

Progressiveness in the financing of public foreign aid for development

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Abstract. *How should the aid financial burden be distributed across donor Governments? This article discusses the ‘distributive justice’ of the current aid-financing pattern, and advocates a progressive rationale in which citizens from donor countries with higher living standards contribute proportionally more than citizens from countries with lower living standards. For this purpose, we conceive public foreign aid as a tax mechanism for redistributing income on a worldwide scale. The progressivity analysis for 33 bilateral donors using concentration curves and Suits indexes shows that the current distribution of the aid burden is insufficiently progressive. Finally, we argue that a progressive exaction scheme will improve the distributive justice of the aid system.*

Key words. Distributive justice, foreign aid for development, Official Development Assistance (ODA), progressivity, aid financing

JEL classification. F35, O19, I30, C5

1. Introduction

There is no doubt that a certain amount of international aid is needed to help poor people from developing countries to reach higher levels of human development. In the European Union, despite the severity of the economic recession, the last Eurobarometer on development aid clearly showed strong public support for this policy, with 89% of Europeans believing that it is important and 64% being in favour of honouring or exceeding the 0.7% aid target by 2015—the deadline for achieving the Millennium Development Goals— (European Commission, 2010). To some extent, these opinions reveal public support for the ‘internationalization’ of the welfare State policies and an extension of its responsibilities on the global stage.¹

If citizens from different donor countries support the public financing of *foreign aid for development*, an immediate question arises:² how should the aid financial burden be distributed across donor Governments? However immediate, this question has received limited attention in the development studies debate, despite the fact that foreign aid has already been disbursed for more than 60 years with no clear ‘rationale’ for distributing the aid financial burden. The 0.7% target offers a simple—yet dubious—rationale: all donors should contribute the same amount of aid in relation to their gross national incomes (GNI), regardless of their abilities to finance public policies. The result of this approach has been fairly disappointing: in 2011, only five country members of the Development Assistance Committee (DAC) (out of 23 donors) fulfilled this commitment. Several limitations of the 0.7% target explain this outcome; among others, it is worth mentioning that a fixed ODA target does not weight the dissimilar levels of development among donor countries, which means that this aid exaction approach is not progressive. This non-progressivity of aid also has important political implications in the current times of

economic recession, which are especially acute in OECD countries, where the pressing demands for fiscal austerity are also threatening the aid budgets (for the majority of these countries, these are already well below the 0.7%) and citizens are vindicating more progressivity in the financing of public policies. Moreover, as Clemens *et al.* (2007) convincingly explain, the 0.7% target was never intended to be a proposal for the appropriate level of aid but a tool to lobby rich Governments to finance aid budgets.³ Even more—in the opinion of these authors—the 0.7% target ‘is an arbitrary figure based on a series of outdated assumptions going into a dubious model and measured against the wrong metric’ (Clemens *et al.*, 2007:23).

From the interdisciplinary point of view of the distributive theory of justice, public foreign aid can be conceived as a tax mechanism for redistributing income on a worldwide scale, raising resources from the best-off (developed and emerging) countries and transferring them to the worst-off (developing) countries. The aid (tax) policy can be used as a ‘real-world’ tool with the aim of achieving greater distributive justice in the world. Hence, if we conceive aid as a tax, the ‘fairness’ of this system (in terms of a socially accepted criterion of justice) must be evaluated as part of the overall system of public policies that it helps to create (Murphy and Nagel, 2002). Therefore, the overall ‘distributive justice’ of aid should be analysed from a double perspective: first, how fairly is the aid financial burden distributed among donor countries? (the ‘financial side of aid fairness’); and, second, how fair is the eventual allocation of aid resources among recipient countries? (the ‘allocation side of aid fairness’).

Starting with the last question, the extensive literature on the geographical allocation of aid categorically shows that aid is not allocated purely for altruistic reasons and therefore it is not particularly consistent with the international development commitments claimed by donors⁴. In reality, aid is distributed in a fairly ‘eclectic’ way, so that developing countries with greater political, historical and cultural affinities with donors, as well as countries with greater economic

and geo-strategic importance to donors, tend to receive more aid than other countries with similar —or greater— levels of need. There is compelling evidence, therefore, that the aid allocation pattern is not contributing to the desired level of fairness in the aid system.

This article shall be constrained to contribute to the first question (the financial side of aid fairness), discussing the distributive justice of the current aid-financing pattern and advocating a clearer and fairer financial rationale in which citizens from donor countries with higher living standards contribute proportionally more than citizens from countries with lower living standards (i.e. a ‘progressive’ aid-financing scheme). Within this context, it is legitimate to ask the following question: if most taxes are collected in a reasonably progressive way in OECD countries (especially in the European Union), why should we not proceed towards a progressive scheme for financing aid on a worldwide scale?

The remainder of this article is structured in six parts. The next section explains the concept of distributive justice and applies it to the analysis of the progressive financing of aid. The paper then turns to analysing the level of progressivity of the distribution of the aid financial burden among 33 bilateral donors (23 DAC donors and 10 non-DAC donors). Section three explains the methodology for the construction of two useful instruments for measuring the progressivity of the financing of aid: the relative concentration curve and the Suits index. Section four describes the data used in the analysis. Section five explains the results of the analysis and exemplifies a progressive approach for distributing the financial burden of aid across donor countries. Finally, the paper concludes by summarising the main results and explaining some implications for the system of public foreign aid for development.

2. *Distributive justice in financing public foreign aid for development*

Which is the ‘fairest’ way to distribute the financial burden of aid among donor Governments?

To answer this question we first need to review briefly the interdisciplinary debate on ‘distributive justice’, which has been richly nurtured by political philosophers, political scientists, economists and law theorists.

As it was previously stated, from the viewpoint of the distributive theory of justice, public aid can be conceived (and analysed) as a mechanism intended to redistribute income on a worldwide scale. Indeed, aid resources are financed through taxes paid by the citizens of relatively rich donor countries and received by the citizens of developing countries. Within this context, two main dimensions of *equity* need to be considered when designing a ‘fair’ aid (tax) system:⁵ *horizontal equity* (i.e. people in equal positions should be treated equally) and *vertical equity* (i.e. people in unequal positions should be treated unequally, favouring the worst-off). Whereas the principle of horizontal equity of taxation is commonly agreed, the principle of vertical equity is more controversial. This is a notable issue, as for vertical equity to be achieved, horizontal equity must also prevail, whereas horizontal equity may coexist with vertical inequities (Musgrave, 1990 and 2002). This is the reason why ‘vertical equity, after all, is a part of the larger problem of distributive justice, an issue that has no simple answer’ (Musgrave, 2002: 9). As we will see below, the answer is even less simple for the aid-financing debate.

A common method in welfare States for increasing vertical equity is to design ‘progressive’ tax systems; that is, ‘a taxation scheme in which the amount of tax paid as a proportion of the tax base rises’ (Vickrey and Ok, 2008). Applied to the aid system, a progressive collection of resources across donors’ Governments will contribute to both greater vertical and greater horizontal equity, thus operating as a redistributive mechanism —at least from the aid financial side.

However, as tax systems must be evaluated as part of the overall system of public policies to which they belong, a flat tax (such as the 0.7% aid target) can be redistributive, or not, depending on the Governments' eventual allocation of revenues (Surgin, 2004). Therefore, if the 0.7% target formed part of an integrated public international scheme that used revenues in a redistributive manner in order to improve the capabilities of the least well-off citizens of the world, then it would be progressive. Yet —as it was previously explained— the aid system does not seem to meet this condition of the redistributive allocation of resources, which a priori renders any flat scheme non-progressive.

Still, the link between 'progressivity' and 'distributive justice' is not straightforward. Several schools of thought have argued, from very different perspectives, in favour of 'ability-to-pay' — progressive— tax systems for a just distribution of the tax burden imposed by raising a given amount of revenue. For example, Adam Smith asserted that:

The subjects of every state ought to contribute towards the support of the government, as nearly as possible in proportion to their respective abilities, that is in proportion to the revenue which they respectively enjoy under the protection of the state. (Smith, 1776, p. 310)

Moreover, Marx and Engels's (1848) *Communist Manifesto* proposed 'a heavy progressive or graduated income tax' (p. 26) for a very different purpose: as a powerful mechanism for redistributing the capital from the bourgeois to the proletarian State, and thus eventually building a more equal and fair society.

In the same year but with a contrary approach, John Stuart Mill (1848) offered in his *Principles of Political Economy* a justification for levying 'proportional' taxes. He conceived the burden of taxation as a 'sacrifice' made when the tax is paid, and assumed that the marginal utilities of

income and sacrifice fall as income rises, and that similar marginal utilities of income schedules apply to all individuals. Within this conception, Mill called for the sacrifice to be ‘proportional’ to the taxpayers’ pre-tax level of welfare.

As a government ought to make no distinction of persons or classes in the strength of their claims on it, whatever sacrifices it requires from them should be made to bear as nearly as possible with the same pressure upon all [...] Equality of taxation, therefore, as a maxim of politics, means equality of sacrifice (Mill, 1848, p. 804).

However —as Young (1990) pointed out— Mill’s principle of ‘equal sacrifice’ does not necessarily imply progressiveness, but rather that everyone should suffer the same ‘absolute’ loss of utility. Indeed, Mill originally believed that progressive taxation penalizes those who work harder and save more, and labelled it as ‘a mild form of robbery’.

Nevertheless, Mill’s ideas gave rise, in the twentieth century, to the development of the utilitarian theory that defended the use of progressive tax systems. From this perspective, distributive justice demands that the welfare of all human beings should be factored in and maximized; hence, in the matter of taxation, they called for equal ‘marginal’ sacrifice. From this perspective, progressive taxes maximize the society’s aggregate welfare by taxing the rich (whose marginal utility of income is supposed to be low) proportionally more than the poor (whose marginal utility of income is supposed to be higher) (for example, Edgeworth, 1910; Pigou, 1928; Hayek, 1960).⁶

The strongest support for progressive taxes came from the post-welfarist conception of distributive justice. This approach argues that the society must choose a ‘social contract’ expressing its judgement of what constitutes social justice. This conception of distributive justice

was developed by the North American political philosopher John B. Rawls, who attempted to reconcile ‘freedom’ and ‘equality’ in a principled way, offering a conception of ‘justice as fairness’. In his influential book *A Theory of Justice*, Rawls defended the premise that inequalities originating from the existence of different ‘natural disadvantages’ and ‘social circumstances’ are unfair, and thus ‘well-ordered societies’ require the implementation of adequate mechanisms to promote equality (Rawls, 1971).

In particular, Rawls thought that individuals may agree upon some basic principles of social justice if they were to choose among alternative states of distribution in an impartial fashion (‘from behind the veil of ignorance’), without knowing their own ultimate position in the chosen distribution (what Rawls called the ‘original position’). Two principles of social justice arose from this thought experiment. The first one is the *liberty principle*, which states that ‘each person is to have an equal right to the most extensive basic liberty compatible with a similar liberty for others’ (Rawls, 1999: 53). The two-part second principle states that social and economic inequalities are to satisfy two conditions: they are to be attached to positions and offices open to all under conditions of fair equality of opportunity (the *principle of equality of opportunity*), and they are to be of the greatest benefit for the least advantaged members of society (the *difference principle*).

In the particular issue of taxation, Rawls conceived the tax system as a ‘means’ of achieving distributive justice, rather than as a requirement of justice itself.⁷ Yet, Rawls (1999) stressed that taxes are the mechanism by which Governments raise revenues in order to provide public goods and satisfy the requirements of democracy and equality of opportunities.⁸ Therefore —as Surgin (2004) pointed out— Rawls’s principles would preclude a system of taxation that collects insufficient total revenue to support the public institutions that are necessary for fair equality of opportunity. Specifically, Rawls (1999: 119) himself proposed a global tax (what he called the

‘general resource dividend’) to assist the poorest countries of the world —although, as we have explained before, the actual allocation of aid does not resemble Rawls’s proposal—. Within this perspective, aid can be treated as a ‘means’ of achieving distributive justice on a worldwide scale, both directly in the form of transfer payments to the neediest developing countries and indirectly through the provision of international public goods.

Following Musgrave’s (2002) interpretation of this post-welfarist conception of distributive justice, the design of a progressive tax can be understood as a problem of choice under uncertainty that depends on risk aversion: assuming extreme risk aversion, rational economic agents will choose the *maxi-min* distribution of the tax burden, which maximizes the welfare of the worst-off; in this way, a utilitarian view of distribution as a matter of rational choice is retained, but subordinated to an ethical premise of justice.⁹

The case for progressive taxation follows from acceptance of the ethical premise of equal worth and a setting in which individuals will agree to choose impartially. Against this background, the case for progressive taxation holds up, not based on dubious clinical assumptions, but on what might be called good manners in a democratic society. (Musgrave, 2002, p.17)

All in all, it is possible to apply this post-welfarist rationale to the distribution issue of raising a given amount of aid: taxpayers (that is, donor countries) have to choose among alternative rate schedules that yield the required aid budget. If they were to choose from behind the ‘veil of ignorance’ (that is, without knowing what their applicable rate bracket will be), the *maxi-min* rule (inequality only if it benefits the worst-off) will predict a progressive aid-financing scheme, with proportionally more aid collected from the best-off countries. Moreover, a progressive financing scheme of aid would best serve both the requirement of horizontal equity across donor countries and the requisite of vertical equity in the distribution of the aid-burden.¹⁰

Before finishing this quick review of distributive justice's foundations for applying a progressive scheme for financing aid, two caveats apply when moving the analysis from the national level (taxes) to the international level (aid).¹¹

First, it is worth noting that Rawls's (1971) original conception of distributive justice applies only to members of a 'cooperative venture for mutual advantage'; therefore, national assistance transfers satisfy this prerequisite, but international aid does not. This is the reason why Rawls's 'scoop of justice' —the account specifying *from whom* and *to whom* resources should be distributed— is considered 'communitarian' (i.e. within one nation, what Rawls called a 'people'), in contrast with the 'cosmopolitan' conception that claims that there are universal principles of distribution that must be applied globally, to all human beings (such as Pogge, 1994; Barry, 1999; Beitz, 1999; Caney, 2005; and, more recently, Sen, 2009). Beyond this debate, as Conybeare (2008) neatly explained, it is reasonable to think that human beings are less willing to engage in redistribution when the beneficiaries are beyond their borders. What is more, States may be even less willing to do so than individuals within nations (the EU being a notable exception, as it has effected major redistributions across its member States). This reluctance may be due to a number of reasons, such as the heterogeneity of goals and values between donors and recipients, the lack of formal political commitment between the donor's Government and the recipient's citizens, the opportunistic behaviours in some beneficiary countries, the lack of secure norms of reciprocity in the international arena and the lack of direct benefits to the taxpayers.

Second, Milanovic (2008) warned that the fact that aid resources flow from rich to poor countries is not a sufficient condition for progressivity, because it does not take into account the income distributions between donor and recipient countries. In fact, aid transfers will not be

progressive unless we can be sure that the average taxpayer in the donor country is richer than the average beneficiary in the recipient country.¹²

3. Methodology: measuring aid-financing progressiveness

The methodology used to evaluate the distribution of aid financial burdens across donor Governments is that of the relative concentration curve and its statistical counterpart, the Suits index. In accordance with this approach —commonly used in tax analysis— the financing of aid is considered progressive if donor countries with higher living standards contribute proportionally more than donor countries with lower living standards.

On one hand, the relative concentration curve provides a useful graphical device for showing whether the distribution of a tax burden among economic agents (in this case, donor Governments) is progressive or regressive (Kakwani, 1977; Suits 1977). In our case of study, the concentration curve plots the cumulative percentage of the aid financial burden (y -axis) against the cumulative percentage of income, ranked by living standards beginning with the poorest country and ending with the richest (x -axis).¹³ Therefore, if most aid is financed by the richest donors, then the concentration curve will lie below the diagonal line (and vice versa). For example, reading from left to right on the concentration curve, the graph depicts the donor countries ranked from the relatively poorest to the relatively richest. Each segment of the curve corresponds to one donor, and the longitude of each segment is proportional to each country's contribution to the aggregate aid and income. More precisely, the vertical distance of each segment represents each country's participation in the sample's aggregate aid, and the horizontal distance represents each country's participation in the sample's aggregate income. Therefore, in the case of progressive distribution of the aid financial burden, the concentration curve will initially have a slope under 45 degrees (i.e. below the leading diagonal), and this slope will

gradually increase as the curve moves to the right side of the graph (i.e. where the countries with the highest living standards are located).

On the other hand, the so-called Suits index was developed by Daniel Suits for analysing the progressivity of a tax system, and it was first applied to the case of the United States (Suits, 1977).¹⁴ The index —inspired by and related to the Gini ratio— ascribes a numerical value to the relative concentration curve, varying from +1 at the extreme of progressivity (where the entire aid burden is borne by the citizens of the richest donor country), through 0 for a proportional aid burden (as in the 0.7% case),¹⁵ to -1 at the extreme of regressivity (at which the entire aid burden is borne by the citizens of the poorest donor country).¹⁶

It is worth noting that —as Suits (1977: 752) warned— ‘income distribution is central to the very concept of progressivity’. In fact, there is nothing inherently regressive about the 0.7% approach. In reality it is neutral (or even regressive) because income is unequally distributed among donors, and the more unequally income is distributed, the more regressive the 0.7% approach becomes.

The use of concentration curves for the analysis of aid flows was first proposed by Mosley (1987) and later applied by Clark (1991, 1992), White and McGillivray (1995), Baulch (2006) and Tezanos (2008b and 2010). However, these previous analyses evaluated the distribution of aggregate aid among developing countries, thus treating aid as a ‘subsidy’. In contrast, the present analysis of the distribution of the aid financial burden treats aid as a ‘tax’. Consequently, the Suits index has opposite signs in these two types of analysis.

All in all, the concentration curve and the Suits index are useful tools for synthesizing complex distributional information into a single graph and a summary statistic. However —it should be

pointed out— when comparing two or more alternative distributions, the Suits index has the same limitation as the Gini coefficient: it can be an ambiguous measure of the progressivity of the distribution when two concentration curves cross (Baulch, 2006).

4. Data

We analyse the aggregate net resources classified by the OECD-DAC as Official Development Assistance (ODA)¹⁷. The sample of analysis includes 33 bilateral donors: 23 DAC countries and 10 other donors that are not members of this Committee but that do report information. Disbursements rather than commitments of ODA are used because they are the most accurate measure of how much aid a donor actually finances. We include both bilateral and multilateral donor countries' ODA contributions. The aid data are aggregates of the last two available years, 2009 and 2010.

We use the gross national income (GNI) as a measure of each country's economic size (the sum of the last two available years, 2009 and 2010).

Finally, we use the 2009 per capita gross domestic product (GDP), adjusted for purchasing power parity (PPP), to rank countries by their average economic welfare at the beginning of the period of analysis.

5. How progressive is the financing of aid?

The distribution of the aid burden among the 33 analysed donor countries in 2009/10 was almost neutral (in terms of progressivity), with a Suits index of 0.0004 (**Figure 1**). The first section of the concentration curve passes under the leading diagonal (in fact, the 0.7% line) due to the less

than proportional contribution of the 13 donors with the lowest per capita incomes (Thailand, Turkey, Hungary, Poland, the Slovak Republic, Portugal, the Czech Republic, Slovenia, Israel, New Zealand, Korea, Greece and Italy), all of which had ODA shares lower than their respective GNI shares.¹⁸ Spain and France are the first two countries (in increasing order of per capita income) with greater ODA shares than GNI shares. Of the remaining 18 countries (the exceptions are Japan, Iceland and the USA), 15 contributed higher quotas of ODA than their respective shares in the aggregate income, which makes the concentration curve steeper and therefore it crosses the leading diagonal.

In fact, this neutrality of the distribution of the aid financial burden is driven by the fact that the first part of the curve (located under the leading diagonal) is compensating for the next segment (positioned over the diagonal), thus rendering the Suits index very close to zero. Moreover, it is in reality the participation of the non-DAC donors (all of them, except the United Arab Emirates and Iceland, located in the lowest part of the per capita income rank) that is improving the overall progressivity. Thus, the Suits index for the 23 DAC countries reveals a clear regressive pattern of aid financing (-0.033), mostly driven by the insufficient progressivity among some of the richest donors (**Figure 2**).¹⁹

Regarding the 0.7 aid target, it has —by definition— a Suits index equal to zero, drawing the leading diagonal of the graph, and it is thus neutral in terms of progressivity. However, this fixed rate of contributions neglects the notable disparities that exist among donor countries in terms of living standards and abilities to finance aid. In our sample, this means that the PPP per capita incomes range from the 7,160 dollars of Thailand to the 69,856 dollars of Luxemburg (a 9.76 times difference), which makes the 0.7 approach both unfair (in post-welfarist terms) and —as we will argue later— very unlikely to be fulfilled.

In this context, which countries are causing the insufficient progressiveness of the current distribution of the aid financial burden? A preliminary way to identify them is to calculate the differences between each country's ODA share and its income share (**Table 2**, column 13). The two countries with the largest differences are the USA (the biggest ODA contributor) and Japan (the fourth contributor). However, this simple procedure does not take into account the position of each country in the per capita GDP ranking, and thus a more nuanced analysis is needed to identify the causes of the insufficient financial progressiveness of aid.

A possible solution for increasing the progressiveness of the distribution is to apply a progressive exaction scheme for financing aid in such a way that richer donor countries contribute proportionally more than poorer countries. An example is depicted in **Figure 3**, where each country's ODA/GNI ratio (the so-called 'aid effort') is plotted against its corresponding GDP per capita. A hypothetical line of progressiveness is drawn in the graph by means of an exponential linear regression that is typical of progressive taxes.²⁰ In accordance with this tentative analysis, the regression lines suggest that the majority of the donor countries are actually financing aid in a fairly progressive way—that is, they lie fairly close to the regression line.²¹

For example, a country like Spain (with a per capita income of \$27,075 and an aid effort of 0.46%) is located above the regression line that marks a progressive scheme (i.e. its aid effort is actually higher than that proposed by the model) (see **Table 2**, columns 6 and 12). A Nordic country like Sweden contributes proportionally more to the aid budget than its per capita income level (\$32,196) predicts, like other neighbouring countries such as Norway, Denmark and the Netherlands (all of them located far above the progressivity line, and also above the 0.7% target). In contrast, Japan's ODA effort is slightly lower than the model prediction (given its \$29,372 per capita income). A remarkable fact is that only a limited number of countries are far from fulfilling this progressive exaction scheme, lying under the progressivity line. The three most

notable cases are Israel, the USA and Luxembourg, with per capita income levels (\$25,325, \$41,735 and \$69,856, respectively) proportionally much higher than their ‘limited’ aid efforts (0.07%, 0.21% and 1.09%, respectively).

Finally, if aid burden quotas were raised according to this hypothetical progressive scheme, there would be a notable increase in the overall progressivity. The third concentration curve in **Figure 1** (‘progressive scheme’) illustrates this scenario. Substituting the actual GDP shares of each country in the regression line written in Figure 2, and working out the corresponding ODA shares, we depict the resulting concentration curve. In this case, the Suits index rises to a high progressivity level of +0.22. Furthermore, if donors were willing to fulfil this hypothetical progressive scheme, the ODA collection would increase by 9.5%.

6. Conclusions and implications

A manifest deficiency of the aid system is the absence of a clear sense of ‘distributive justice’, both in the way the resources are collected from donors’ citizens and in the way these resources are eventually allocated to the citizens of the developing world. This article tries to contribute to the financing side of this ‘aid fairness dilemma’ by asking the following legitimate question: how should the aid financial burden be distributed across donor Governments?

For this purpose, we conceive public foreign aid as a tax mechanism for redistributing income on a worldwide scale, raising resources from the best-off (developed and emerging) countries and transferring them to the worst-off (developing) countries. From the viewpoint of the distributive theory of justice, we argue that a fair aid-financing scheme needs to meet both the principle of horizontal equity —people in equal positions should be treated equally— and the principle of vertical equity —people in unequal positions should be treated unequally, favouring the worst-

off—. Given the fact that achieving vertical equity in the aid system also requires horizontal equity to prevail, and that horizontal equity may coexist with vertical inequities, we argue that the design of a progressive aid-financing scheme would best serve both the requirement of horizontal equity across donor countries and the requisite of vertical equity in the distribution of the aid financial burden, thus rendering the aid system a real redistributive mechanism (at least from the financing side).

The applied analysis of this paper evaluates the level of progressivity of the distribution of the aid financial burden across 33 bilateral donors (23 DAC donors and 10 non-DAC donors). For this purpose we use two common tools for the analysis of tax progressivity: the relative concentration curve and the Suits index. This procedure shows that the 2009/10 distribution of the aid burden across donor countries was insufficiently progressive (with a Suits index of +0.0004). In fact, this neutrality of the distribution is driven by the participation of the non-DAC donors (all of them, except the United Arab Emirates and Iceland, located in the lowest part of the per capita income rank), which are improving the overall progressivity. In contrast, the distribution of the aid financial burden across the 23 DAC countries is clearly regressive (with a Suits index equal to -0.033), mostly because of the regressivity among some of the richest donors.

Furthermore, we apply a hypothetical progressive aid exaction scheme (using an exponential linear regression) in such a way that richer donor countries contribute proportionally more than poorer countries. This analysis suggests that the majority of the donor countries are actually financing aid in a fairly progressive way, and only a limited number of countries are far below the hypothetical progressivity line (especially Israel, the USA and Luxembourg). Moreover, if aid burden quotas were raised according to this hypothetical progressive scheme, there would be a

notable increase in the overall progressivity (raising the Suits index to 0.22) and a relevant 9.5% increase in the ODA collection.

It is technically feasible (and simple) to establish a clear and transparent pattern of progressive aid exaction, for example resembling the labour income taxes levied in the European welfare States. Thus, the aid system will not only increase its progressivity (and its distributive justice), but it will also enhance the credibility and legitimacy of its financial commitments, which may boost the amount of aid resources eventually collected. In turn, given the limited 'capacity of enforcement' of the international system, it is preferable to improve the 'positive incentives' for honouring the commitments in order to build an effective 'peer pressure' dynamic among the donor countries. Today, with only five countries out of the 23 DAC donors fulfilling the 0.7% target, it is obvious that the peer pressure mechanism is ineffective. Given the actual distribution of aid financial quotas, a principle of progressive exaction can increase the number of countries honouring the aid financial target (whatever is agreed) and thus it can also strengthen the peer pressure on flagrant violators. Obviously, the most difficult part of this reform is reaching the necessary agreement among the donor countries (ideally DAC and south-south donors). However, we are now facing a good opportunity to build this agreement, coinciding with the opened debate about the definition of the new international development agenda that will replace the Millennium Development Goals after 2015.

In the end, without some clear distributional rules, the general scepticism regarding the advisability of foreign public aid for development is bound to deteriorate. Citizens from developed countries may be willing to pay higher taxes the higher their income; however, they may be less willing to accept being taxed if there is no assurance that this progressivity criterion holds across all donors' citizens. If we want foreign aid to contribute to a more just world, the aid system itself ought to be just. Improving the aid-financing progressivity can contribute to

strengthening the distributive justice of the aid system by building a more credible and fairer ‘social contract’ between donor States and their citizens and introduce positive incentives among donors eventually to fulfil the aid commitments.

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Annexe. Calculation of the Suits index

The Suits index is calculated in the same way as the Gini coefficient, but in a space formed by the accumulated percentage of total income and the accumulated percentage of total tax burden (Suits, 1977).

We compute the Suits index using the trapezoidal approximation proposed by Baulch (2006) for discrete distributions (of which the distribution of aid-financial quotas among donor countries is an example):

$$S_{i,t} = 1 - \sum_{i=1}^n Y_i (CA_i + CA_{i-1}) \quad [1]$$

where S_i is the Suits index for donor country i in year t , CA_i is the cumulative distribution of aid-quotas of country i and all countries poorer than i (ranked by donors' per capita incomes), and Y_i is the income share of donor country i .

¹As claimed, among others, by Lumsdaine (1993), Noel and Therien (1995), Therien (2002) and Tezanos (2008a).

²In the remainder of this article 'aid' means 'public foreign aid for development'.

³Indeed, the 0.7% target has constituted an effective tool to raise the public awareness of the need for international aid.

⁴The aid geographical allocation has been researched extensively since the late 1960s, in an attempt to identify the variables that govern the allocation decisions of bilateral and multilateral donors. See the literature reviews of McGillivray (2004) and Tezanos (2008b).

⁵The detailed review by Jones (2009) on 'equity in development' offers a clear definition of the concept of equity: *Equity is based on the idea of moral equality, the principle that people should be treated as equals. This is the idea that, despite many differences, all people share a common humanity or human dignity and, as a result of this, we must consider how each of them should be treated. This is not the same as treating people equally [...] rather, it is the idea that all count in the moral calculus.* (p. 3).

⁶This utilitarian approach has been strongly criticized. For example, Conybeare (2008) stated that even if the marginal utility of income was higher for the poor than for the rich, it is not sufficient to justify an aid transfer: it needs to be shown that the poor would use the dollar more productively and add more to the aggregate wealth.

⁷In fact, Rawls (1993: 227–28) specified that 'the features of a tax system are not constitutional essentials'.

⁸Nevertheless, Rawls did not clearly advocate a progressive tax system. See Surgin (2004) for a clear explanation.

⁹However, as Conybeare (2008:406) mentioned in a recent review, the post-welfarist theories are also easily criticized for their assumptions (e.g. risk preference), their invocation of self evident values (e.g. helping the worst off) and their internal consistency (e.g. with respect to free choice within contract theory). In particular, Conybeare stated that without risk aversion the prudential reason to favour the least well-off disappears, and, furthermore, that the risk attitudes are likely to be greater internationally than within nations.

¹⁰More precisely, for this assumption to hold, public aid must be collected in 'similar' progressive ways in each donor country. This assumption is reasonable within the European Union, but is less likely to be met outside this region.

¹¹Two clarifying and complementary review articles on the complex debate on 'international distributive justice' can be found in Caney (2001) and Conybeare (2008).

¹²Milanovic (2008) proposed a practical rule in order to minimize the likelihood of a globally regressive aid transfer. This implies taking into account countries' national income distributions and penalizing countries with highly unequal distributions since a non-trivial probability exists that the transfers may be received by people richer than rich countries' taxpayers.

¹³In contrast to a conventional Lorenz curve, aid concentration curves use three variables to depict a two-dimensional graph. The additional variable is the ranking variable (a measure of living standards), which allows the concentration curve to cross the leading diagonal (45 degree line).

¹⁴The annex explains how to calculate the Suits index.

¹⁵A zero value of the Suit index can also occur when a first progressive (regressive) section of the curve is offset by a second more regressive (progressive) section.

¹⁶In contrast, the Gini coefficient varies between 0 and +1.

¹⁷In accordance with DAC's criteria, ODA consists of grants and loans that meet the following four conditions: *i*) are disbursed to DCs, *ii*) are granted by the official sector, *iii*) their main objective is the promotion of economic growth and welfare, and *iv*) in the case of loans, they are granted on concessional financial terms, with a grant element of at least 25%.

¹⁸See **Table 2** for detailed values.

¹⁹This result disagrees with the analysis of Round and Odedokun (2004). They ran a panel data regression in order to explain DAC donors' aid efforts. They found that there was progressivity in aid efforts in the sense that the higher the real income of the donor, the greater the fraction of real income given as aid. However, there are important

differences between these two types of analysis: Round and Odedokun's regression analysis estimates one donor's 'average' elasticity of income per capita in relation to its aid efforts. On the other hand, the concentration curve and the Suits index compute different slopes for each donor country, and use the ranking of per capita incomes to measure the overall progressivity.

²⁰Specifically, we estimate the linear regression by the ordinary least squares method, specifying an exponential function that is characteristic of a progressive exaction principle. In fact, as this regression method draws the closet line to the observations, it is actually the 'easiest' feasible progressive scheme.

²¹There is actually a moderate dispersion across observations (see R^2).

Figures and Tables

Table 1. Variables and sources of the analysis

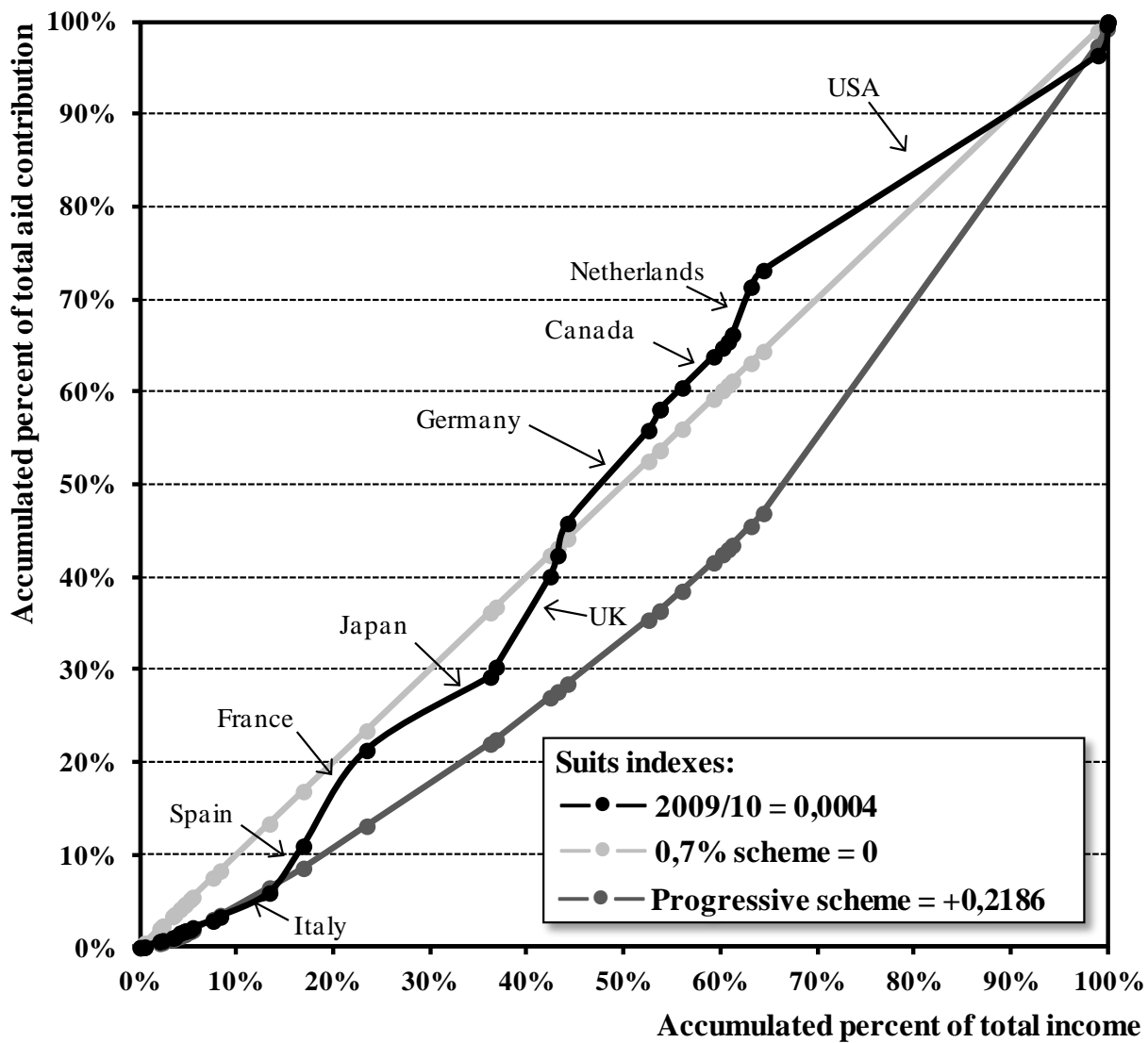
Variables	Sources
Percentage contribution of each donor to aggregate ODA net disbursements (constant US\$).	DAC (2011)
Percentage participation of each donor in aggregate GNI (constant US\$).	World Bank (2011)
GDP per capita (constant US\$, PPP).	World Bank (2011)

Table 2. Different distribution scenarios of aid-financial burdens

	Actual scenario			0.7 scheme			Progressive scheme			(5) - (2)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		(10)	(11)	(12)
	GNI (US\$ millions)	Share in GNI sample	GDP per capita PPP (\$)	ODA (US\$ millions)	Share in ODA sample	Aid effort ODA/GNI	AOD (US\$ millions)	Share in ODA sample	Aid effort ODA/GNI		AOD (US\$ millions)	Share in ODA sample	Aid effort ODA/GNI
All donors, TOTAL	82,528,798.80	100.00%		252,649.83	100.00%		577,701.59	100.00%		276,652.02	100.00%		
1 Thailand	393,406.94	0,48%	7,160,12	80,44	0,03%	0,02%	2,753,85	0,48%	0,7%	241,81	0,09%	0,06%	-0,44%
2 Turkey	1,285,095,59	1,56%	11,655,23	1,582,53	0,63%	0,12%	8,995,67	1,56%	0,7%	1,034,44	0,37%	0,08%	-0,93%
3 Hungary	248,864,52	0,30%	16,300,25	231,27	0,09%	0,09%	1,742,05	0,30%	0,7%	264,71	0,10%	0,11%	-0,21%
4 Poland	849,116,03	1,03%	16,714,99	733,91	0,29%	0,09%	5,943,81	1,03%	0,7%	925,94	0,33%	0,11%	-0,74%
5 Slovak Republic	177,763,32	0,22%	19,200,95	152,81	0,06%	0,09%	1,244,34	0,22%	0,7%	225,03	0,08%	0,13%	-0,15%
6 Portugal	449,411,09	0,54%	21,394,47	1,186,67	0,47%	0,26%	3,145,88	0,54%	0,7%	648,92	0,23%	0,14%	-0,07%
7 Czech Republic	361,172,81	0,44%	22,126,03	439,29	0,17%	0,12%	2,528,21	0,44%	0,7%	544,91	0,20%	0,15%	-0,26%
8 Slovenia	97,094,61	0,12%	24,849,86	137,29	0,05%	0,14%	679,66	0,12%	0,7%	172,50	0,06%	0,18%	-0,06%
9 Israel	399,196,37	0,48%	25,324,56	263,13	0,10%	0,07%	2,794,37	0,48%	0,7%	729,70	0,26%	0,18%	-0,38%
10 New Zealand	224,580,27	0,27%	25,412,78	606,62	0,24%	0,27%	1,572,06	0,27%	0,7%	412,70	0,15%	0,18%	-0,03%
11 Korea, Rep.	1,728,823,36	2,09%	25,524,95	1,842,21	0,73%	0,11%	12,101,76	2,09%	0,7%	3,198,39	1,16%	0,19%	-1,37%
12 Greece	622,822,77	0,75%	26,243,24	1,116,18	0,44%	0,18%	4,359,76	0,75%	0,7%	1,202,99	0,43%	0,19%	-0,31%
13 Italy	4,194,618,30	5,08%	26,538,66	6,545,79	2,59%	0,16%	29,362,33	5,08%	0,7%	8,246,85	2,98%	0,20%	-2,49%
14 Spain	2,888,368,67	3,50%	27,074,84	12,781,56	5,06%	0,44%	20,218,58	3,50%	0,7%	5,864,35	2,12%	0,20%	1,56%
15 France	5,401,901,89	6,55%	29,366,67	26,124,88	10,34%	0,48%	37,813,31	6,55%	0,7%	12,584,43	4,55%	0,23%	3,79%
16 Japan	10,544,120,32	12,78%	29,372,41	20,030,79	7,93%	0,19%	73,808,84	12,78%	0,7%	24,572,35	8,88%	0,23%	-4,85%
17 Finland	488,127,25	0,59%	30,719,56	2,669,87	1,06%	0,55%	3,416,89	0,59%	0,7%	1,233,31	0,45%	0,25%	0,47%
18 United Kingdom	4,615,672,36	5,59%	32,003,95	24,757,49	9,80%	0,54%	32,309,71	5,59%	0,7%	12,596,31	4,55%	0,27%	4,21%
19 Denmark	643,079,53	0,78%	32,063,29	5,740,53	2,27%	0,89%	4,501,56	0,78%	0,7%	1,761,24	0,64%	0,27%	1,49%
20 Sweden	841,282,70	1,02%	32,195,86	8,773,49	3,47%	1,04%	5,888,98	1,02%	0,7%	2,322,47	0,84%	0,28%	2,45%
21 Germany	6,901,539,46	8,36%	32,245,96	25,350,98	10,03%	0,37%	48,310,78	8,36%	0,7%	19,109,99	6,91%	0,28%	1,67%
22 Belgium	961,068,08	1,16%	32,371,46	5,718,46	2,26%	0,60%	6,727,48	1,16%	0,7%	2,681,26	0,97%	0,28%	1,10%
23 Iceland	19,556,67	0,02%	34,029,90	61,32	0,02%	0,31%	136,90	0,02%	0,7%	60,27	0,02%	0,31%	0,00%
24 Australia	1,893,579,09	2,29%	34,139,23	5,857,39	2,32%	0,31%	13,255,05	2,29%	0,7%	5,873,97	2,12%	0,31%	0,02%
25 Canada	2,679,115,48	3,25%	34,567,06	8,508,82	3,37%	0,32%	18,753,81	3,25%	0,7%	8,526,85	3,08%	0,32%	0,12%
26 Austria	764,677,16	0,93%	34,668,20	2,383,66	0,94%	0,31%	5,352,74	0,93%	0,7%	2,448,56	0,89%	0,32%	0,02%
27 United Arab Emira	470,304,42	0,57%	34,750,51	1,667,34	0,66%	0,35%	3,292,13	0,57%	0,7%	1,513,41	0,55%	0,32%	0,09%
28 Ireland	366,038,52	0,44%	35,733,04	1,962,73	0,78%	0,54%	2,562,27	0,44%	0,7%	1,249,41	0,45%	0,34%	0,33%
29 Netherlands	1,590,333,84	1,93%	36,453,96	12,996,33	5,14%	0,82%	11,132,34	1,93%	0,7%	5,668,31	2,05%	0,36%	3,22%
30 Switzerland	1,056,197,76	1,28%	36,893,30	4,515,41	1,79%	0,43%	7,393,38	1,28%	0,7%	3,865,08	1,40%	0,37%	0,51%
31 United States	28,524,373,58	34,56%	41,734,88	58,683,22	23,23%	0,21%	199,670,62	34,56%	0,7%	139,569,26	50,45%	0,49%	-11,34%
32 Norway	769,841,55	0,93%	47,264,07	8,319,29	3,29%	1,08%	5,388,89	0,93%	0,7%	5,248,71	1,90%	0,68%	2,36%
33 Luxembourg	77,654,49	0,09%	69,856,09	828,13	0,33%	1,07%	543,58	0,09%	0,7%	2,053,59	0,74%	2,64%	0,23%

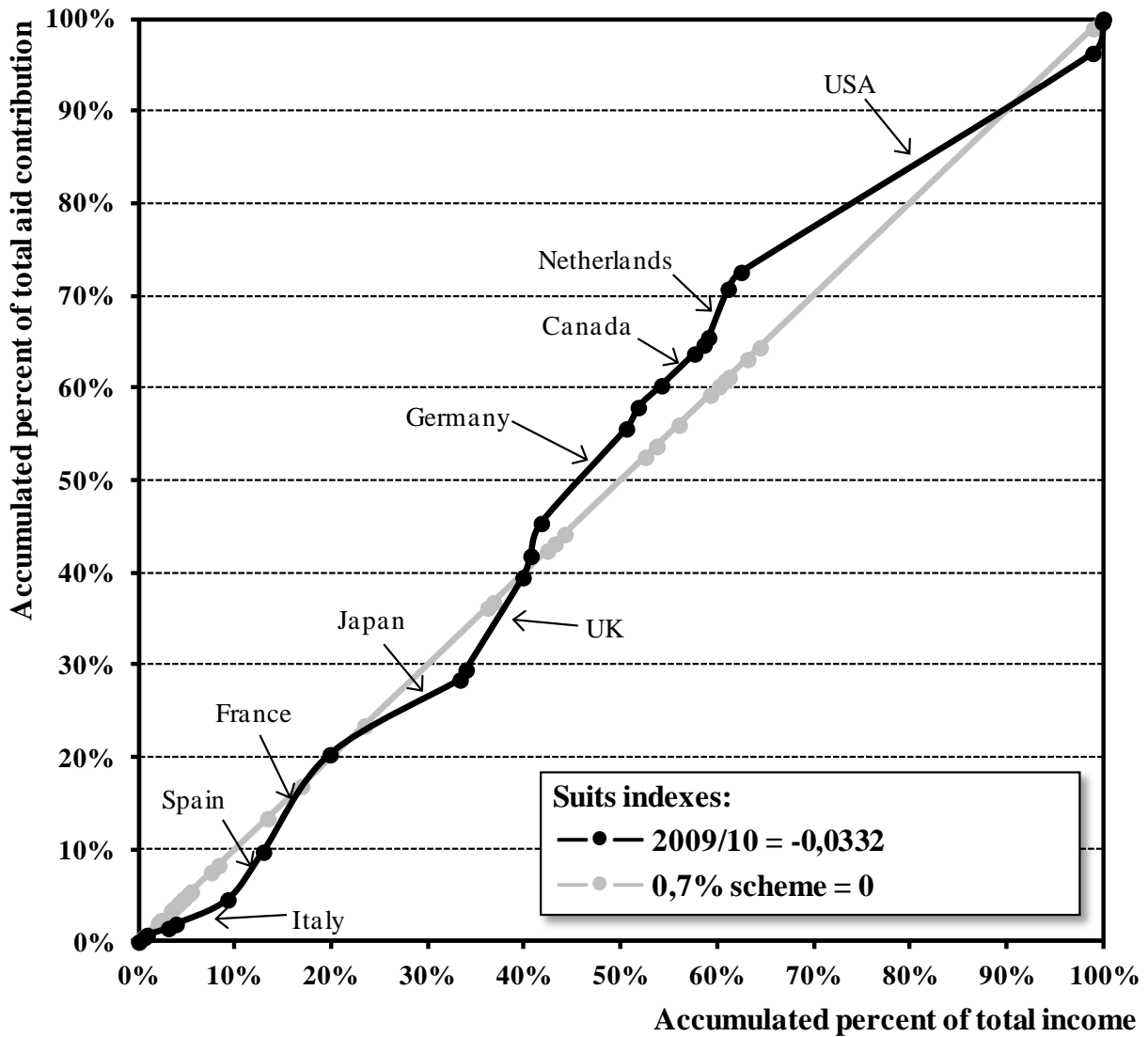
Sources: DAC (2011) and World Bank (2011). Author's elaboration

Figure 1. Relative concentration curves. 2009/10. All donors



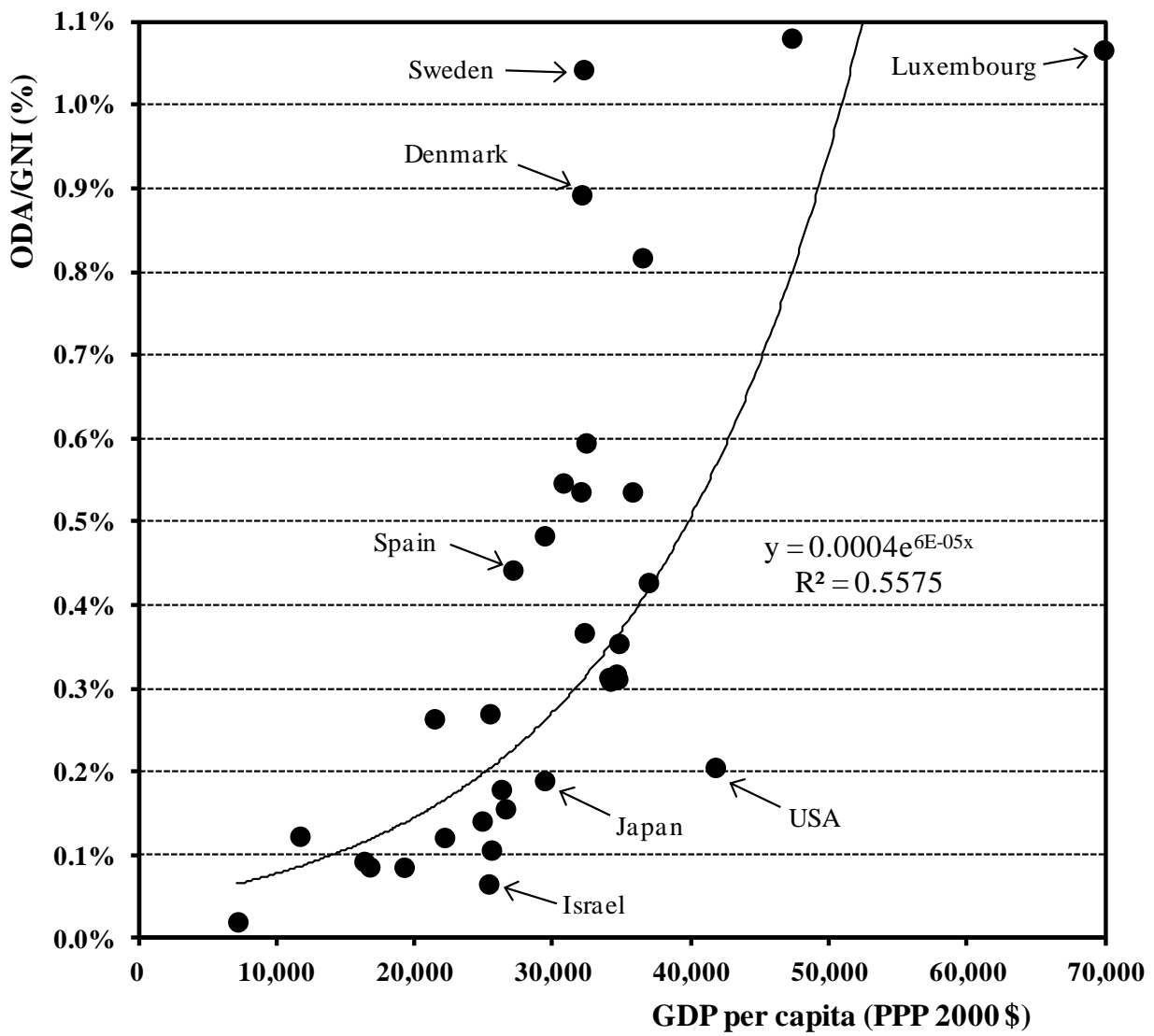
Sources: DAC (2011) and World Bank (2011). Author's elaboration

Figure 2. Relative concentration curves. 2009/10. DAC donors



Sources: DAC (2011) and World Bank (2011). Author's elaboration

Figure 3. A hypothetical progressive distribution of aid-financial burdens



Sources: DAC (2011) and World Bank (2011). Author's elaboration