



International Coordination and the Effectiveness of Aid[☆]

ARNE BIGSTEN and SVEN TENGSTAM*

University of Gothenburg, Sweden

Summary. — This paper seeks to quantify the effects of improved donor coordination on aid effectiveness. Empirical estimates are first provided of the reductions in transaction costs that can be achieved by better donor coordination via concentration to fewer partner countries and a shift from project aid to program-based approaches. Further estimates are presented showing how much could be gained in terms of poverty reduction by optimizing aid allocation across countries. The potential poverty reduction would be huge, but there are severe political implementation constraints. The paper concludes that much could be gained in terms of aid effectiveness from improved donor coordination.

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Key words — donor coordination, Paris agenda, aid effectiveness

1. INTRODUCTION

During the 1980s and 1990s there was an intensive debate about the reasons for the poor development in particular in Sub-Saharan Africa, and foreign aid came under increasing critique. This generated an abundance of research on the effectiveness of foreign aid. Drawing on this literature, donors organized a series of conferences to discuss how to improve aid practices and make aid more efficient.¹ In the Paris Declaration from 2005 they summarized their conclusions about how a good aid relationship should be structured. This was then extended in the Accra Agenda for Action of 2008 and in the Busan Declaration of 2011. We refer to the entire set of aid effectiveness declarations by donors as the Paris Agenda. Donor coordination is a key feature of this agenda, and this paper discusses and quantifies the implications of two different types of donor coordination for aid effectiveness. We first provide estimates of the reductions in donor transaction costs that can be achieved by better donor coordination via concentration to fewer partner countries and a shift from project aid to program-based approaches. We further present estimates of how much could be gained in terms of poverty reduction if donors jointly optimize aid allocation across countries. Our paper thus focuses on the behavior of donors and its implication for aid effectiveness. The contribution of the paper to the literature on aid effectiveness is that it provides empirical estimates of the magnitudes of the effects of improved donor coordination.

The rest of the paper is structured as follows: In Section 2 we discuss four main features of the Paris Agenda and how they relate to our analysis. In Section 3 we identify the types of aid which are relevant for our analysis. Section 4 presents our empirical analysis. Section 5 discusses the implications of our results for the four identified dimensions of the Paris agenda and the political economy of the implementation of our recommendations.

2. WHAT IS THE PARIS AGENDA?

The Paris Declaration of 2005 outlined a strategy to make aid more efficient through the rationalization of donor behavior. This would be achieved by measures to increase recipient country ownership, to improve donor harmonization and alignment with recipient policies, to manage aid according to

results, and to enhance mutual accountability. At a subsequent high-level meeting in Accra in 2008 donors elaborated on these themes in the Accra Agenda for Action. This added that one should seek to improve the predictability of aid flows and reduce conditionalities.

In 2011 there was another high-level meeting in Busan, where participants agreed on the “[Busan Partnership for Effective Development Cooperation](#).” This document is an attempt to adjust the aid architecture to the new realities with a more diverse body of donors. Four shared general principles are listed in the Busan Declaration:

- (i) *Ownership of development priorities by developing countries*: The concept of *ownership* is thus still a central feature of the aid agenda, and it is one of the four key dimensions that are focused in this paper.
- (ii) *Focus on results*: This principle is the same as before and emphasizes that learning from experience is important. Under this heading one also emphasizes the importance of *alignment* of aid inflows with recipient priorities and policies, which is the second key dimension we focus on in this paper.
- (iii) *Inclusive development partnerships*: In the discussion on aid modalities the need to reduce fragmentation is underlined. The desire to be inclusive and open up for the new players has meant that there is less emphasis on harmonization than in previous declarations.

[☆] This study has been prepared within the UNU-WIDER project “Foreign Aid: Research and Communication (ReCom)” directed by Tony Addison and Finn Tarp, and supported by specific contributions from the governments of Denmark (Ministry of Foreign Affairs, Danida) and Sweden (Swedish International Development Cooperation Agency—Sida).

* This study extends work we did for the European Commission together with Jean-Philippe Platteau and Gani Aldashev of the University of Namur. We have benefited a lot from their input and from discussions with the members of the EC’s Directorate General for Development and Cooperation as well as representatives of the member states. We are furthermore grateful for the help we received from the staff at DAC, Paris. We have also benefited from comments at seminars at ODI in London and at the Nordic Conference in Development Economics in Gothenburg in June 2012. Finally, we would like to thank three anonymous referees as well as Tony Addison and Finn Tarp of UNU-WIDER for helpful comments.

This means that a discussion of the future of *harmonization* is more complex, but it is no less important. It is the third key dimension that we focus on in this paper.

- (iv) *Transparency and accountability*: There is an even stronger focus in the Busan Declaration than in the earlier ones on the issues of transparency and accountability. If recipient governments cannot account for the resources that have been transferred to them, donors will not be willing to continue transferring resources. Or they will at least be less willing to transfer resources in general forms, which could enhance ownership. Therefore *transparency* is our fourth key dimension.

The most interesting attempt to measure donor quality in recent years is the study by [Birdsall and Kharas \(2010\)](#), who benchmark countries and agencies against each other. The set of dimensions we have chosen to focus on are well in line with those identified in their study of donor quality. Thus, we will discuss the following four key dimensions of the Paris Agenda, namely (i) harmonization, (ii) ownership, (iii) alignment, and (iv) transparency. We start with general observations about the four aspects, and in the final section we discuss them in relation to our evidence about the role of coordination for aid effectiveness.

(a) *Harmonization*

First, it seems obvious that harmonization should have a cost reducing effect. Aid coordination allows donor to economize on their own transaction costs, and at the same time it reduces the amount of resources that recipients need to spend in the aid delivery process. Still, these cost saving effects are not always self-evident. [Odén and L. Wohlgemuth \(2011, p. 7\)](#) report that for recipients such as Zambia, Kenya and Tanzania, the developed dialog structure has become complex, overburdening the recipient administration. They also warn of a tendency among donors to want to micromanage programs in the numerous consultation bodies, which have been set up to coordinate aid interventions. Second, there are the incentive effects of donor coordination. The results of the literature suggest that the effectiveness of coordination would depend on the congruence of the goals of donors and recipients ([Knack & Rahman, 2007](#); [Torsvik, 2005](#)).

The literature has further discussed the mechanisms by which harmonization could reduce the risk of elite capture ([Azam & Laffont, 2003](#); [Bourguignon & Platteau, 2011](#); [Gaspard & Platteau, 2011](#); [Svensson, 2000, 2003](#)). This could be achieved if donors, by reducing the number of players in a country, can limit the exit options available to the local counterparts. If donors jointly introduce a mechanism to inform each other about fraudulent acts committed by intermediaries, elite capture could be contained ([Platteau, 2000](#)).

For example, [Easterly \(2006\)](#) points out that in a situation where there are many donors involved, it is hard to decide who is accountable for inefficiencies or corruption. It makes it hard to allocate responsibility, which means that it is harder to introduce corrective action.

One may also note that there are donors, which do not want to harmonize (e.g., the US and the new donors such as China, India, and Brazil) as well as the new vertical or global funds, which run their projects outside the government budget system. So it is not clear that there is a trend toward increasing harmonization.

The huge donor evaluation of the implementation of the Paris Declaration by [Wood et al. \(2011, p. xiv\)](#) concludes that the results have been somewhat disappointing in relation to the goal of rapidly reduced burdens in managing aid. Still, they find that practices have been put in place, which at least allow a better

overview of aid by both donors and recipients. The report is concerned by the fact that that donors are slow to change and generally very risk averse, while partner countries have increasingly taken on the agenda. Still, harmonization is regarded as the most successfully implemented part of the Paris Agenda.

(b) *Ownership*

It is important for recipient incentives that the government can formulate its policy according to its own priorities. How this is affected by donor coordination is not self-evident, but it may well be that the recipient has a stronger incentive to formulate its position well vis-à-vis a large cohesive group of donors than against a group with many different requests. It is hard to measure how changes in conditionality affect aid effectiveness, but it seems reasonable to assume that aid coordination can allow for a more effective implementation of conditionalities.

There is a presumption in the literature that more general forms of aid make it possible for recipients to have better ownership of the policy process. By reducing the reporting burden and simplifying coordination of activities, it should be effectiveness enhancing. However, [Odén and Wohlgemuth \(2011\)](#) voice the concern that the increased use of budget support has meant that the dialog has become more political in nature, which may imply a reduction in ownership. So it is not automatic that a general form of aid leads to improved ownership.

[Odén and Wohlgemuth](#) draw the conclusion from their review that there is weak willingness and capacity of the host governments in Africa to take up their leadership role in the Paris Agenda process, while at the same time there is a reduced willingness by many donors (“Paris fatigue”) to accept delays due to increased ownership. The progress on this dimension is unclear ([Wood et al., 2011](#)).

(c) *Alignment*

There is a broad consensus that development depends fundamentally on the quality of policies and institutions ([Hall & Jones, 1999](#); [Kaufmann, Kraay, & Zoido-Lobaton, 1999](#); [Rodrik, Subramanian, & Trebbi, 2004](#)). [Besley and Persson \(2010\)](#) point to “state capacity” as the key determinant of whether a country can achieve development. Aid is often allocated to improve the quality of public institutions, but how should interventions be designed to help build effective institutions rather than undercut incentives for good public governance? It seems clear that aid affects growth via governance variables, and how governance is affected depends on how aid is channeled. Projects require a lot of detailed decisions and steering, which is a burden on the administrative systems. More general forms of aid would make it possible to leave more of the decision-making in the hands of the recipient, i.e., increase ownership. It should be noted, though, that it may be easier to control elite capture on the project level, but it is hard to come up with empirical estimates of this.

It is likely that aid to government will have a more sustainable impact if it is integrated within the regular government system, even if it may increase the risk of misappropriation. Therefore, even if an individual project may work better within parallel structures, one must factor in what the consequences are for the long-run functionality of the whole system of government.

(d) *Transparency*

The final issue we consider is how aid coordination affects transparency in the recipient countries. It may well be that countries have a stronger incentive to report effectively to a

larger group of donors than to them individually. It will, of course, also be easier to produce one comprehensive report than to produce many adjusted to each donor's individual requests. Both these factors may thus contribute to improved reporting and increased transparency. One of the key recommendations of [Wood et al. \(2011\)](#) is to focus on transparency.

3. WHAT KIND OF AID IS RELEVANT FOR THE PARIS AGENDA?

Analyses of the aid effectiveness implications of the Paris Agenda ([Bigsten, Tengstam, Platteau, & Aldashev, 2011](#); [Birdsall & Kharas, 2010](#); [European Commission, 2009](#)) have focused on country programmable aid (CPA), i.e., the part of Official Development Assistance (ODA) that is subject to multi-year programming at the country level. According to Development Assistance Committee (DAC)'s definition, CPA represents a subset of ODA outflows. It takes as a starting point data on gross ODA disbursements by recipient but excludes spending which is: (i) inherently unpredictable (humanitarian aid and debt relief); or (ii) entails no flows to the recipient country (administration costs, student costs, development awareness, and research and refugee spending in donor countries); or (iii) is usually not discussed between the main donor agency and recipient governments (food aid, aid from local governments, core funding to Non-Governmental Organization (NGO)s, aid through secondary agencies, ODA equity investments, and aid which is not allocated by country); (iv) CPA does not net out loan repayments, as these are not usually factored into aid allocation decisions. CPA is therefore a gross concept.

The focus of our discussion is on the coordination of CPA aid from governments and international organizations. When it comes to the NGOs the need for coordination is less clear-cut, although there are instances where coordination would be useful also here. [Platteau \(2003\)](#) provides the arguments for coordination also of NGO donors, which sometimes compete against each other in ineffective ways or allocate their resources ineffectively. Still, since NGOs are not involved in setting conditions for the recipients or channeling resources through the public sector, it may still be less critical to coordinate between them and state donors. It may even be advantageous in some cases to let them operate outside the aid coordination framework and to let them have a complementary role. They could, for example, by being part of the civil society contribute to the pressure on governments for relevant policy changes or accountability. One could also argue that it may be desirable to have a variety of donors trying out different approaches. [Easterly \(2006\)](#) argues that one should let aid entrepreneurs (e.g., NGOs but also others) function more freely and independently of any large coordinated plan. It is at least not self-evident that NGOs should come under the Paris Agenda umbrella. To the extent that NGOs should be coordinated, this could possibly be done under a different umbrella than the state-to-state aid.

4. DONOR COORDINATION AND AID EFFECTIVENESS

The Paris Agenda has a broad scope, covering both various dimensions of how donors coordinate their actions among themselves, and dimensions relating to how each donor interacts with the recipient government. In this paper we focus on two crucial aspects of the first dimension. This is, first, the

issue of coordination of aid activities among the donors so as to reduce transaction costs. The second aspect relates to donor coordination of the allocation of aid resources across developing countries. Can we improve poverty reduction by a better allocation of aid resources among countries? Can more be achieved by shifting resources from donor darlings to donor orphans?

We include as many donor countries as possible in our analysis, both DAC and nonDAC members. The DAC members are most of the West European and North American countries, the European Union, Australia, New Zealand, Japan, and Korea (Iceland and Check Republic have joined during 2013, but we do still refer to them as nonDAC members). The datasets on aid flows from OECD/DAC include aid data for both the DAC members and for some nonDAC members, e.g., Turkey and United Arab Emirates (UAE). Donors such as e.g., China, India, Brazil, and Mexico are not included in the datasets.

The data we use come from the following sources: ODA, bilateral ODA, and administrative costs are from [OECD \(2011b\)](#), CPA is from [OECD \(2011c\)](#), population, Gross Domestic Product (GDP)/capita, and GDP/capita (Purchasing Power Parity (PPP)) are from [World Bank \(2011a\)](#), and the Worldwide Governance Indicators are from [World Bank \(2011b\)](#).

(a) *Transaction costs (cost saving for donors)*

In this section we discuss two forms of harmonization. One can reduce aid fragmentation (having a more effective division of labor) by having fewer partner countries and by shifting from projects to program-based approaches. We estimate how far from the target levels the donor community is, and we also try to measure what it costs to miss the Paris Agenda target. We do this by estimating the extra administrative costs that are due to aid not being harmonized.

Much of the debate about aid coordination has concerned coordination of aid to individual countries. Since aid activities are often complementary, donors need to coordinate to avoid inefficient aid allocations ([Bigsten, 2006](#); [Kanbur, 2006](#)). Still, administrative controls of aid flows are important in some instances—and in particular if aid is given to poorly governed or corrupt countries. It is certainly not possible or appropriate to bring the level of administration to zero, and this is not envisaged here.

Although the optimal overhead is not zero, our estimates give an indication about the savings that can potentially be made on administrative costs. The focus in this section is on the short-term or transaction costs of aid on the donor side. Our analysis is an extension of [Bigsten et al. \(2011\)](#). We try to get full coverage of all transaction costs of the donors. To do this we start with comprehensive information from donors on all their administrative costs and evaluate how much of this cost could be saved by concentrating activities to fewer countries and fewer activities. We assume that the total aid budget will not shrink, which means that the remaining activities will be larger. We do not believe that they can grow in size without some increase in administrative overheads. However, there are clearly economies of scale, so the increase is not proportional to the growth of the budget.

We study the cost savings that can be made on the administrative costs of all DAC country donors, the Czech Republic, Turkey, and the European Commission (EC), as shown in [Table 1](#).² This means that other multilaterals plus a few smaller donors are missing, but we cover about two thirds of all aid and we cover the most relevant part. Multilaterals like the United Nations Children's Fund (UNICEF) are not supposed to concentrate their aid to a few countries. Still,

the multilaterals could also use Program-Based Approach (PBA) to a larger extent, but we lack the data to estimate potential effects.

The steps in our computation of administrative savings possible for year 2009 are listed as follows:

Step 1: We first scale down the administrative costs by reducing the number of partner countries. We estimate the percentage reduction in administrative costs when reducing the number of recipients, while keeping the overall aid budget constant and without changing the composition of the aid flow, i.e., the mix between projects and programs. To be able to do this we use an estimate of the economies of scale in aid delivery, which we have derived earlier with the help of regression analysis (Bigsten *et al.*, 2011; Tengstam, 2013³).

Step 2: We then reduce costs further by changing aid modalities. We investigate how much money can be saved by shifting money from projects to programs. This gives an extra cost saving on top of the effect of country concentration. So we estimate the required amount of aid that comes from bilaterals as project support that needs to be shifted to program support to meet the 66% target of the Paris Declaration. To get an estimate of how large the cost savings are, we need an estimate of the administrative cost reductions such a shift implies. One might expect that there are also effectiveness consequences of a switch from projects to programs. The administrative costs of recipients would probably tend to fall, while leakages of resources might increase. There may also be

specific instances where projects should be preferred. However, we are not able to incorporate these potential effects in the estimations here.

It should furthermore be noted that technical assistance is not included in our computations, for two reasons. First, we can reach the 66% target by only shifting from projects to programs. Estimates in Bigsten *et al.* (2011) show that there is a bigger saving from shifting from projects to programs than shifting from technical assistance to programs based on the price tags we have derived. Second, it is less clear that it is as feasible to shift this type of aid into programs.

Table 1 shows the most important aid magnitudes for 2009. The calculations of cost savings will start from the estimate of administrative costs of US\$6113 million. All donors for whom data were available are included in this table.

Step 1 in greater detail: We first estimate how much the administrative costs can be reduced if donors focus on fewer partner countries. To be able to come up with such an estimate we need an estimate of the scope for costs savings. Bigsten *et al.* (2011) and Tengstam (2013) estimate the relation between fragmentation and administrative costs controlling for aid volume and time dummies. Fragmentation is measured as the number of partner countries and regions to which a donor gives CPA, since what we are proposing is to have fewer partner countries and regions and not, for example, to give emergency aid, food aid, or debt relief to fewer countries and regions.⁴ The analysis covers all donor countries for which data were available (the DAC members,⁵ the Czech Republic, Poland, and Turkey) and the EC for 2000–09.

The number of partners was on average 109.2 and had a standard deviation of 30.5. That the average donor country

Table 1. *Gross Disbursements in 2009 at Current Prices (Million US\$)*

Donor	CPA	Administrative costs	Bilateral ODA excl. CPA and admin costs	Bilateral ODA
Australia	1,622.62	109.07	580.09	2,311.78
Austria	106.57	39.9	373.77	520.24
Belgium	514.7	94.77	1,054.25	1,663.72
Canada	1,712.07	269.62	1,200.11	3,181.8
Czech Republic	92.24	3.9	4.9	101.04
Denmark	1,342.36	161.56	437.32	1,941.24
European Commission	9,484.95	762.81	2,775.82	13,023.58
Finland	412.22	80.27	298.61	791.1
France	4,171.17	441.43	5,234.54	9,847.14
Germany	4,674.73	287.49	3,397.45	8,359.67
Greece	153.15	23.36	120.43	296.94
Ireland	381.5	44.85	266.85	693.2
Italy	580.96	59.43	412.55	1,052.94
Japan	10,568.53	723.77	1,692.46	12,984.76
Korea	526.24	27.76	61.31	615.31
Luxembourg	180.56	19.5	65.94	266
Netherlands	1,850.15	331.17	2,775.94	4,957.26
New Zealand	162.88	23.95	39.16	225.99
Norway	1,460.68	215.66	1,491.89	3,168.23
Portugal	240.39	18.33	53.47	312.19
Spain	2,797.12	189.57	1,886.37	4,873.06
Sweden	1,377.53	219.43	1,416.15	3,013.11
Switzerland	573.79	162.47	1,024.34	1,760.6
Turkey	614.34	51.68	-0.71	665.31
United Kingdom	3,992.8	397.05	3,474.52	7,864.37
United States	15,732.11	1,354.35	8,905.94	25,992.4
Total	65,326.36	6,113.15	39,043.47	110,482.98

Note: All donors for whom there is CPA, administrative costs, bilateral ODA, and ODA data in the DAC datasets are included in this table. Total CPA from countries (including the European Commission) in Table 5 in Appendix, 69,378.31, differs from total CPA in this table, 65,326.36, since not all country donors included in Table 5 could be included in this table. The reason is that there are data for fewer donor countries on administrative cost than on CPA. Source: OECD (2011b), OECD (2011c).

has more than a hundred partner countries and regions is astonishing. Even if regional aid is not counted, and one requires the CPA volume to be at least US\$250,000, the average is as high as 74.3. The Paris Declaration does not provide any target for how much this should be decreased, but following the tradition in economics, we discuss the effect of a reduction in the number of partner countries and regions by one standard deviation. We find that the effect of such a concentration is that the administrative costs would decrease by 14%.

Applying this 14% estimate on total administrative costs of US\$6,113.15 million (from Table 1), we get a saving of $0.14 * 6,113.15 = \text{US\$}856$ million.

Step 2 in greater detail: Once donors have focused on fewer countries, they can change the modalities of aid. It is a challenge to get estimates of the price tags of administration for different modalities. We do not have comprehensive estimates of this, but we have information from Sida. This is a medium-sized bilateral donor, which probably can be taken to be rather typical in terms of administrative costs.⁶ Sida undertook a detailed analysis of its administrative costs in 2010, which was presented in its annual report (Sida, 2011). Using that information, we can conclude that program aid per dollar disbursed only costs 33.5% as much as project aid in donor administration costs. Further, money transferred as technical assistance had a transaction cost of 45.9% of the costs for a project. The focus in the Paris Declaration is about shifting to program-based approaches from projects and technical assistance. What we simulate here is a shift from projects to programs, while we leave technical assistance aside. After reducing the number of recipients in step 1, the administrative costs remaining in our main case is US\$5,257 million. We now consider how much of this can be reduced by a shift from projects to PBA. We first compute how much of these costs are related to CPA, the most relevant part of aid in this context. We find that 77% of the administrative costs, that is US\$4,048 million, are related to CPA. See Appendix A.

The target of the Paris Agenda is to increase the share of PBA to 66%. This could be interpreted to mean 66% of total ODA, but in our estimate here we interpret this to mean that 66% of CPA is to go through PBA. With the broader interpretation the estimate would of course be larger than what we get here. If we increase the proportion of CPA that constitutes PBA from the actual 2009 level of 39–66%, the CPA administrative costs related to CPA will be reduced by 24.3%. See Appendix B. The figure 24.3% is based on our estimate that program aid per dollar disbursed costs only 33.5% as much as project aid in donor administration costs. That gives a cost saving of $0.243 * 4048 = \text{US\$}984$ million.

Summing up the results of our two steps, we get a total saving on transaction costs of US\$1840 million. So it seems clear that donors could save significant amounts of resources by reducing aid fragmentation, but the fact that they have not done this may be an indication that they consider the political costs of adjusting to be too high.

It should also be noted that what we have estimated here relates only to costs on the donor side, while lack of harmonization also has consequences for costs on the recipient side. In our study of European aid (Bigsten *et al.*, 2011) we attempted to capture indirect costs of the lack of harmonization on growth, and we did find that there are such costs. Our estimates in Bigsten *et al.* (2011) indicate that these effects are potentially large, but the estimates are very imprecise.

(b) Addressing the issue of aid orphans (benefits for recipients)

The Paris agenda assumes that the effectiveness of aid use can be enhanced by improved allocation of resources across

countries.⁷ To what extent has this issue been addressed, and how much more needs to be done? We analyze this by investigating what an “optimal” aid allocation would look like if the aim is to achieve as large a reduction of poverty as possible. We also investigate how much more poverty reduction could be achieved if aid was actually allocated according to our allocation rule.

In this analysis we consider country programmable aid (CPA) for year 2009. We include CPA both from country donors and from multilateral donors, but we exclude CPA given as regional aid. This gives us a total of US\$87,638 million of aid to start with (Appendix Table 5 presents aggregates for CPA). US\$2,185 m of this money is from nonDAC donors included in the dataset. The bulk of this nonDAC money comes from UAE (US\$704 m), Turkey (US\$554 m), and Saudi Arabia and Kuwait together (US\$528 m). The other nonDAC donors are Iceland, Israel, the Czech Republic, Hungary, Poland, the Slovak Republic, Slovenia, Thailand, and “other donor countries” (which includes some very small donors). After excluding aid to some countries that could not be included due to lack of data on incomes (mainly the Palestinian Administrative Areas and Mayotte, see Appendix Table 4), we are left with US\$83,958 million that donors could seek to allocate optimally.⁸ One argument for including both bilateral and multilateral CPA is that donor countries have influence on multilateral aid indirectly.

In the analysis of optimal aid allocation, it is important to discuss issues related to both the needs and the ability of recipient countries to transform increased aid volumes into poverty reduction. Therefore, when computing how much aid should be reallocated from darlings to orphans, we develop the extension of Collier and Dollar (2002) presented in Bigsten *et al.* (2011). We need to take into account that aid has been found to have decreasing returns with regard to its share of GDP. We assume that the point at which the positive impact of aid falls to zero is when CPA/GDP (PPP) = 10%.⁹

From a theoretical perspective the quality of governance should be included in the model. But measures such as the Worldwide Governance Indicators (World Bank, 2011b) are largely subjective, and the estimates of the impact of quality of governance on the ability to transform aid volumes into poverty reduction are very imprecise. Therefore, we argue that it is preferable, first, to derive an optimal aid allocation that does not take the quality of governance into account, and instead incorporate the quality of governance in a second step when discussing this allocation and its benefits and costs.

(i) The model

Following the notation in Collier and Dollar (2002), for country i we let N_i be population, y_i be GDP per capita (PPP), A_i be aid/GDP (PPP), h_i be headcount poverty, G_i be the growth rate, and α_i be the income elasticity of headcount poverty. \bar{A} is the total amount of aid. We assume that the objective function of donors is to allocate aid among countries so as to achieve

Max poverty reduction

$$\sum_i G_i \alpha_i h_i N_i \quad (1)$$

subject to $\sum_i A_i y_i N_i = \bar{A}$, $A_i \geq 0$

If we consider, to start with, only interior solutions, the first order conditions for a maximum are

$$\frac{dG_i}{dA_i} = \lambda \frac{y_i}{\alpha_i h_i} \quad (2)$$

where λ is the shadow value of aid. Like Collier and Dollar (2002), we assume that $\alpha_i = \alpha$, i.e., that the elasticity is the

same in all countries. This is a simplification that ignores potential variation among countries, but we should still be able to capture the average impact and a reasonable aggregate estimate.¹⁰ Assuming (as is standard in the literature, e.g., Collier & Dollar, 2002) a quadratic relationship between A and G , using 10% as the saturation point, and letting g denote $\frac{dG}{dA}$ when $A = 0$, it follows that

$$\frac{dG_i}{dA_i} = g \left(1 - \frac{A_i}{0.1} \right) \quad (3)$$

Bourguignon (2000) finds an income elasticity of headcount poverty (US\$1 per day line) of approximately -2 . He also finds that the absolute value of the elasticity is generally smaller in poorer countries, so we use -1 as a conservative number. This is in line with what is found by Bigsten and Shimeles (2007). Now we can write poverty as a function of income and a constant k .

$$h_i = ky_i^{-1} \quad (4)$$

In our allocation model we let k be the same for all countries. This means that we estimate an optimal allocation based on the poverty a country “should have” based on its national income level, not on its actual poverty level. One rationale for this is that if a country has a high income level compared to its poverty level, it should be more able to tackle poverty on its own, than a country with a lower national income level and the same poverty level. Another rationale for this is that if one picks one poverty measure, e.g., headcount poverty, a country might have low poverty based on this, but on the other hand have a high need for aid due to e.g., the depth of poverty or high infant mortality. Using GDP/capita (PPP) is more robust than using one single poverty measure. Compared to using e.g., Human Development Index (HDI), GDP/capita (PPP) has the advantage that it also captures the extent to which the country actually could handle the problem itself. There might be severe poverty in oil rich Angola, and even some poverty in the USA, but it still makes sense to consider the national income levels in these countries when estimating how much aid should be allocated to them.

Then (2)–(4) implies

$$A_i = 0.1 - \gamma y_i^2 \quad (5)$$

where $\gamma = \frac{0.1k}{gk^2}$.

Now we can derive an allocation rule. The aid allocation to country i , A_i^* , should be the aid derived in (5), but obviously aid must be nonnegative, so we now also need to consider corner solutions.

This gives:

$$\begin{aligned} A_i^* &= 0.1 - \gamma y_i^2 & \text{if } 0.1 - \gamma y_i^2 > 0 \\ A_i^* &= 0 & \text{if } 0.1 - \gamma y_i^2 \leq 0 \end{aligned} \quad (6)$$

We cannot use this allocation rule directly, since we cannot solve for λ analytically, and we do not know the exact values of g and k . But since the budget condition is

$$\sum_i y_i A_i^* N_i = 83958 \quad (7)$$

we can numerically solve for γ and then use (6) as our allocation rule. Note that there is no need to solve for λ , or to apply values for α , g , or k . It is enough to solve for γ to be able to derive the optimal allocation.

(ii) Results and discussion

We define an “aid orphan” as a country that receives less aid than our allocation rule recommends. To reduce poverty more effectively, the donor community should scale up aid to these

countries. Table 2 shows data for all orphans, including the increase in aid our analysis recommends. We further define “aid darling” as a country that gets more aid than our allocation rule recommends. The donor community should scale down aid to these countries. Table 3 shows detailed information on the most important darlings, and aggregate information for the rest of the darlings, including the decrease in aid our analysis recommends.

(iii) If we do not take aid absorption capacity into account

In Tables 2 and 3 we see that as much as US\$44,609 million of aid (out of US\$83,958 million) should be reallocated. The fact that more than half of the money would have to be reallocated is alarming. One should also be concerned that there are differences across countries in how effectively the money is used to reduce poverty. Therefore it is important to study the relation between the cost and the benefit of making such a re-allocation.

The benefit of this is US\$44,609 million more to the orphans (that end up with US\$75,534 million) and the cost is that the darlings lose US\$44,609 million (ending up with US\$8,424 million). This shift represents an effectiveness gain in terms of poverty reduction (decrease in the number below the poverty line), since the poverty reduction effect of one dollar in the darling countries is only 16.2% of the effect the same dollar would have in the orphan countries.¹¹ If we use the dollars optimally allocated as the norm, we can say that the cost is $0.162 * \text{US\$44,609 million} = \text{US\$7,227 million}$. Thus, the net benefit is US\$44,609 million minus US\$7,227 million = US\$37,382 million. So we conclude that the net gain from re-allocation according to the assumptions used so far would be US\$37,382 million.

(iv) If we do take aid absorption capacity into account

However, for this gain to be realized there should not be any difference in the quality of governance between the darlings and the orphans. But there is such a difference! In the sample the weighted average of the quality of governance index based on the Worldwide Governance Indicators (World Bank, 2011b), is lower among the orphans than among the darlings.¹² A high index indicates strong governance performance. The growth effect of the resources shifted to the orphans should thus on average be lower than it would have been if the orphans had had the same quality of governance as the darlings. To adjust for this we use a rather crude approach. We first separate out a re-allocation from the worst governed darlings to the best governed orphans. We want these two groups to contain as much aid money (that our allocation rule recommends to be reallocated) as possible, and at the same time we want the weighted average quality of governance index among the good orphans to be at least as high as the weighted average governance index among the bad darlings. As much as US\$23,828 million of the missing aid in orphan countries is in countries with a weighted average governance index of -4.48 . These are the “good orphans.” We can also create a group of the worst darlings. We expand this group successively until it includes at least US\$23,828 million. The weighted average governance index is then -4.67 .

It turns out that the bad darlings (e.g., Indonesia, China, Egypt, and the Philippines) contain US\$24,273 million. Out of this total, US\$23,828 million can be reallocated to the “good orphans,” which on average have a bit higher quality of governance index.¹³ When comparing the bad darlings to the good orphans we see that: the poverty reduction effect of a dollar in the bad darling countries is 18.2% of the effect the same dollar would have in the good orphan countries.

Table 2. *Aid Orphans*

	Population Million	GDP/cap		Actual aid 2009			Optimal aid			Recom. increase Million	Gov. index
		PPP \$	/cap \$	/GDP %	Total Million	/cap \$	GDP %	Total Million			
<i>Good orphans (Gov. index > -5.8, weighted average Gov. index is -4.48)</i>											
Bangladesh	162	1,286	10	0.8	1,665	94	7.3	15,217	13,552	-5.4	
Kenya	40	1,428	38	2.7	1,520	95	6.7	3,787	2,268	-4.6	
Uganda	33	1,105	47	4.3	1,545	88	8.0	2,893	1,347	-3.7	
Tanzania	44	1,237	65	5.2	2,829	93	7.5	4,056	1,227	-1.7	
Madagascar	20	912	19	2.1	381	79	8.6	1,546	1,164	-3.4	
Ghana	24	1,410	65	4.6	1,544	95	6.7	2,268	723	0.8	
Cameroon	20	2,002	32	1.6	633	69	3.4	1,345	712	-4.9	
Cambodia	15	1,739	47	2.7	701	88	5.1	1,301	600	-4.8	
Niger	15	626	25	3.9	376	59	9.4	896	520	-4.4	
Burkina Faso	16	1,078	63	5.9	1,000	87	8.1	1,375	375	-1.9	
Malawi	15	721	45	6.2	686	66	9.1	1,007	321	-2.0	
Togo	7	772	33	4.3	218	70	9.0	461	243	-5.4	
Senegal	13	1,650	73	4.5	921	92	5.5	1,147	226	-2.0	
Mali	13	1,077	72	6.7	932	87	8.1	1,135	202	-2.4	
Benin	9	1,369	72	5.3	647	95	6.9	848	201	-1.4	
Lesotho	2	1,333	66	4.9	136	95	7.1	195	59	-0.7	
Mauritania	3	1,751	74	4.2	243	87	5.0	287	44	-5.2	
Gambia	2	1,285	76	5.9	130	94	7.3	160	30	-2.7	
Zambia	13	1,299	93	7.2	1,204	94	7.2	1,216	12	-1.9	
Sum	464				17,313			41,140	23,828		
<i>Bad orphans (Gov. index < -5.8)</i>											
Nigeria	155	2,001	11	0.5	1,657	69	3.4	10,680	9,022	-7.0	
Ethiopia	83	848	35	4.2	2,919	75	8.8	6,200	3,281	-5.9	
Sudan	42	2,007	23	1.1	956	68	3.4	2,894	1,938	-9.4	
Nepal	29	1,049	30	2.8	866	86	8.2	2,522	1,656	-5.8	
Côte d'Ivoire	21	1,545	38	2.4	796	94	6.1	1,984	1,189	-7.4	
Chad	11	1,181	23	2.0	262	91	7.7	1,021	759	-8.6	
Zimbabwe	13	898	26	2.9	329	78	8.7	976	648	-10.4	
Guinea	10	951	17	1.8	175	81	8.5	816	641	-8.6	
Yemen	24	2,243	17	0.8	403	40	1.8	937	534	-7.5	
Pakistan	170	2,369	17	0.7	2,842	19	0.8	3,291	449	-7.2	
Congo, DR	66	290	25	8.8	1,680	29	9.9	1,887	207	-10.0	
Tajikistan	7	1,791	57	3.2	394	85	4.8	592	198	-6.8	
Eritrea	5	527	21	4.1	109	50	9.5	255	147	-8.2	
CAR	4	688	41	5.9	181	63	9.2	281	100	-7.7	
Comoros	1	1,074	68	6.3	45	87	8.1	57	12	-6.5	
Sum	640				13,613			34,394	20,781		
All orphans	1,104				30,926			75,534	44,609		

Note: Aid presented in this table is CPA. Source: Computed by authors based on OECD (2011c) and World Bank (2011a), World Bank (2011b).

The cost is therefore $0.182 * US\$23,828$ million = US\$4,337 million, and thus the net benefit is US\$23,828 million minus US\$4,337 million = US\$19,491 million. So we conclude that the net gain from re-allocation according to the assumptions used here would be US\$19,491 million.

For the remaining US\$44,609 million minus US\$23,828 million = US\$20,781 million, it is hard to estimate the magnitude of the effectiveness loss. The question is what the effect would be of reallocating money from good darlings to bad orphans. We do not try to estimate the effect, but we would like to highlight that a lot of money could be transferred from rich good darlings to bad orphans that are severely underfunded, for example Ethiopia (aid/GDP = 4.2%), Nepal (2.8%), or Chad (2.0%).

Of the US\$20,336 million that goes to good darlings and which we have not reallocated, US\$8,915 million goes to countries with over US\$6,000 GDP/cap PPP (e.g., Turkey, Tunisia, Brazil, Malaysia, and Argentina). The cost of reallocating this money is very low, since there is not much poverty to fight in those "rich" countries. This money should therefore be reallo-

cated to some orphans. Another US\$6,554 million goes to countries with GDP/cap PPP 4000–6000 (e.g., Morocco, Sri Lanka, and Ukraine), and one could, of course, also reallocate those as well as the rest.

Thus, our crude estimates are twofold. First, there is US\$23,828 million minus US\$4,337 million = US\$19,491 million that we assume can be transferred without loss in growth and poverty reduction effectiveness. Second, we can transfer US\$8,915 million from countries with over US\$6,000 GDP/cap PPP to bad orphans, but here we are uncertain about the poverty reduction effectiveness. And we could continue the process of re-allocation further but then with even more uncertainty about the poverty reduction effects.

It should be noted that some of the darlings are post-conflict countries such as Iraq and Lebanon. Maybe it makes sense to give them aid, but should that not be taken from another budget than ODA? These countries are not characterized by extreme poverty. The same argument goes for the ex-communist countries. We support them for reasons other than

Table 3. *Aid Darlings*

	Population Million	GDP/cap		Actual aid 2009		Optimal aid			Recom. decrease Million	Gov. index
		PPP \$	/cap \$	/GDP %	Total Million	/cap \$	/GDP %	Total Million		
<i>Bad darlings (Gov. index < -2.3, weighted average Gov. index is -4.67)</i>										
Viet Nam	87	2,682	47	1.7	4,066	0	0.0	0	4,066	-3.1
Indonesia	230	3,813	14	0.4	3,323	0	0.0	0	3,323	-2.5
Afghanistan	30	1,200	177	14.8	5,285	92	7.6	2,734	2,552	-11.1
China	1,331	6,200	2	0.0	2,440	0	0.0	0	2,440	-3.1
Iraq	31	3,222	72	2.2	2,271	0	0.0	0	2,271	-9.0
Egypt	83	5,151	16	0.3	1,350	0	0.0	0	1,350	-2.6
Philippines	92	3,216	12	0.4	1,076	0	0.0	0	1,076	-2.9
Colombia	46	8,136	20	0.2	923	0	0.0	0	923	-2.3
Bolivia	10	4,013	64	1.6	634	0	0.0	0	634	-4.5
Nicaragua	6	2,398	123	5.1	705	14	0.6	81	624	-4.0
Lebanon	4	11,868	133	1.1	562	0	0.0	0	562	-4.0
Honduras	7	3,488	56	1.6	419	0	0.0	0	419	-3.4
Kazakhstan	16	10,452	20	0.2	318	0	0.0	0	318	-2.4
Guatemala	14	4,286	23	0.5	316	0	0.0	0	316	-3.5
Rest*	313				7,344			3,944	3,400	
Sum	2,301				31,031			6,759	24,273	
<i>Good darlings (Gov. index > -2.3)</i>										
India	1,155	2,993	3	0.1	3,918	0	0.0	0	3,918	-1.3
Turkey	75	11,209	22	0.2	1,653	0	0.0	0	1,653	-0.1
Morocco	32	4,081	37	0.9	1,194	0	0.0	0	1,194	-1.7
South Africa	49	9,333	20	0.2	1,007	0	0.0	0	1,007	1.7
Sri Lanka	20	4,333	49	1.1	996	0	0.0	0	996	
Jordan	6	5,082	150	3.0	894	0	0.0	0	894	0.2
Georgia	4	4,335	185	4.3	789	0	0.0	0	789	-0.7
Kosovo	2	5,969	412	6.9	744	0	0.0	0	744	-2.2
Tunisia	10	7,512	59	0.8	617	0	0.0	0	617	-0.3
Ukraine	46	5,737	13	0.2	608	0	0.0	0	608	
Serbia	7	9,967	79	0.8	582	0	0.0	0	582	-1.0
Armenia	3	4,794	180	3.8	556	0	0.0	0	556	-1.3
Peru	29	7,836	18	0.2	539	0	0.0	0	539	-1.8
Brazil	194	9,414	3	0.0	488	0	0.0	0	488	0.8
Mongolia	3	3,198	146	4.6	389	0	0.0	0	389	-2.0
Bosnia-Herz.	4	7,266	102	1.4	385	0	0.0	0	385	-2.0
Albania	3	7,449	108	1.4	340	0	0.0	0	340	-0.7
Namibia	2	5,821	153	2.6	332	0	0.0	0	332	1.9
Rest*	344				5,972			1,665	4,307	
Sum	1,989				22,001			1,665	20,336	
All darlings	4,291				53,032			8,424	44,609	

* Detailed data for aid darlings from which donors should reallocate more than US\$300 m are shown. Data for the other aid darlings are aggregated in "Rest." Note: Aid presented in this table is CPA. Source: Computed by authors based on [OECD \(2011c\)](#) and [World Bank \(2011a\)](#), [World Bank \(2011b\)](#).

to fight extreme poverty. So what we have tried to do is to measure how much could be gained if all donors were concerned only with aggregate poverty reduction and completely ignored political costs of coordination. In this experiment we consider only country programmable aid. It is clear that aid after re-allocation would be concentrated in fewer countries. The re-allocation would lead to a modest increase of poverty among the donor darlings and a large decline in poverty in the orphan countries. Clearly our estimates must be seen as an upper limit as to what can be achieved.

5. THE POLITICAL ECONOMY OF IMPLEMENTATION OF THE RECOMMENDATIONS

We have presented new empirical evidence on the potential effectiveness gains of two forms of aid coordination.

These were the gains from reduced fragmentation of aid of US\$1840 million and gains from coordinated allocation across countries of US\$19,491 million for the case when we reallocate only between countries with equal quality of governance.

We started this paper by identifying four key dimensions of the Paris Agenda, namely (i) harmonization, (ii) ownership, (iii) alignment, and (iv) transparency. We now conclude by a discussion of the relevance of our results for these aspects, as well as their political feasibility.

With regard to *harmonization* we find that major cost savings can be achieved if donors concentrate their aid efforts on fewer countries and focus on more general forms of aid transfers, such as general budget support. There may be political constraints on such a change, since it would mean that major donors would have to abandon certain countries, while they may feel that they have a political

Table A1. *Recipient Countries Not Included in the Analysis of Aid Orphans in Section 4(b)*

Country	CPA, 2009, million US\$
Palestinian administered areas	2,204.6
Mayotte	549.11
Myanmar	180.18
Somalia	175.61
Suriname	157.1
Territory of Wallis and Futuna Islands	118.28
Cuba	79.13
Montserrat	44.13
St. Vincent and Grenadines	35.25
St. Helena	30.89
Korea, Dem. Rep.	25.99
Nauru	23.27
Tuvalu	17.09
States ex-Yugoslavia	10.9
Tokelau	9.72
Niue	9
Cook Islands	8.36
Anguilla	1.62
Total	3,680.23

Note: These countries could not be included since they lack data for both GDP/cap and GDP/cap (PPP). Source: OECD (2011c)

interest in showing presence there. To focus aid on more general forms of assistance may be politically easier, but donors are reluctant to go for general forms of aid when they are uncertain about recipients' quality of governance or their transparency. Major gains in terms of poverty reduction can also be achieved if donors coordinate their aid allocation across countries. But such a coordination of allocation would mean that countries would have to abandon some partner countries with which they would like to maintain links, which makes it hard to find political support in the major donors for such a move.

Two closely related dimensions of reform are *ownership* and *alignment*. Donor coordination and more general forms of aid should make alignment easier and lead to increased ownership. There is at least a presumption that this could lead to faster economic growth and thus more rapid poverty reduction.

We furthermore may note that *transparency* is required if donors are to be willing to shift to more general forms of aid, which would mean a higher degree of ownership. What is required is, first and foremost, that the budget process is transparent so that the flow of funds through the government can be followed. It is clear that this is important for the effective functioning of government, but there is little evidence as to how donor coordination affects this. This would depend on how donor coordination affects the incentives on the recipient side.

Most of these conclusions are rather uncontroversial, but there has been little movement of donor choices in this direction. Why? To answer this question, we need to think about how the issue of coordination looks from the perspective of donors (Bigsten *et al.*, 2011). Aid coordination efforts may reduce donor transaction costs and increase the possibilities of achieving donor objectives in recipient countries (e.g., poverty reduction), but it will also have political costs in so far as the donor loses some political control of aid transfers. So donors will weigh the importance of political influence against poverty reduction effectiveness. Larger countries put greater weight on their political influence than smaller ones, partly because they pursue international strategies but also because they have the required clout to be able to assert their influence.

One must ask why the actual allocation is far from the "optimal" poverty reducing allocation. Obviously donors have other aims apart from maximized alleviation of global poverty. They want to be present in a broader range of countries for economic and political reasons, and this means that there are political constraints on the re-allocation our analysis suggests. Therefore, the extent of coordination will depend on the political goals of the participating countries.

Donor coordination can be organized in different ways. Either donor countries could channel more of their aid through some multilateral channel(s) the EC or they could accept tighter coordination of such an organization. Even if a reduction in transaction costs would be easier within one structure, it would be a radical change politically to channel much more of aid through multinational channels. So what can be achieved in the short-term is probably a strengthening of the processes of joint programming and policy coordination.

One popular idea among donors is that one must have "corruption free aid," but this is not without problems. If only projects are pursued, where there is no risk of corruption, it may well be that only the projects which are unrelated or insulated from to the local context are chosen. This is certainly not what the Paris Agenda argues for and it may mean that aid effects are not sustainable. The harder the donor pushes for this, the less likely it is that the Paris Agenda will be actively pursued.

It is clearly the case that donors should be willing to take some risk in the aid processes and possibly to coordinate their activities to manage these risks. It is not desirable for donors to hold back on the implementation of reforms because they are risky, if one is convinced that they lead to better outcomes for the recipients in the long run. It should be possible to admit that interventions have failed, but according to the current perception one risks undermining aid support if one admits failure. There is a need for a more serious management of risks, and it should involve recipient governments as well.

Table A2. *CPA 2009, Million US\$*

Recipient	Donor		
	Countries (incl. the European Commission)	Multilateral (excl. the European Commission)	All donors
Countries	61,772	25,866.06	87,638.06
Regions	7,606.31	1,832.58	9,438.89
Total	69,378.31	27,698.64	97,076.95

Note: All donors for whom there are CPA data in the DAC dataset are included in this table. Total CPA from country donors (including the European Commission) in this table, 69,378.31, differs from total CPA in Table 1, 65,326.36, since not all country donors included in this table could be included in Table 1. The reason is that there are data for fewer donor countries on administrative cost than on CPA. Source: OECD (2011c).

NOTES

1. By aid effectiveness we mean that aid is effective in terms of achieving good development outcomes (higher incomes, reduced poverty, and social improvements) in the recipient countries relative to the resources spent.
2. We also included those new donors which had reported data (the Czech Republic, Korea, and Turkey). We have had to exclude Arab countries, Hungary, Iceland, Israel, Poland, Slovak Republic, Slovenia, Thailand, and Chinese Taipei and some small donors, since they do not report administrative costs. They have a total bilateral ODA of US\$4,974 million.
3. [Tengstam \(2013\)](#) updates the estimates of [Bigsten et al. \(2011\)](#).
4. They also do an analysis of the effect of the number of links between donors and sector in countries, to check whether there is more information in the links to sectors over and above what was picked up in their first regressions. As it turns out there are no added effects of including this dimension.
5. By DAC member we refer to the members as of January 1, 2013.
6. [Easterly and Pfutze \(2008\)](#) collect information from donors about administrative costs. Their estimates indicate that there is a huge variation across countries and multilaterals. The average for bilaterals is 7%. It is noteworthy that the share of administrative costs in their sample of 21 countries is close to our own estimate for Sida.
7. Developing and donor countries stated in the Accra Agenda for Action that that “we will work to address the issue of countries that receive insufficient aid” (AAA: Point 17d).
8. Six recipients had missing values for 2009 for GDP/cap (PPP) but did at the same time not have missing values for GDP/cap. For these countries we assigned $GDP/cap (PPP) = 2 * GDP/cap$. For five of the countries, Barbados, Kosovo, Marshall Islands, Oman, and Palau, their GDP/cap were over 2500 USD and their optimal aid level would be zero for any reasonable factor used (we, as stated, used the factor two). For the sixth country, Zimbabwe, GDP/cap was 449 USD, and we consequently assigned GDP/cap (PPP) the value 898 USD (PPP).
9. This level is based on the average estimate of 30% for all aid in nominal dollars in the studies surveyed by [Clemens and Radelet \(2003\)](#). This estimate is first scaled down to 20%, since we only consider CPA and not all aid. It is then scaled down further to 10%, since we use PPP-figures for GDP/capita. We use PPP-adjusted figures, since we let poverty be a function of GDP/capita, see expression (4). This simplification should be more accurate when using PPP-figures than nominal figures. As a sensitivity analysis we test one lower saturation point, 7%, and one higher, 13%. The results are presented in detail in [Tengstam \(2013\)](#), but the overall conclusion is that with the lower (higher) saturation point 3% less (3% more) aid should be reallocated if not taking aid absorption capacity into account. The net benefit is 5% lower (8% higher). How much that should be reallocated from each darling is almost unaffected by the choice of saturation point, since these are mostly countries that are not very poor, and the optimal aid level for them is zero for any reasonable saturation point. On the orphan side the saturation point matters more for how much more aid each orphan should get. With the lower (higher) saturation point less (more) aid should go to the poorest orphans, and more (less) to the not so poor orphans. For e.g., Ethiopia, Uganda, Tanzania, Ghana, and Niger the recommended increase is halved (raised by one third). Since many of these not so poor orphans, e.g., Pakistan, Nigeria, and Uzbekistan, score badly on the quality of governance index, 22% less (34% more) aid can be reallocated from bad darlings to good orphans if taking aid absorption capacity into account with the lower (higher) saturation point. The net benefit would be 20% lower (32% higher).
10. See, for example, [Bigsten and Shimeles \(2007\)](#) on variation of the elasticity across African countries. Assuming the elasticity being the same for all countries should have a modest effect on our aggregated estimates, but a larger effect on the estimates for individual countries. But using estimates for elasticities for countries also has its drawbacks. The variation of the income elasticity of poverty across countries might depend very much on which poverty measure is used. If a country has high elasticity based on headcount one-dollar-a-day-poverty, but low elasticity based on headcount two-dollar-a-day-poverty, or based on depth of poverty, it is not obvious that that country should have a high weight when reallocating aid money.
11. This is calculated using Eqns. (3) and (4).
12. The Worldwide Governance Indicators (WGI) project studies six dimensions of governance ([World Bank, 2011b](#)). For each dimension a governance indicator is estimated. We use the sum of the six indicators as a governance index. The weighted average of the governance index within a group of partner countries is weighted using the amount of aid that should be reallocated as weights. Five recipients, Sri Lanka, Ukraine, Belarus, Montenegro, and Libya, with a combined aid of US\$1,794m to potentially reallocate, had missing values for 2009 in the dataset. All of those were darlings. To make a conservative estimate of the potential gain from reallocating aid we assumed them to be “good darlings.”
13. US\$24,273 million minus US\$23,828 million = US\$445 million is the sum not transferred to good orphans.

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APPENDIX A

We assume that the administrative cost of multilateral ODA is relatively small and can be ignored here. Further we assume that the administrative cost of CPA is twice as high as the administrative cost of bilateral ODA that is not included in CPA. In 2009 the size of CPA was US\$65,326 million and the size of bilateral ODA neither CPA nor administrative cost) was US\$39,043 million. (The numbers are from Table 1.)

Now we can calculate the proportion of the administrative cost that is related to CPA. Let x be the administrative cost percentage for CPA. Then the admin cost for rest bilateral ODA (bilateral ODA not CPA and not admin cost) is $0.5x$. Total administrative cost = $65,326x + 39,043 * 0.5x = 84,848x$. We now can conclude that the proportion of the admin cost that is related to CPA is $65,326x / 84,848x = 77.0\%$. (Note that x cancels out.) This proportion would be 71.5% (80.7%) if instead assuming that the administrative cost of CPA is 50% (150%) as high as the administrative cost of bilateral ODA that is not included in CPA

APPENDIX B

OECD (2011a: Table B9) reports PBA as share of CPA by donor. We use these shares to construct a weighted average for the donors we study (due to missing data Greece, Poland, and the Czech Republic were not included when calculating this average). CPA for 2009 is used as weights. This way PBA/CPA is found to have been 39% in 2009. The best case scenario would be that all aid was PBA. We use this as benchmark. We further know that the administrative cost for non-PBA aid is 299% of the administrative cost for PBA aid ($299\% = 1/0.335$). The figure 33.5% is from Sida (2011). This tells us that the administrative costs in 2009 were $(0.39 * 100\% + 0.61 * 299\%) = 221.39\%$ of benchmark. If the target in Indicator 9 which states that 66% of aid flows should be PBA was reached, the administrative costs would be $(0.66 * 100\% + 0.34 * 299\%) = 167.66\%$ of benchmark. We now can conclude that the proportion of the administrative costs related to CPA that would be saved is 53.73% of benchmark/ 221.39% of benchmark = 24.3%. (Note that “benchmark” cancels out.)