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# Identifying differences and similarities between donors regarding the long-term allocation of official development assistance

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## ABSTRACT

Advanced countries have pledged to mobilize additional financial resources to developing countries, including funding from multiple sources other than official development assistance (ODA), known as foreign aid. However, the effect of the novel coronavirus pandemic has raised doubts about the feasibility of such a pledge, highlighting, once again, the possible role of ODA and the importance of explaining its allocation, which could be of vital relevance for understanding its effectiveness. This study analyzes a vast number of bilateral and multilateral donors by applying a novel methodology in the context of aid allocation – principal-component factor analysis – covering the period 1990–2015. The results revealed four distinct clusters of donors: (i) the proportionally largest Western European donors, characterized by a significant number of beneficiaries, especially low-income countries; (ii) donors that are predominantly driven by structural links with recipients, especially links derived from colonial connections; (iii) a group of mainly Eastern European donors who are engaged with lower-income countries in Eastern Europe and Western Asia; and (iv) a group of Asian and Oceanian donors that select their partners mainly based on the geographical proximity criterion.

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Official development assistance (ODA); foreign aid; allocation; determinants; principal-component factor analysis

## 1. Introduction


To contribute to the attainment of the sustainable development goals (SDGs), advanced countries have committed to promoting the mobilization of additional financial resources to developing countries from multiple sources, including USD 100 billion annually by 2020, to address those countries' needs in the context of climate action. However, recent developments in the world economy, particularly as a result of the novel coronavirus (COVID-19) pandemic, have raised doubts about the feasibility of such goals, especially with regard to the mobilization of private resources. This highlights the possible role of official development assistance (ODA) in the accomplishment of the said objectives and the importance of explaining its allocation, which could be of vital relevance for understanding its effectiveness.


Some developing countries benefit from high levels of ODA<sup>1</sup> from certain donors, while others are practically ignored. A group of 36 beneficiaries received an average amount of aid in excess of 10% of their gross domestic product (GDP) during the period 1990–2015, while a

group of 42 other recipients, some of which belong to the same income category, received no more than 2% of their GDP (Organisation for Economic Cooperation and Development [OECD] 2018a; United Nations [UN] 2018).

The empirical literature on aid allocation does not provide an entirely clear depiction of the differences and similarities between donors with regard to long-term aid allocation. This study will examine the possible distinct behavioral patterns that characterize a vast number of bilateral and multilateral donors with respect to the volume and choice of ODA recipients.

This research contributes to expanding the knowledge on the subject of aid allocation on account of several distinct factors. A contextual theoretical framework of aid allocation is presented, and principal-component factor analysis is used to empirically identify the aid allocation behavior of distinct clusters of donors and recipients. To the best of our knowledge, this is the first time that principal component factor analysis has been applied to the topic. While previous studies have attempted to explain aid allocation by

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proposing a set of explanatory variables beforehand, in this empirical study, we perform an unsupervised mathematical analysis of aid allocation, that is, one with no prior hypothesis.

The focus is on long-term analysis, which should be the main focus of studies on aid; therefore, this research uses a different methodology than most previous papers, which have relied on data representing short consecutive time periods. Due to technical issues regarding the definition of ODA that many previous studies have not considered, such a method is deemed to be less adequate for the long-term analysis of aid.

Furthermore, this study analyzed a larger number of donors than previously published research (40 bilateral and 11 multilateral) and presents an indicator for their individual behavior. Data are also updated to the period 1990–2015, which is a particularly significant period for ODA, as it marks the beginning and closure of the reference period of the millennium development goals. Many of the previous papers' conclusions were derived, at least partially, from data collected in a Cold War scenario, which is a framework that could be ineffective in explaining subsequent events.

The paper is structured as follows: Section 2 outlines a theoretical contextual framework for aid allocation in order to identify donors' key motivations and recipients' relevant characteristics; Section 3 comprises a review of the empirical literature on the topic; Section 4 examines the principal component factor analysis results for the period 1990–2015; and Section 5 presents the final conclusions.

## 2. The contextual framework of aid allocation

This section outlines a contextual theoretical framework for aid allocation, which is pertinent for interpreting the quantitative analysis results. The framework comprises two distinct components: donors' motivations (Subsection 2.1) and recipients' characteristics (Subsection 2.2). The proposed framework contributes to existing aid allocation typologies by providing a more systematic and thorough analysis of the different aspects involved in each of the two identified components. It should be noted that the framework presented in the literature usually provides a much simpler distinction, highlighting, in particular, the possible contrast between two broad components, namely donors' strategic interests and recipients' needs or merits, the pertinence of which is then tested using certain empirical indicators.

### 2.1. Donors' motivations

The key motivations that drive decisions regarding ODA allocation can be grouped into the following five generic

categories: ideational, political, commercial, securitarian, and cultural.

#### 2.1.1. Ideational

The ideational perspective considers ODA to be a moral duty related to the richest countries' solidarity with poorer countries, within a framework of empathy with distinct peoples, with no direct mutual benefit demands and utilizing supposedly higher technical capacities. From an altruistic perspective, countries can assist others in fulfilling their economic and social needs (Sachs 2005).

This type of motivation, which authors such as Degnbol-Martinussen and Engberg-Pedersen (2005) have also identified, particularly regarding Nordic donors, raises a possible contradiction to the aid allocation process: If the prevailing objective is to maximize the aid's effectiveness, then aid should be given to countries that demonstrate good governance; however, those most in need will be those most likely to lack the characteristics that contribute to effective aid utilization, so that if aid is to be channeled primarily to them, a certain level of failure must be anticipated (Riddell 2014).

Temple (2010) highlighted the ground that the following principle has gained: Instead of granting aid conditional on certain recipient policy decisions, donors should choose countries where the probability of effective aid utilization is higher (i.e. good policy environments). This approach is known as 'ex-post conditionality' or 'performance-based allocation' and is usually applied by the World Bank and other multilateral institutions. It should be noted, however, that a solid empirical relationship between policy environment and aid effectiveness has not been established. Furthermore, moral arguments are often combined with some form of self-interest, as expressed in the doctrine known as 'human internationalism,' according to which donors also benefit from previously given aid in the long run as a result of strong economic zone interdependence (Degnbol-Martinussen and Engberg-Pedersen 2005).

The ideational or moral perspective, however, is not universally accepted, since, according to some thought, neither governments nor individuals are obligated to help others, particularly if wealth is accumulated fairly, regardless of the arguments for compensation for the resources extracted from former colonies. The rise of environmental concerns at the global level has weakened this position, as the accumulation of wealth in advanced countries can be seen to have been achieved at the expense of the exhaustion of natural resources worldwide (Degnbol-Martinussen and Engberg-Pedersen 2005). These same authors have



also asserted that aid channeled through the UN is more closely linked to moral and humanitarian motives, as opposed to bilateral aid, which is predominantly linked to self-interest.

An additional feature that can point to ideational motivation is, according to Thorbecke (2007), a trend that has been increasing since the 1990s, entailing aid as an instrument to promote poverty reduction. Sachs (2005) has defended this line of thought by asserting that the goal of aid should be to eliminate extreme poverty, although not necessarily all poverty, and help poor countries overcome the poverty trap, rather than aiming to close the gap between rich and poor nations.

Certain structural links between donor and recipient, such as the existence of a past colonial relationship, are also important characteristics to explain aid flows. Although such a relationship can occasionally entail some difficulties, proximity in terms of legal systems, organizational structures, or procedural rules can facilitate certain activities, such as the provision of technical assistance. Degnbol-Martinussen and Engberg-Pedersen (2005) have noted that mainly in France and the United Kingdom, governments have sought public support for aid by emphasizing the moral obligation to assist former colonies, although, unofficially, commercial motivations could have also been present, such as privileged access to resources and markets.

Furthermore, the religious link, which refers to the privileging of recipients that share the same religion, has gained special relevance with the emergence of Arab donors. Indeed, Arab aid tends to be delivered mostly to other Arab or Muslim countries. This is distinct from OECD donors in that aid flow is more regionally concentrated and influenced by issues of social solidarity and religious ties (Walz and Ramachandran 2011).

### 2.1.2. Political

From a political point of view, ODA is seen as a means to reinforce national influence and prestige, not only with regard to recipients, but also within the donor community. This type of motivation can involve particular allegiances in the context of certain contentious regional or global situations. According to Degnbol-Martinussen and Engberg-Pedersen (2005), much aid has been granted on the basis of priorities linked to political and national security interests. According to Sachs (2005), public opinion supports politicians who decide to grant aid when such a decision is seen as essential for achieving foreign policy objectives.

Riddell (2014) has noted that the largest donors in particular have always been influenced by their own national and short-term political interests; that is, they try to ensure that aid is as developmentally effective as

possible, given the political allocation determinants. However, since donors tend to require recipients to follow certain development strategies, instead of assisting them with their national policies, the results of aid can be prone to ineffectiveness due to non-appropriation by domestic institutions. Furthermore, the desire to demonstrate the short-term results of aid can be detrimental for its potential long-term transformational role.

It should also be noted that certain countries have a specific interest in the development of aid activities in neighboring geographical areas. This is particularly the case for donors such as Japan, New Zealand, and Australia (OECD 2014, 2015, 2018b), and also for Eastern European donors. Additionally, historical links other than colonial ties that are related, for example, to past alliances or positioning in certain conflicts could also be a relevant proximity factor, as has been considered in previous research, such as Alesina and Dollar (2000).

The political view can also be linked to an ideological perspective, whereby ODA is seen as a means to promote beneficiaries' adoption of specific policies or models. This was the case for some of the aid provided by the Cold War contenders and the aid subsequently granted by certain multilateral institutions, which was subjected to relevant policy conditionality.

Degnbol-Martinussen and Engberg-Pedersen (2005) have noted that the earliest form of what can be considered development assistance (the Marshall Plan) was, in addition to being commercially motivated, already characterized by the goal of removing the beneficiaries from the Soviet Union's sphere of influence. Hence, with the end of the Cold War, the ideological motivations for giving aid sharply decreased for a significant number of donors.

Within the context of the political scenario arising from the 2016 US presidential election and the rise of non-conventional political parties in Europe, Jakupcic (2018) indicated that besides the reduction of its overall volume, the most likely aid allocation outcome would be the introduction of new conditions that are compatible with the donors' internal agendas.

### 2.1.3. Commercial

The existence of significant commercial links between donors and recipients can be an important incentive for the continuous implementation of new aid activities. In fact, it can be argued that aid is simultaneously a cause and consequence of these commercial flows. Numerous authors have mentioned the relevance of commercial motivations in aid allocation, notably Riddell (2014).



Within the sphere of commercial motivation, ODA is viewed as a means of increasing trade and investment flows. ODA can work directly (through tied aid, which is when the goods or services to be financed have to be purchased in the donor country) or indirectly (through increased influence over the recipients that will supposedly facilitate more business opportunities, which can also be attained through the additional economic activity generated by aid provided to the recipients).

The tied aid strategy can focus on construction projects (which usually imply higher local costs and consequently a lower added value for the donors' economies) or on the supply of capital goods and services other than construction (which typically provide more added value for donors). One strategy involves financing national companies' or experts' execution of feasibility and pre-project studies or institutional technical assistance, which is supposed to pave the way for future national gains when the projects are actually implemented through the design of certain technical characteristics that are favorable to donor country companies.

Degnbol-Martinussen and Engberg-Pedersen (2005) noted that although economic and commercial interests have not officially been prevalent in donors' aid policies, they have actually been a major reference in the aid allocation process. Jakupc (2018) has raised the possibility that the principle of prioritizing national interests, which non-conventional or populist thought defends, can lead to a more mercantilist vision, labeled as 'trade-not-aid.'

#### **2.1.4. Securitarian**

From a securitarian perspective, ODA is seen as a way to increase donors' national security, specifically with regard to threats related to terrorism, the trafficking of illicit substances, or illegal immigration. These are cases where, beyond expanding political influence, the donor's objective is to safeguard itself against specific threats emanating from certain beneficiaries.

This perspective's increased weighting raises concerns that less consideration will be given to certifying that aid is used toward accomplishing the envisioned development goals (Riddell 2014). Degnbol-Martinussen and Engberg-Pedersen (2005) have noted that European Union (EU) countries have already placed a special emphasis on development aid as a means to reduce migration and the flow of refugees from areas such as Africa and the Middle East (including by providing compensation for countries that have accepted migrants or refugees), while the United States has been linking aid to the fight against narcotics production and trafficking.

Sachs (2005) has argued that extreme poverty and state failures in developing countries are relevant to donors' security, as they can ultimately imply the deployment of military forces abroad. The argument that support for economic development overseas also supports national security has become prevalent in strategic security assessments.

#### **2.1.5. Cultural**

From a cultural point of view, ODA is considered to be a means of promoting the donor's national culture, including its language. Authors such as Pacquement (2010) and Mazières (2012) have noted the importance of promoting national culture and language through development assistance activities. According to the latter, language cooperation is, for example, one of the diplomatic instruments at French embassies' disposal to increase the country's influence.

Sharing a common language is indeed a relevant enabler of aid activities, particularly those related to technical cooperation, and notably for recipients where knowledge of other languages is not widespread. It could also be a relevant factor due to reduced donor transaction costs (Anderson 2012).

### **2.2. Recipients' characteristics**

In addition to the motivations described in Subsection 2.1, which mostly reflect donors' interests and intentions, there is also a justification for aid allocation based on certain recipient characteristics. These features can be grouped into the following four broad categories: invariant structural conditions, stable structural conditions, domestic policies, and exceptional events.

#### **2.2.1. Invariant structural conditions**

Invariant structural conditions comprise recipient features that are permanent across time and can be particularly relevant in aid allocation decisions. One example is small developing island status, which reflects such states' distinctive needs and is associated with special assistance recommendations established at the international level. Aid allocation based on this criterion reflects the predominance of ideational motivations.

Other invariant recipient structural conditions that are not related to respective needs but can still be substantially influential are those derived from historical links with particular donors. As mentioned in Subsection 2.1, these connections may reflect past colonial-type associations, the sharing of a common language, or alignment in former conflicts. These explanatory factors express a situation in which donors' aid allocation is not entirely justified by ideational aspects, such as

beneficiaries' needs, since, according to this criterion, for instance, former colonies should not be more worthy of assistance than other developing countries with similar needs.

### 2.2.2. *Stable structural conditions*

The category of stable structural conditions refers to those conditions that are relatively steady across the short and medium terms but can change significantly in the long run. These are linked to recipients' stage of development, expressed through indicators such as income level or other indicators connected to human development. Taking into account donors' pledges regarding the provision of special assistance to the least developed countries (LDCs) and other low-income countries (the Agenda for Sustainable Development 2030 reaffirmed the goal of an ODA/gross national income [GNI] ratio of at least 0.70%, of which 0.15% to 0.20% should be directed to LDCs), it is supposed that an inverse relationship exists between beneficiaries' wealth and the amount of ODA received. This variable's relevance could thus be interpreted as reflecting ideational motivations for granting aid, since the decision would be mainly based on recipients' needs and not donors' interests. However, it can also be seen as a means to strengthen donors' influence and prestige, not only with respect to the beneficiaries, but also in the donor community, thus reflecting the motivation for a more political tone.

Another particularly stable structural feature is recipient countries' population size. This influences aid allocation due to the fact that countries with smaller populations tend, proportionally, to receive a higher amount of aid (Easterly 2007), under the assumption that donors can determine the need for aid mainly based on global values and not according to per capita indicators. This could reflect donors' non-commercial motivations for granting aid, as, in principle, smaller countries are less commercially relevant. However, from a strictly ideational perspective, a citizen of a more populated country is no less deserving of assistance than a citizen of a less populated one, regardless of the former's association with a more powerful entity.

Another relatively stable structural feature that has been deemed pertinent to aid allocation is recipients' relevance to world trade, which reflects the possibility that commercial motivations also play an important role in donors' decisions.

### 2.2.3. *Domestic policies*

The perceived adequacy and quality of recipients' domestic policies is another factor that has a notable

influence on aid allocation. It is linked to these countries' situations in domains such as the enforcement of democratic values and systems, the incidence of corruption, or the performance of certain assessment indicators, notably those established by the donor community or by multilateral institutions such as the World Bank or the International Monetary Fund (IMF).

As corruption can decisively decrease the effectiveness of aid, it is expected that countries with a lower incidence of corruption will benefit from more aid, unless other strategic considerations from the donor perspective overtake that principle. The same could be argued with regard to the level of democracy. If these criteria are not particularly relevant to donors, it is reasonable to conclude that ideational motivations are probably superseded by other motivations. With respect to the consideration of performance indicators defined by multilateral institutions, it should be noted that this framework promotes a situation in which bilateral aid allocation is influenced by multilateral decisions, as determined, for example, in Berthélemy (2006).

Finally, it is worth noting that recipients' policies concerning the fight against terrorism, illegal migration, or the trafficking of illicit substances can also be an important enabler of aid flows. This connection shows that ODA can be used as a means to increase donors' national security; that is, beyond expanding political influence, the donor intends to safeguard itself against specific threats emanating from certain beneficiaries. This assumes a purely securitarian motivation, rather than a political or ideological one. In particular, the post-Cold War paradigm was reshaped at the beginning of the War on Terror in 2001, which has caused a reorientation of geographical and sectoral aid priorities in order to reflect an increased preoccupation with security issues and also with a number of cases of state building.

### 2.2.4. *Incidence of exceptional events*

The importance of exceptional events (such as the occurrence of conflicts or natural disasters) to aid allocation reflects the fact that during the events or in their aftermath, donors can make a special effort to assist affected countries, whether in the form of humanitarian and emergency aid or as posterior aid for reconstruction. This type of assistance would mainly reflect ideational motivations; however, it should also be noted that by publicly announcing their support for affected countries (for example, in donor conferences), the donor's intention might be, above all, to reinforce its political prestige in the international donor community and among recipients, or to profit from some form of commercial advantage, for instance, during



reconstruction, and not necessarily to increase the resources available to affected populations.

### 3. Previous findings and their main weaknesses

The available empirical literature does not provide a clear picture of the current aid allocation knowledge status. The different methods and timeframes utilized in each of the surveyed papers do not permit similar or compatible conclusions.

According to some studies, donors' political and strategic considerations prevail over recipients' needs or policy quality (Alesina and Dollar 2000; Rajan and Subramanian 2008), and it is not evident that more aid is given to countries that have sound policies (Bickenbach, Mbelu, and Nunnenkamp 2019; Burnside and Dollar 2000). Berthélemy and Tichit (2004) and Rajan and Subramanian (2008) concluded that former colonial links exert a strong influence, while Berthélemy (2006) found that commercial interests are more influential than geopolitical reasons, and Younas (2008) established that trade relations have been growing in relevance, and that bilateral aid disproportionately benefits recipients that import goods in which donors have a comparative advantage in terms of production.

On the other hand, a distinct set of papers have concluded that donors' strategic interests are not significant (Burnside and Dollar 2000); that donors respond, above all, to recipients' needs and take the quality of their policies into consideration (Guillaumont, McGillivray, and Wagner 2015; Harrigan and Wang 2011); that smaller and poorer countries receive more aid (Easterly 2007), and that democratization processes and lower levels of corruption attract additional aid (Easterly 2007; Lopez 2015), as well as better governance in general (Winters and Martinez 2015). Additionally, Krasniqia and Demukajb (2021) found no significant impact of foreign aid on corruption.

Acht, Mahmoud, and Thiele (2015) have claimed that more corrupt countries receive higher amounts of aid; however, this aid is channeled through non-state rather than state actors. Fuchs, Dreher, and Nunnenkamp (2014) have found that aid is largely independent of trade and investment flows, and Cardwell and Ghazalian (2018) concluded that aid agency independence is not a significant determinant of bilateral aid.

Regarding the comparison and relations between distinct donors, other conclusions have also been pointed out. For Isopi and Mavrotas (2006), allocation criteria differences among donors are relevant not only between bilateral donors, but also between bilateral donors and multilateral institutions. Berthélemy (2006)

stipulated that self-interest prevails over developmental motives, except for among a number of selected bilateral donors, and that bilateral aid allocation is influenced by multilateral decisions. Stubbs, Kentikelenis, and King (2016) found that the existence of IMF programs catalyzes aid donation to the respective beneficiaries. According to Frot and Santiso (2011), donors adopt herd behavior, so that when a beneficiary receives more aid from one particular donor, it might equally attract more aid from others.

Concerns that the amount of aid could fall drastically due to financial and economic problems affecting donors are considered to be overstated (Fuchs, Dreher, and Nunnenkamp 2014; Jones 2015), nevertheless, aid becomes unpopular and is an obvious target for politicians because voters believe it is a form of charity and overestimate its real monetary level (Heinrich, Kobayashi, and Bryant 2016). In contrast, Dabla-Norris, Minoiu, and Zanna (2015) concluded that aid donation is severely reduced when donors experience sharp downturns, although it behaves counter cyclically when recipients are affected by particularly large shocks. Vázquez (2015) advocated a progressive modality in aid supply, whereby citizens from higher-income countries contribute proportionally more than those from countries with lower living standards.

The main topics of divergence between the various studies arise from the predominance of models that are centered on donors' characteristics, or, alternatively, on recipients' features, as well as on the conclusions regarding the relevance of issues such as bilateral trade or ways of appraising strategic links between donors and recipients. This paper aims to provide a theoretical and empirical framework that enables the inference of logical conclusions from several significant extracted factors, without resorting to a simple dichotomous analysis of donors' strategic interests versus recipients' needs and merits. The conclusions derived from most of the previous papers are strongly dependent on the specific variables chosen to explain certain relations – hence, the wide differences in results and conclusions. The methodology applied in the present study avoids such a situation, as interpretation of the results is based on the predetermined theoretical framework and on an unsupervised numerical analysis, and is consequently neither restricted nor conditioned by a certain selection of empirical variables.

With regard to this issue, it should be emphasized that the relevance of a significant portion of the explanatory variables used in previous aid allocation models is particularly disputable, namely the evaluation of the presence of influence or strategic connections through the donor–recipient population size relationship or the



voting correlations between them in the UN General Assembly; the assessment of the quality of recipients' policies on the basis of indicators derived from particular economic or political viewpoints (for example, a composite measure of inflation, budget balance, and openness); the consideration of economic growth performance as a proxy for policy quality; and the appraisal of recipients' needs through indicators that do not distinguish between emergency and permanent needs (such as life expectancy, the number of people affected by disasters, or the number of telephone subscribers).

The above-mentioned literature still evinces some additional insufficiencies due to a wide variety of factors, which can also partly explain the contradictions between studies. One of the main methods to assess aid allocation involves considering data in which ODA is averaged over various short, consecutive periods (typically four to six years). This is then explained by the values of certain independent variables observed in lagged time periods, or even simultaneously. Within this framework, the effects derived from short-term volatility are not eliminated, and the setting of meaningful relationships between minor successive time periods becomes particularly problematic because of technical aspects linked to the rules governing the recording and reporting of ODA, which have not been thoroughly considered. For example, certain types of aid (such as debt relief) are reported as ODA when the creditor makes the commitment; however, this can possibly generate involuntary spikes in ODA from certain donors to certain beneficiaries. This study uses a longer analysis period, so that long-run relationships are captured, and volatility deriving from unique events, especially in particular years, does not affect the global analysis.

The scope of the data used is also an important insufficiency, as some studies do not include some multilateral and bilateral donors. This study includes the data available for all donors, enabling a full comparison of behaviors.

A final note is that the present study uses data on actual net disbursements of ODA, rather than data on commitments. The latter, upon which most previous studies have relied, could lead to a possible overstatement of aid flows, as commitments can be canceled in the ensuing years, which is a situation that the OECD statistical aggregates do not capture. This generates the risk of double counting if a project is committed, but for some reason, its implementation is deferred, thus originating a second commitment report (this bias can be particularly severe in certain types of aid, such as lines of credit). Furthermore, because

commitments are recorded in full in the initial year, using commitment data causes spikes in the amounts of ODA, generating data volatility, which can influence the conclusions of certain studies, especially those analyzing panel data for short successive periods of time. As Celasun and Walliser (2008) have noted, aid disbursements differ substantially from aid commitments in most years, which is a situation that is particularly prevalent among lower-income recipients who are more dependent on aid.

#### 4. Principal-component factor analysis of aid allocation by donor

This section presents conclusions based on the results of principal component factor analysis of aid allocation by donor over the period 1990–2015, with the objective of detecting long-term trends and avoiding one-off events. The interpretation is based on both the contextual framework and critical examination of the empirical literature described in the previous section.

The aid measurement variable is based on the concept of ODA, as defined by the OECD (see footnote 1). The aggregate considered is net disbursements of ODA, as this indicator better reflects the amounts actually available to the beneficiaries (for reasons already explained in Section 3, the use of commitment data is not considered adequate). The countries considered to be potential ODA recipients, according to the OECD's criteria, are those that with a 2013 GNI per capita of less than USD 12,745.

With regard to donors, the OECD collects data concerning the main multilateral institutions (outflows to recipients) and 29 members of its Development Assistance Committee (DAC), comprising 20 EU countries, as well as a further nine high-income economies in Europe, North America, Asia, and Oceania. The OECD also processes some data regarding assistance provided by countries that do not belong to the DAC (i.e. from Eastern Europe, the Middle East, and East Asia), but which regularly report their figures to the OECD. However, these data fail to include some important donors, such as China and Brazil.

According to the OECD classification that was in force at the end of the analysis period (2015), 146 countries and territories were considered to be developing countries and, as such, were potential ODA beneficiaries. However, 14 of these countries were excluded from this study because of the insufficient availability of statistical data,<sup>2</sup> and thus the number of observations was reduced to 132.<sup>3</sup> It should also be noted that several countries that had been included in the developing category were upgraded before the last update of the OECD's

**Table 1.** Principal-component factor analysis of aid allocation by donor.

Variable		Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Uniqueness
Australia	Aus				0.68		0.53
Austria	Aut						0.80
Belgium	Bel			0.42			0.74
Canada	Can	0.61					0.60
Czech Republic	Cze		0.84				0.24
Denmark	Dnk	0.55					0.66
Finland	Fin	0.87					0.24
France	Fra			0.68			0.50
Germany	Deu	0.66		0.43			0.20
Greece	Grc						0.75
Hungary	Hun		0.50				0.52
Iceland	Isl						0.95
Ireland	Irl	0.60				0.43	0.43
Italy	Ita	0.65					0.35
Japan	Jpn				0.90		0.17
Korea	Kor				0.70		0.42
Luxembourg	Lux			0.41			0.81
Netherlands	Nld	0.54					0.61
New Zealand	NZl				0.75		0.41
Norway	Nor	0.92					0.12
Poland	Pol		0.68				0.52
Portugal	Prt			0.61			0.61
Slovakia	Slv					0.69	0.43
Slovenia	Svn						0.90
Spain	Esp						0.87
Sweden	Swe	0.84					0.22
Switzerland	Che	0.54					0.52
United Kingdom	Gbr	0.75					0.42
United States	USA						0.80
Cyprus	Cyp					0.42	0.78
Estonia	Est		0.86				0.23
Israel	Isr		0.49				0.74
Kuwait	Kwt						0.75
Latvia	Lva		0.88				0.22
Lithuania	Ltu		0.48				0.63
Romania	Rou		0.74				0.40
Russia	Rus						0.95
Taiwan	Twn						0.85
Turkey	Tur	0.58					0.56
United Arab Emirates	ArE					−0.44	0.61
European Union	EU	0.59		0.58			0.28
International Monetary Fund	IMF					0.74	0.26
African Development Bank	AfDB			0.86			0.23
Asian Development Bank	AsDB				0.87		0.22
Inter-American Devel. Bank	IDB						0.97
Caribbean Devel. Bank	CDB						0.97
Council of Europe Devel. Bank	CEB		0.55				0.63
Islamic Devel. Bank	IsDB						0.84
United Nations	UN	0.58		0.54		0.42	0.18
World Bank	WB	0.43		0.67		0.40	0.18
Other multilateral	OthMul	0.45		0.71			0.27
Eigenvalue		7.95	4.76	4.69	3.59	2.89	
Proportion		0.16	0.09	0.09	0.07	0.06	

Note: Factor loadings less than 0.40 (in absolute value) have been excluded; KMO measure of sampling adequacy=0.59.

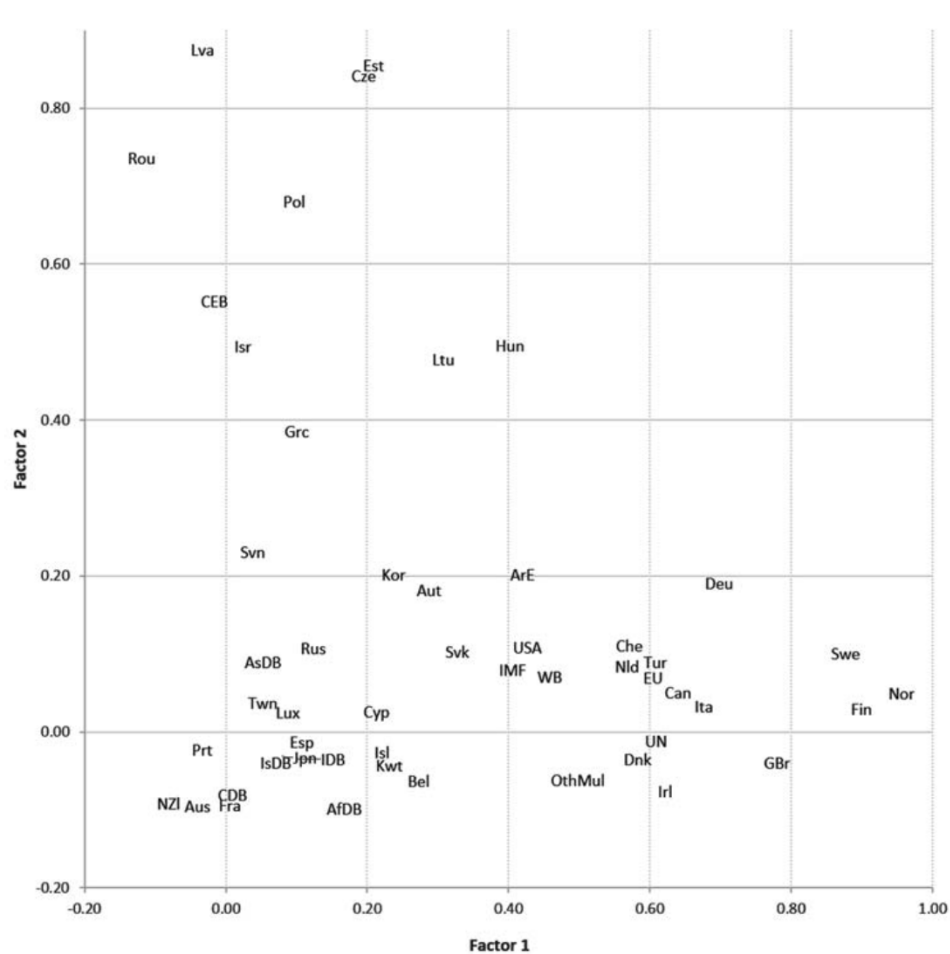
classification, and these were consequently excluded from the analysis.<sup>4</sup>

Among the 132 countries retained for the model, there are however some cases where it is impossible to calculate the average data for the whole period 1990–2015, mostly due to the fact that some of these countries only existed as statistically-independent entities for part of the timeframe under analysis or were added to the list of recipients at a later stage.<sup>5</sup>

The amount of ODA each beneficiary received from each donor is measured using the ODA/GDP

ratio at current prices (data sources: OECD 2018a; UN 2018).

Factor analysis describes the covariance relationships among observed variables in terms of a smaller number of unobserved latent variables called factors. This study uses principal component factor (PCF) analysis (distinct from principal component analysis) as a multivariate statistical technique for data reduction. In PCF analysis, uncorrelated factors are extracted from linear combinations of the original variables that contain most of the meaningful information. For more details, see



**Figure 1.** Loading plot for principal-component factors (1 and 2) of aid allocation by donor.

Everitt and Dunn (2001) and Johnson and Wichern (2007).

PCF analysis tries to explain all the variance treating the communalities (proportions of each item's variance that can be explained by the set of factors) as all one, which means that there are no unique factors. This procedure eliminates factors with eigenvalues below 1, and then performs an orthogonal rotation of factors via the *varimax* method to simplify the factor structure. The method aims to obtain factors with just a few large loadings and as many loadings as close to 0 as possible. Factor loadings greater than 0.4 (in absolute value) are considered significant for factor interpretation purposes (Hair et al. 2006).

An acceptable factor solution occurs when all variables have a significant factor loading, and no variable has more than one significant loading. The estimated factor loadings were used to compute each observation's factor score using the regression scoring method (Johnson and Wichern 2007). A scatterplot of the factor scores (score plot) was then drawn to help identify clusters of observations and possible outliers

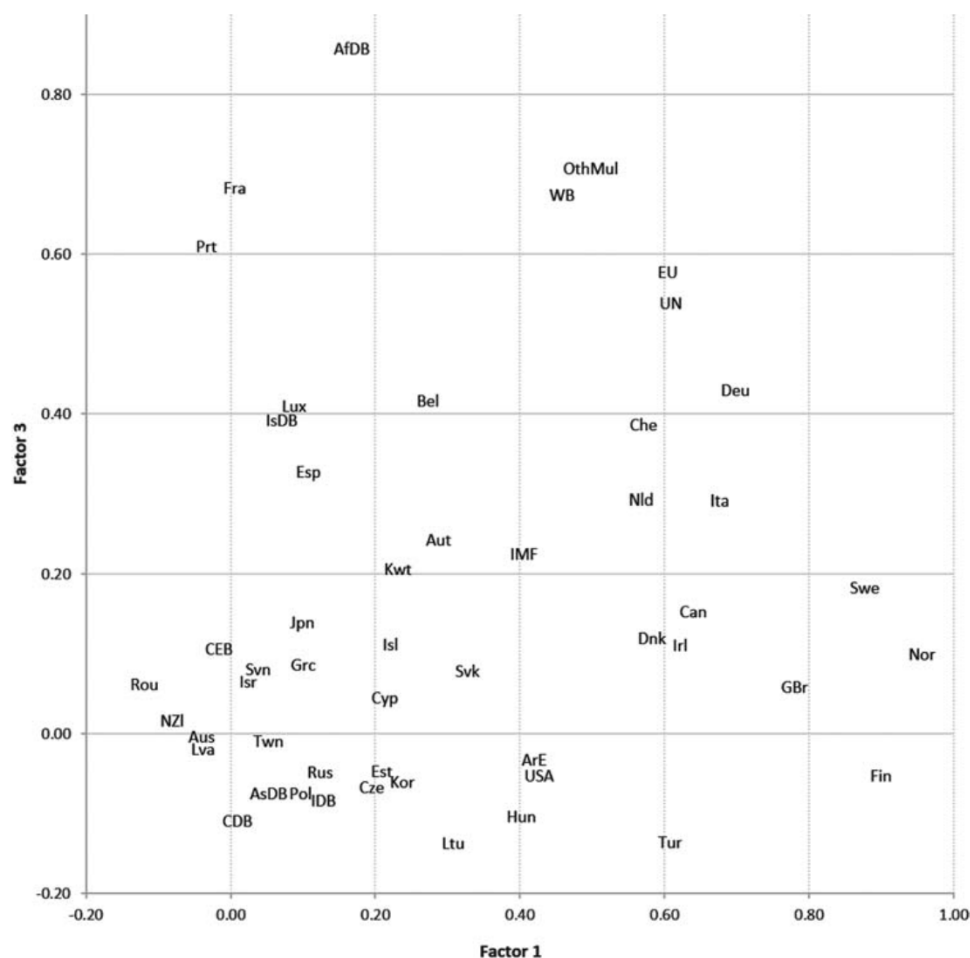
based on these factor scores (or latent factors), as suggested by Hamilton (2013), among others. The factor scores were standardized to have a 0 mean and unit variance.

Table 1 presents the rotated factor solution retaining, at most, five factors for the data regarding the ODA/GDP ratio each recipient received from each individual donor, with the objective of identifying possible clusters for the various ways donors allocate their aid flows. Together, these five factors explain approximately 47% of the total variance.

Figures 1–3 show the loading plots for the principal component factors of aid allocation by donor (Factor 1 vs. Factor 2, Factor 1 vs. Factor 3, and Factor 1 vs. Factor 4). Figures 4–6 show the recipient countries' score plots for the same combinations of factors. Factor 5, which has the lowest explanatory power of the five extracted factors, is considered to lack a relevant theoretical interpretation.

It should be noted that each factor reveals a certain structural feature of individual donors' geographical distribution of aid. Donors with similar loads in a certain





**Figure 2.** Loading plot for principal-component factors (1 and 3) of aid allocation by donor.

factor will necessarily have a similar group of recipients, namely the countries with high loads in the same factor. There is thus a general correspondence between the location of donors and their recipients in Figures 1 and 4, 2 and 5, and 3 and 6. Factor 1 carries higher explanatory power, so the figures presented compare this factor with the three remaining relevant factors.

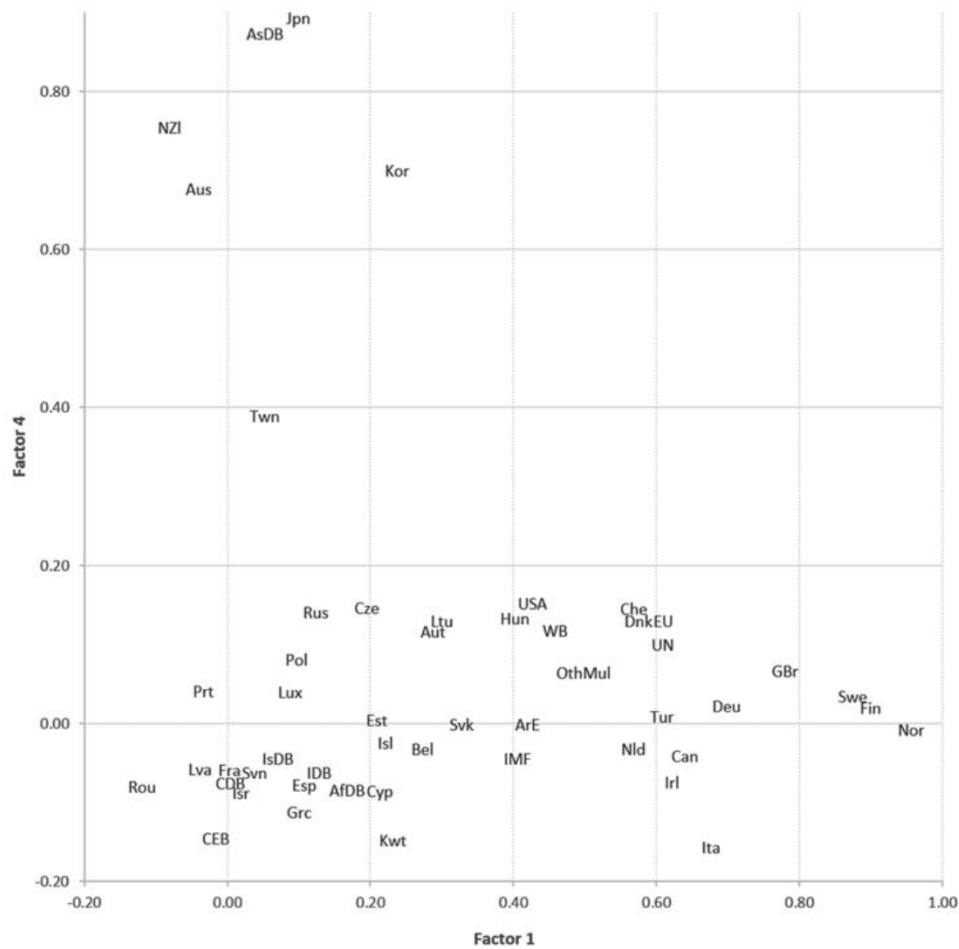
Factor 1 is particularly dominant for donors such as Norway, Finland, Sweden, the United Kingdom, Germany, Italy, Canada, Ireland, Denmark, Switzerland, and the Netherlands. This group includes the four donors with the highest average ODA/GNI ratio during the period 1990–2015 (Norway, Sweden, Denmark, and the Netherlands), as well as the United Kingdom, which reached the 0.7% target during the final years of the analysis period. This result is visualized in Figures 1–3, which present the loading plot for the extracted factors.

It can thus be assumed that Factor 1 primarily represents the proportionally largest Western European donors' mainstream aid allocation behavior, which is characterized by a relatively wide set of beneficiaries in

diversified geographical areas, with a special focus on the lowest-income countries.

This assumption is corroborated by Figures 4, 5, and 6, which present the score plots for the principal factors (Factor 1 vs. Factor 2, Factor 1 vs. Factor 3, and Factor 1 vs. Factor 4, respectively). These graphs clearly show the presence of outlying recipients, confirming that those with high scores in Factor 1 are mostly low-income countries, many of which are involved in situations of conflict or post-conflict and are therefore assumed to be receiving aid mainly due to donors' ideational considerations, substantiated from a solidarity point of view and by the desire to fulfill recipients' needs and not necessarily satisfy self-interests. This is the case for beneficiaries such as Somalia (So), Mozambique (Mz), Afghanistan (Af), Liberia (Lr), Eritrea (Er), Zambia (Zm), Tanzania (Tz), Rwanda (Rw), and Sierra Leone (SL).

However, it must be noted that this type of donor behavior can also be seen as a way of strengthening donors' influence and prestige, not only with respect



**Figure 3.** Loading plot for principal-component factors (1 and 4) of aid allocation by donor.

to the beneficiaries, but also in the donor community; it thus reflects more political motivations.

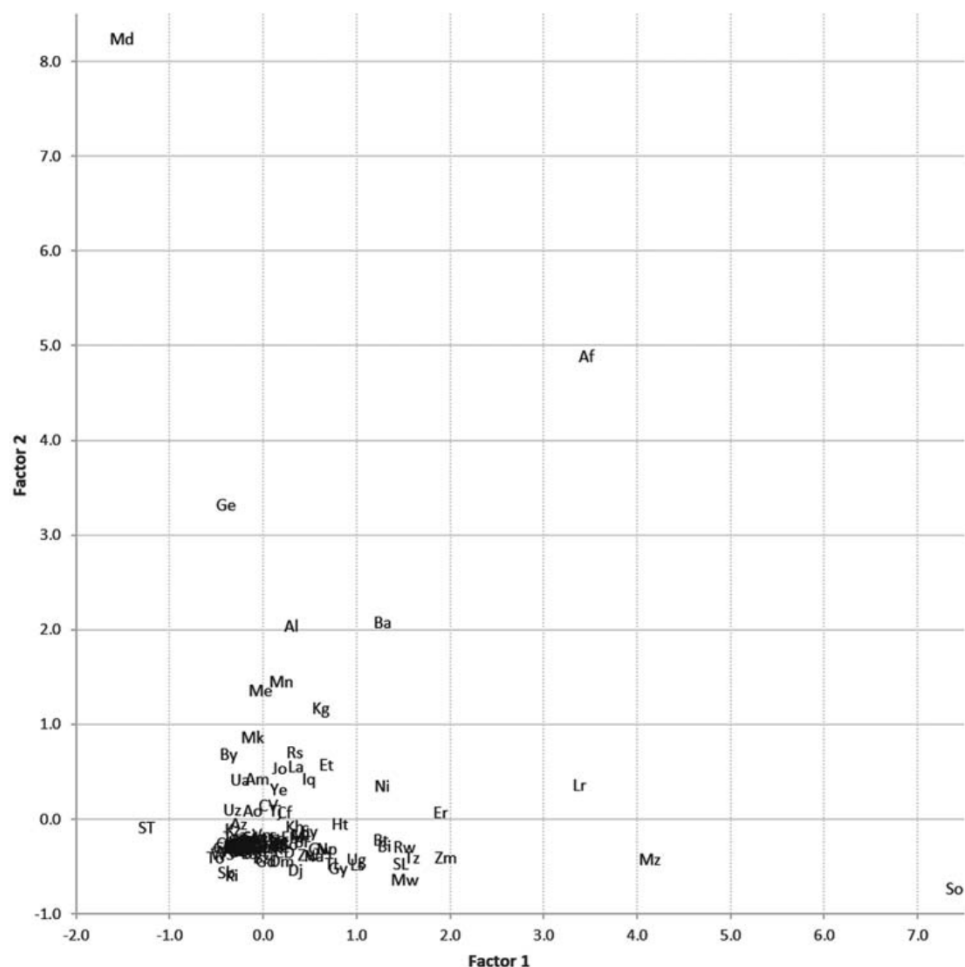
Factor 2 characterizes a significantly distinct group of mainly Central and Eastern European donors, including Latvia, Estonia, the Czech Republic, Romania, Poland, Hungary, Lithuania, and Israel. These are all countries that have granted development aid at a later stage than most of their Western European counterparts, albeit with lower aid volumes in both absolute and relative terms. These countries have fewer structural links with recipients (for example, colonial, linguistic, or commercial) and therefore have a more limited number of partners, which, on the whole, are mainly geographically close, lower-income countries in Eastern Europe and Asia. This premise is shown in Figure 4, which identifies the recipients with the highest loads in Factor 2 as Moldova (Md), Afghanistan (Af), Georgia (Ge), Bosnia and Herzegovina (Ba), Albania (Al), Mongolia (Mn), Montenegro (Me), Kyrgyzstan (Kg), and Macedonia (Mk).

The inclusion of Afghanistan on this list, coupled with the fact that both Jordan and Iraq scored significantly in

Factor 2, also raises the possibility that this set of donors could have allegiance to the United States that is principally derived from regional security problems in which the defensive structure of the North Atlantic Treaty Organization (NATO) (vis-a-vis Russia) plays a significant role. The positive aid allocation bias toward some participants in the War on Terror might thus be explained by the allegiances between Eastern European donors and the United States, and not necessarily by the former's terrorism-related security concerns.

Nonetheless, ODA could indeed be used to strengthen donors' national security, especially with regard to terrorism-related threats. In these cases, rather than merely expanding political influence, donors intend to safeguard themselves against specific threats emanating from certain beneficiaries. Given this intention, they assume a purely securitarian motivation, rather than a political or ideological one.

However, to generally characterize the motivations of donors that are dominated by Factor 2, it is understood that their motivations are mostly of a political nature, derived from both the desire to influence neighboring



**Figure 4.** Score plot for principal-component factors (1 and 2) of aid allocation by recipient.

countries and reinforce good relations with a military ally.

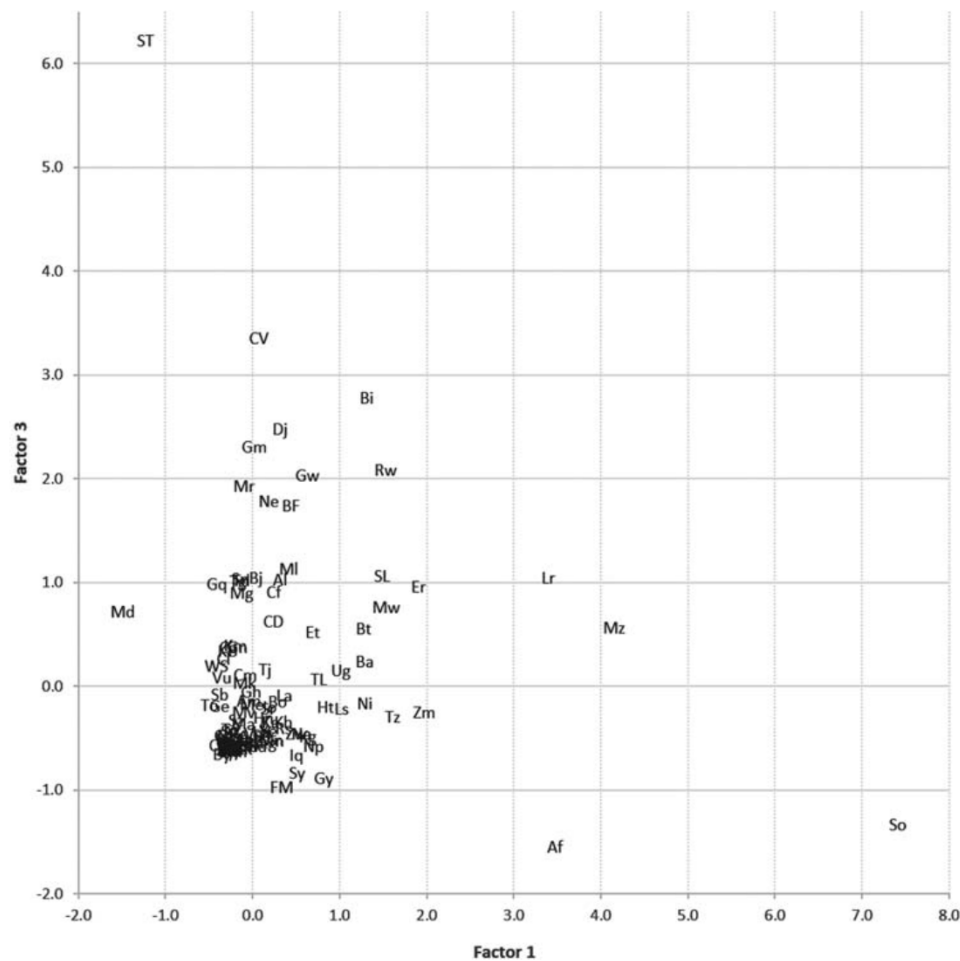
Factor 3 is the dominant component for donors such as France, Portugal, Belgium, and Luxembourg. Spain and the Netherlands also scored relatively high in this factor, although not at a statistically significant level. This component could be interpreted as being typical of donors that have relevant structural links with recipients, especially links derived from colonial or linguistic connections, leading these donors to focus their aid allocation on a relatively smaller number of recipients, particularly in Africa. In the case of Luxembourg, although colonial links do not exist, the aid program's relatively small absolute size is consistent with the regional focus on African countries. Africa's prevalence in Factor 3 is also confirmed by the high loading of the African Development Bank, which is a financial institution exclusively dedicated to the region.

This assumption is corroborated by Figure 5, which illustrates that the group of recipients with the highest loads in Factor 3 comprises countries such as São

Tomé and Príncipe (ST), Cabo Verde (CV), and Guinea Bissau (Gw), all of which are former Portuguese colonies, as well as Burundi (Bi) and Rwanda (Rw), two former Belgian colonies, and Djibouti (Dj), Mauritania (Mr), Niger (Ne), Burkina Faso (BF), Mali (MI), and Senegal (Sn), which are all former French colonies. In these countries, the proportion of aid received from former colonial powers is particularly relevant.

Factor 3 thus reflects the importance of structural links between donors and recipients in aid allocation. The impact of a colonial connection could be derived from the moral duty to aid former colonies (for instance, to compensate for the past exploitation of resources) and may therefore be associated with ideational motivations. However, although they are more understated, commercial motivations (expansion of bilateral trade and investment) can also be present, as well as cultural motivations (promotion of national culture, including language), and even political motivations (strengthening national influence and prestige).





**Figure 5.** Score plot for principal-component factors (1 and 3) of aid allocation by recipient.

Factor 4 is particularly relevant for Asian and Oceanian donors such as Japan, New Zealand, Korea, Australia, and Taiwan, reflecting the fact that these countries select their partners mainly based on the geographical proximity criterion, evidenced by the delivery of aid to various island countries in the Pacific region. This interpretation is confirmed by the fact that the Asian Development Bank (a regionally specialized institution) scored very significantly in this factor.

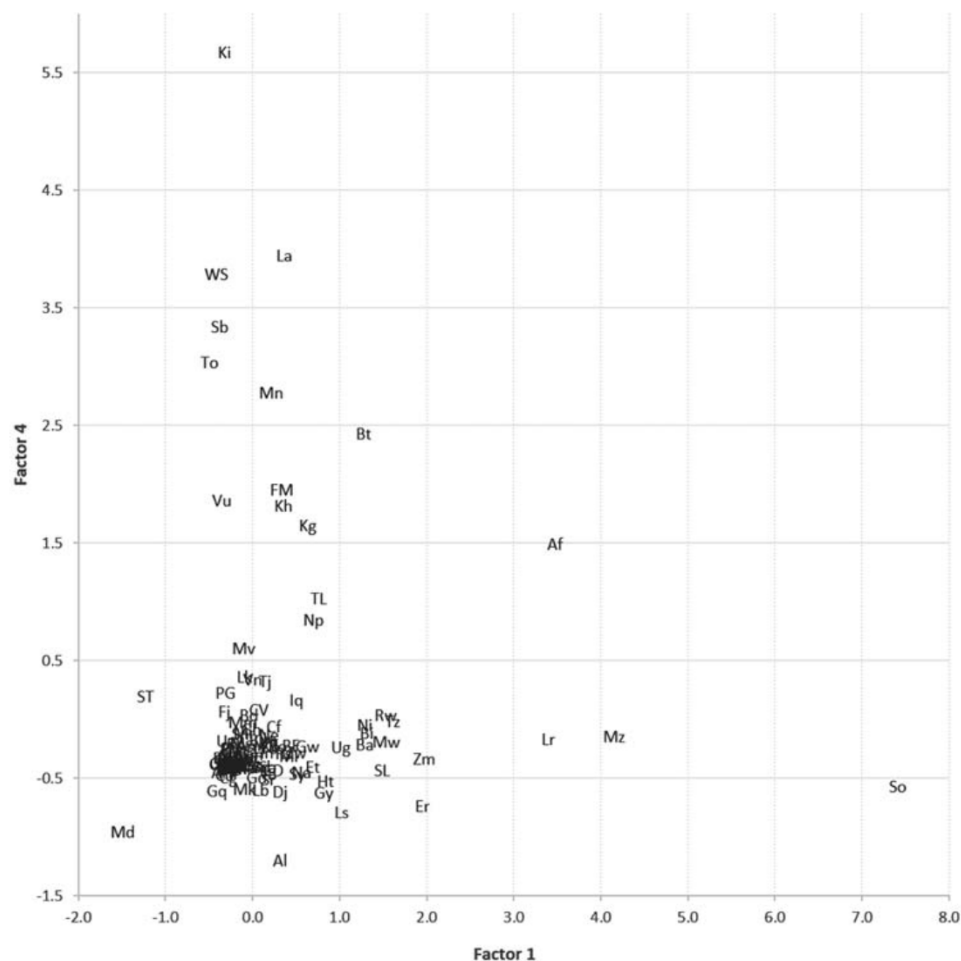
Figure 6 shows that the recipients with the highest weights in Factor 4 are Kiribati (Ki), Lao PDR (La), Samoa (WS), Solomon Islands (Sb), Tonga (To), Mongolia (Mn), Bhutan (Bt), Micronesia (FM), and Vanuatu (Vu). The components of this list are thus inline with most Asian and Oceanian donors' high score in Factor 4; those donors preferably allocate their aid to physically close recipients.

The emphasis on the geographical criterion, coupled with the fact that the recipients are relatively low-income small economies, could point to the prevalence of political motivations. Concurrently, this approach does not seem to result from a particularly ideational

point of view, as, in principle, distant low-income countries are no less worthy of aid than geographically closer ones.

Regarding one of the largest donors in terms of volume (though not proportionally), it is noteworthy that the United States did not score significantly in any of the extracted factors, which implies that its aid allocation pattern differs markedly from those prevailing for most European and Asian donors. As can be inferred from Figures 1–6, the United States' aid does not specifically target African low-income, Eastern European, or Asian island nations; rather, it focuses on a variety of beneficiaries, including, in addition to some countries in those categories, Middle Eastern and Central American recipients.

These results reveal the importance of both securitarian motivations (whereby ODA is used as an instrument to strengthen donors' national security, especially regarding threats related to terrorism, trafficking of illicit substances, or illegal immigration) and ideological motivations (when aid is a way of promoting beneficiaries' adoption of specific policies or models).



**Figure 6.** Score plot for principal-component factors (1 and 4) of aid allocation by recipient.

The possible relevance of historical structural links between the United States and several Middle Eastern and Central American recipients should also be noted, as they can be seen as an added incentive to provide aid.

With regard to the three Arab donors in the sample (Kuwait, the United Arab Emirates, and the Islamic Development Bank), it can be concluded that these also rely on criteria that are distinct from those prevalent in the main donor clusters, as none scored significantly in any of the four factors associated with them. However, with regard to the Islamic Development Bank, the almost significant Factor 3 value could be interpreted as reflecting the importance of recipients that are at least partially Muslim and are also former African colonies that receive a relevantly large proportion of aid from the former colonial power (particularly in the case of France).

A similar situation of non-significance across all the factors can be seen in the case of Russia. This result suggests that Russia's criteria for aid allocation are markedly different from those that most Western donors apply.

On the other hand, it needs to be noted that negative scores in all factors are associated with recipients where the weighting of aid for the respective GDP is relatively low. This situation is particularly common in upper middle-income countries, such as China, Mexico, Brazil, Venezuela, Argentina, Malaysia, Chile, Algeria, and Colombia.

With regard to multilateral institutions, it is noteworthy that the three major institutions involved in global activity, namely the EU, the UN, and the World Bank, all scored significantly in both Factors 1 and 3, with fairly similar values. This result was expected, as these institutions are influenced by their shareholders, which results in an allocation that is in line with the principle of a relatively wide distribution in diversified geographical areas, with a special focus on the lowest-income countries, as well as being influenced by certain structural links between donors and recipients.

## 5. Conclusions

This study assesses possible distinct patterns of behavior that characterize different bilateral and multilateral

donors with regard to ODA volume and choice of recipients.

A contextual framework for aid allocation is outlined, in which the amount of ODA a certain beneficiary receives from a certain donor is the result of a complex interaction between two distinct but related components: donors' motivations (ideational, political, commercial, securitarian, or cultural) and recipients' characteristics (which comprise invariant structural conditions, stable structural conditions, domestic policies, and exceptional events).

Additionally, a quantitative assessment is applied, using principal-component factor analysis for the period 1990–2015, to detect long-term trends and avoid one-off events. The variable analyzed is the average weighting of the ODA granted by each donor in each recipient's GDP.

This study contributes to expanding the knowledge on aid allocation, as it comprises a detailed contextual theoretical framework and uses the methodology of principal component factor analysis to identify clusters of donor behavior and recipients. Furthermore, this study's focus on long-term analysis implies the use of a different methodology the one utilized in a significant proportion of previous studies that relied on data comprising short consecutive time periods. Moreover, the present study covers a larger number of donors (40 bilateral and 11 multilateral) than previous research and presents an indicator of their individual behavior.

Interpretation of the principal component factor analysis results enabled the identification of four distinct clusters of donor aid allocation behavior:

- The proportionally largest donors, mainly Western European donors (comprising Norway, Finland, Sweden, the United Kingdom, Germany, Italy, Canada, Ireland, Denmark, Switzerland, and the Netherlands), which are characterized by a relatively broad set of beneficiaries in diversified geographical areas, with a special focus on the lowest-income countries, many of which are involved in situations of conflict or post-conflict and are therefore assumed to be receiving aid mainly due to donors' ideational considerations, although political considerations could also be present.
- Donors predominantly driven by structural links with recipients (France, Portugal, Belgium, and, to a lesser extent, Spain and the Netherlands), especially those derived from colonial or linguistic connections, particularly in Africa. These donors focus their aid on a relatively smaller number of recipients and reflect the moral duty to provide aid to former colonies, which is associated with ideational motivations, but

can also reflect commercial, cultural, or political motivations arising from a desire to expand bilateral trade and investment, promote the national language, or increase influence and prestige.

- A group of mainly Central and Eastern European donors (comprising Latvia, Estonia, Czech Republic, Romania, Poland, Hungary, and Lithuania, as well as Israel) that are engaged with a more limited number of partners and primarily with geographically close lower-income countries in Eastern Europe and Western Asia.
- A group of Asian and Oceanian donors (Japan, New Zealand, Korea, Australia, and Taiwan) that select their partners mainly based on the geographical proximity criterion, evidenced by the allocation of aid to several island countries in the Pacific region. This reflects the possible prevalence of political motivations and not necessarily ideational ones because, in principle, distant low-income countries are no less worthy of aid than geographically closer ones.

It is also concluded that most other donors, such as the United States, certain Arab countries, and Russia, do not fit into any of the identified clusters, which means that their aid allocation criteria seem to differ markedly from those that largely prevail for European and Asian donors.

With regard to multilateral organisms, it is of note that the three major global institutions (the EU, the UN, and the World Bank) all show an allocation pattern that lies between that of the proportionally largest bilateral donors and the donors predominantly driven by structural links with recipients. This result reflects the different influences shareholders exert.

The empirical literature related to the assessment of the macro-effects of aid has reached notably different conclusions. One set of papers have concluded that aid is positive for growth under all circumstances, while others have established that a positive impact is only evident in certain policy environments, or for aid granted by particular donors or with certain motivations. On the contrary, another set of papers have concluded that aid does not appear to have a positive impact on growth in most developing countries, regardless of the policy environment or donors' motivations. Furthermore, according to studies carried out at the micro level, such as specific project assessments, aid seems to have consistent positive effects on recipients, which raises the possibility of a micro–macro paradox.

Donors' motivations and behaviors are acknowledged in the literature as elements that are of particular relevance for assessing the impact of aid flows in



beneficiary countries. For example, Bobba (2007) concluded that donors' allocation policies, and not recipients' policies, constitute the most important factor determining aid effectiveness, while Kilby and Dreher (2010) asserted that aid has a significant impact on growth when it is motivated by recipients' needs, rather than by other objectives. Minoiu and Reddy (2010) determined that aid has a robust effect on subsequent growth when it is developmental (that is, granted by 'good' donors), whereas non-developmental aid is mostly neutral or negative. Minasyan, Nunnenkamp, and Richert (2017) and Wako (2017) established that only beneficiaries that receive high-quality aid benefit in terms of increased growth, while De Matteis (2013) concluded that aid is more effective in terms of poverty reduction and growth when its allocation is driven by a poverty focus.

Therefore, the identification of aid allocation patterns is of paramount importance to fully understand the issues regarding the effectiveness of aid, particularly at the macro level, for which the available empirical literature does not provide a clear answer. This paper provides a framework of donor–recipient associations that can be informative when assessing the motivations underlying the granting of aid and its subsequent categorization, which, in turn, could support studies on aid effectiveness that consider donor motivations as a relevant factor to ponder.

Further research on the subject could especially address the inclusion of data from donors that are still not covered by the OECD's data collection and processing system (such as China and Brazil), as a means of assessing whether their aid allocation patterns are similar to those utilized by the donors analyzed in our research.

## Notes

1. The OECD (2013, 13) has outlined the concept of ODA as follows, and this definition was in force until the collection of the 2017 data:  
'Official development assistance is defined as those flows to countries and territories on the DAC List of ODA recipients and to multilateral development institutions which are:  
(i) provided by official agencies, including state and local governments, or by their executive agencies; and  
(ii) each transaction of which: (a) is administered with the promotion of the economic development and welfare of developing countries as its main objective; (b) is concessional in character and conveys a grant element of at least 25 per cent (calculated at a rate of discount of 10 per cent).'
2. Cook Islands, Democratic People's Republic of Korea, Kosovo, Marshall Islands, Montserrat, Nauru, Niue,

Palau, Saint Helena, South Sudan, Tokelau, Tuvalu, Wallis and Futuna, and West Bank and the Gaza Strip.

3. See Appendix 1 for the complete list of the 132 countries and territories retained.
4. The following countries and territories were removed from the DAC List of ODA Recipients between 1990 and 2015: Portugal (1991); French Guyana, Guadeloupe, Martinique, Réunion, and Saint Pierre and Miquelon (1992); Greece (1995); Bahamas, Brunei, Kuwait, Qatar, Singapore, and the United Arab Emirates (1996); Bermuda, Cayman Islands, Chinese Taipei, Cyprus, Falkland Islands (Malvinas), Hong Kong (China), and Israel (1997); Aruba, the British Virgin Islands, French Polynesia, Gibraltar, Korea, Libya, Macau (China), the Netherlands Antilles, New Caledonia, and the Northern Marianas Islands (2000); Malta and Slovenia (2003); Bahrain (2005); Saudi Arabia and Turks and Caicos Islands (2008), Barbados, Croatia, Mayotte, Oman and Trinidad and Tobago (2011); Anguilla and Saint Kitts and Nevis (2014).
5. The data for the following countries start in each of the mentioned years: Armenia, Azerbaijan, Georgia, and Micronesia (1991); Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan (1992); Eritrea, Former Yugoslav Republic of Macedonia, and South Africa (1993); Serbia (1994); Moldova (1997); Timor Leste (1999); Montenegro (2003); Belarus and Ukraine (2005).

## Disclosure statement

No potential conflict of interest was reported by the author(s).

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## Appendix 1

List of the 132 developing countries and territories included in the study

<i>Af</i>	Afghanistan	<i>Ga</i>	Gabon	<i>Ne</i>	Niger
<i>Al</i>	Albania	<i>Gm</i>	Gambia	<i>Ng</i>	Nigeria
<i>Dz</i>	Algeria	<i>Ge</i>	Georgia	<i>Pk</i>	Pakistan
<i>Ao</i>	Angola	<i>Gh</i>	Ghana	<i>Pa</i>	Panama
<i>Ag</i>	Antigua and Barbuda	<i>Gd</i>	Grenada	<i>PG</i>	Papua New Guinea
<i>Ar</i>	Argentina	<i>Gt</i>	Guatemala	<i>Py</i>	Paraguay
<i>Am</i>	Armenia	<i>Gn</i>	Guinea	<i>Pe</i>	Peru
<i>Az</i>	Azerbaijan	<i>Gw</i>	Guinea-Bissau	<i>Ph</i>	Philippines
<i>Bd</i>	Bangladesh	<i>Gy</i>	Guyana	<i>Rw</i>	Rwanda
<i>By</i>	Belarus	<i>Ht</i>	Haiti	<i>Lc</i>	Saint Lucia
<i>Bz</i>	Belize	<i>Hn</i>	Honduras	<i>Vc</i>	Saint Vincent and the Grenadines
<i>Bj</i>	Benin	<i>In</i>	India	<i>WS</i>	Samoa

<i>Bt</i>	Bhutan	<i>Id</i>	Indonesia	<i>ST</i>	São Tomé and Príncipe
<i>Bo</i>	Bolivia	<i>Ir</i>	Iran	<i>Sn</i>	Senegal
<i>Ba</i>	Bosnia and Herzegovina	<i>Iq</i>	Iraq	<i>Rs</i>	Serbia
<i>Bw</i>	Botswana	<i>Jm</i>	Jamaica	<i>Sc</i>	Seychelles
<i>Br</i>	Brazil	<i>Jo</i>	Jordan	<i>SL</i>	Sierra Leone
<i>BF</i>	Burkina Faso	<i>Kz</i>	Kazakhstan	<i>Sb</i>	Solomon Islands
<i>Bi</i>	Burundi	<i>Ke</i>	Kenya	<i>So</i>	Somalia
<i>CV</i>	Cabo Verde	<i>Ki</i>	Kiribati	<i>ZA</i>	South Africa
<i>Kh</i>	Cambodia	<i>Kg</i>	Kyrgyzstan	<i>Lk</i>	Sri Lanka
<i>Cm</i>	Cameroon	<i>La</i>	Lao People's Democratic Republic	<i>Sd</i>	Sudan
<i>Cf</i>	Central African Republic	<i>Lb</i>	Lebanon	<i>Sr</i>	Suriname
<i>Td</i>	Chad	<i>Ls</i>	Lesotho	<i>Sz</i>	Eswatini
<i>Cl</i>	Chile	<i>Lr</i>	Liberia	<i>Sy</i>	Syrian Arab Republic
<i>Cn</i>	China (People's Republic of)	<i>Ly</i>	Libya	<i>Tj</i>	Tajikistan
<i>Co</i>	Colombia	<i>Mg</i>	Madagascar	<i>Tz</i>	Tanzania
<i>Km</i>	Comoros	<i>Mw</i>	Malawi	<i>Th</i>	Thailand
<i>Cg</i>	Congo	<i>My</i>	Malaysia	<i>TL</i>	Timor-Leste
<i>CR</i>	Costa Rica	<i>Mv</i>	Maldives	<i>Tg</i>	Togo
<i>CI</i>	Côte d'Ivoire	<i>MI</i>	Mali	<i>To</i>	Tonga
<i>Cu</i>	Cuba	<i>Mr</i>	Mauritania	<i>Tn</i>	Tunisia
<i>CD</i>	Democratic Republic of the Congo	<i>Mu</i>	Mauritius	<i>Tr</i>	Turkey
<i>Dj</i>	Djibouti	<i>Mx</i>	Mexico	<i>Tm</i>	Turkmenistan
<i>Dm</i>	Dominica	<i>FM</i>	Micronesia	<i>Ug</i>	Uganda
<i>Do</i>	Dominican Republic	<i>Md</i>	Moldova	<i>Ua</i>	Ukraine
<i>Ec</i>	Ecuador	<i>Mn</i>	Mongolia	<i>Uy</i>	Uruguay
<i>Eg</i>	Egypt	<i>Me</i>	Montenegro	<i>Uz</i>	Uzbekistan
<i>Sv</i>	El Salvador	<i>Ma</i>	Morocco	<i>Vu</i>	Vanuatu
<i>Gq</i>	Equatorial Guinea	<i>Mz</i>	Mozambique	<i>Ve</i>	Venezuela
<i>Er</i>	Eritrea	<i>Mm</i>	Myanmar	<i>Vn</i>	Viet Nam
<i>Et</i>	Ethiopia	<i>Na</i>	Namibia	<i>Ye</i>	Yemen
<i>Fj</i>	Fiji	<i>Np</i>	Nepal	<i>Zm</i>	Zambia
<i>Mk</i>	F. Yugoslav Rep. of Macedonia	<i>Ni</i>	Nicaragua	<i>Zw</i>	Zimbabwe