude	-0.009 <sup>***</sup>	IODA <sub>avg</sub>	-0.139 <sup>***</sup>	
		IGDP <sub>t</sub>	-0.737 <sup>***</sup>	Openness <sub>t</sub>	0.934 <sup>***</sup>	IGDP <sub>avg</sub>	-0.749 <sup>***</sup>	
		POLCIV <sub>t</sub>	0.057	Ethnic	-1.571 <sup>***</sup>	IGDP <sub>avg</sub>	8.931 <sup>***</sup>	
		Constant	16.835 <sup>***</sup>	Constant	8.243 <sup>***</sup>	Constant	8.931 <sup>***</sup>	
							Latitude	-0.027 <sup>***</sup>
							Openness <sub>t</sub>	0.814 <sup>***</sup>
						Ethnic	-0.494	
						Constant	1.949 <sup>**</sup>	
	Pseudo R <sup>2</sup>	0.582	0.478	0.741	0.354			
	N. obs.	205	205	205	205			

Source: Author's estimation

\* Significance = 10%.

\*\* Significance = 5%.

\*\*\* Significance = 1%.



Table A.2  
The evolution of the aid-growth-poverty-governance system with aid per poor.

		[6]	[7]	[8]	[9]
1980–89	dep. var.	IODApp <sub>t5</sub>	IGDP <sub>t5</sub>	IPoverty <sub>t5</sub>	POLCIV <sub>t5</sub>
	ind. var.	IPoverty <sub>t</sub>	IODApp <sub>avg</sub>	IODApp <sub>avg</sub>	IODApp <sub>avg</sub>
		IPopulation <sub>t</sub>	Latitude	IGDP <sub>avg</sub>	IGDP <sub>avg</sub>
		IGDP <sub>t</sub>	Openness <sub>t</sub>	Constant	Latitude
		POLCIV <sub>t</sub>	Ethnic		Openness <sub>t</sub>
		Constant	Constant		Ethnic
					Constant
	Pseudo R <sup>2</sup>	0.933	0.714	0.906	0.743
	N. obs.	23	23	23	23
	1990–99	dep. var.	IODApp <sub>t5</sub>	IGDP <sub>t5</sub>	IPoverty <sub>t5</sub>
ind. var.		IPoverty <sub>t</sub>	IODApp <sub>avg</sub>	IODApp <sub>avg</sub>	IODApp <sub>avg</sub>
		IPopulation <sub>t</sub>	Latitude	IGDP <sub>avg</sub>	IGDP <sub>avg</sub>
		IGDP <sub>t</sub>	Openness <sub>t</sub>	Constant	Latitude
		POLCIV <sub>t</sub>	Ethnic		Openness <sub>t</sub>
		Constant	Constant		Ethnic
					Constant
Pseudo R <sup>2</sup>		0.644	0.351	0.806	0.336
N. obs.		320	320	320	320
2000–08		dep. var.	IODApp <sub>t5</sub>	IGDP <sub>t5</sub>	IPoverty <sub>t5</sub>
	ind. var.	IPoverty <sub>t</sub>	IODApp <sub>avg</sub>	IODApp <sub>avg</sub>	IODApp <sub>avg</sub>
		IPopulation <sub>t</sub>	Latitude	IGDP <sub>avg</sub>	IGDP <sub>avg</sub>
		IGDP <sub>t</sub>	Openness <sub>t</sub>	Constant	Latitude
		POLCIV <sub>t</sub>	Ethnic		Openness <sub>t</sub>
		Constant	Constant		Ethnic
					Constant
	Pseudo R <sup>2</sup>	0.587	0.306	0.792	0.358
	N. obs.	206	206	206	206

Source: Author's estimation.

\* Significance = 10%.

\*\* Significance = 5%.

\*\*\* Significance = 1%.

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