



Document de travail de la série

Etudes et Documents

E 2008.10

Adapting Aid Allocation Criteria to Development Goals

*An essay for the 2008 Development Cooperation Forum
United Nations Economic and Social Council*

by

Patrick Guillaumont*

Revised 2 May 2008

*President of FERDI (Fondation pour les études et recherches sur le développement international), Professor at Université d'Auvergne (CERDI), and Member of the UN Committee for Development Policy. This paper relies on a work led with Sylviane Guillaumont Jeanneney and benefitted from the research assistance of Aline Mosnier at CERDI/FERDI. Useful comments by Edward Anderson on a draft version are also acknowledged.

Summary

This paper analyzes aid allocation from a normative point of view. It attempts to design aid allocation criteria adapted to development goals and combining the principles of effectiveness and equity in a transparent and integrated framework. The common view about aid selectivity, which essentially refers to the quality of governance and policy indicators, is challenged for several reasons, in particular the weakness of the relationship between these indicators and aid effectiveness and the risk of countries facing exogeneous difficulties being left behind. Consistent with the lessons of the literature on aid effectiveness, new criteria for aid allocation are proposed, in particular that of structural vulnerability which has been shown to increase the marginal effectiveness of aid, because aid dampens its negative effects. Moreover, equity principles in aid allocation involve promoting equal opportunities (for economic growth and to reduce poverty), which means giving more aid to countries facing more severe structural handicaps. Thus a rational basis is given for allocating more aid to the LDCs (least developed countries), designated as low income countries suffering the most from structural handicaps. Using the Economic Vulnerability Index (EVI) set up for the identification of LDCs also leads to giving special attention to small and vulnerable countries which are not LDCs, and to fragile states as well.

Introduction

In the discussion on how aid can contribute to the attainment of the Millennium Development Goals (MDGs), first debated was the issue of scaling up associated with the idea that a "big push" can move poor countries out of an underdevelopment "trap". We consider that an aid-supported big push, although challenged by absorptive capacity concerns, is relevant in as far as aid implementation is adapted to these challenges (Guillaumont and Guillaumont Jeanneney 2007). And it still appears high on the international agenda. However, with the recent slowing down in the total aid effort of OECD donors, following its increase from 2000 to 2005, the issue of aid allocation between recipients has gained renewed importance.

Aid allocation to developing countries can be analyzed from several points of view (Mc Gillivray 2004). "Positive" studies try to explain the actual pattern of allocation and why it could differ between donors. More normative but still descriptive studies assess the quality of aid allocation, the so-called "aid selectivity". A third set of studies, both normative and prescriptive, looks for an "optimal" aid allocation. Although the three kinds of study are not independent, focus is here on the third one, which is a primary concern both for donors and recipient countries: what share of a total amount of aid should be allocated to the different developing countries?

Very few studies have tried to answer this question at the global level (a seminal and enlightening contribution being that of Collier and Dollar, 2001, 2002). Most have been carried out by aid agencies in order to set up guidelines for the inter-country allocation of their own resources, and only some of them use a rigorous framework with quantitative criteria combined in a formula or a formal model. Others only identify priority countries. Moreover, all the formulas used with this aim are not made available (see Anderson 2008). The most explicit is that used by the World Bank for the allocation of IDA funds. It is also the most influential, not only due to the size of IDA resources. To some extent, several other formulas, in particular those of multilateral development banks (African Development Bank, Asian Development Bank), replicate that of the World Bank. Moreover, the World Bank formula, as well as the similar ones of regional banks, reflects a common wish of the donors, who consider the allocation formula when they decide the replenishment of the resources of multilateral agencies. For these reasons, it can be considered as the most conventional formula.

This conventional formula corresponds to the so-called "Performance Based Allocation" (PBA). The "PBA" systems, according to Anderson (2008), "share five main characteristics in common:

- the use of a publicly-available aid allocation formula, most often including just three indicators: GNI per capita, population size and a measure of country performance;
- the use of subjective measures of recipient country performance (....)
- a much larger weighting, within the allocation formula, given to countries' performance ratings, as opposed to their GNI per capita;
- additional support, for a limited amount of time, to post-conflict countries;
- pre-selection for eligibility, determined by a combination of low GNI per capita and lack of creditworthiness leading to an inability to borrow on market terms"

It means that the PBA conventional formula is applied primarily to a subset of developing countries, for instance, at the World Bank those which are IDA eligible. When a formula is to be applied to all developing countries likely to receive ODA, the income level is given more weighting, and performance less. Thus aid allocation formulas may differ according to their coverage, one being for the set of all developing countries, another one for a smaller set mainly composed of low income countries.

Not all the allocation formulas rely on the same criteria as those included in the PBA. Criteria may be few, but different: for instance, and noticeably, the UNICEF formula includes, besides GNI pc, the size of the child population (instead of total population), and, a more important difference, the under-five mortality rate (instead of "performance"). Conversely, a formula may use a lot of criteria: for instance a complex system is that used by the European Commission for the replenishment of the tenth European Development Fund (European Commission, 2007). First, it designates two envelopes, one (A) for the programmable part and the other one (B) for unforeseen needs such as emergency assistance. Secondly, the calculation for part (A), mixing quantitative criteria and qualitative judgements, is made from a quantitative model (80%) and a "governance incentive tranche" (20%), which is based on "identification of the main weaknesses in the current governance situation and the quality of the reform agenda". The quantitative model introduces very numerous indicators, weighted in various ways, and aiming to reflect both needs and performance¹.

¹ Indicators include, *inter alia*, 9th EDF initial allocation, population and income per capita (non linear weighting), relative proportion of the young in the population, prevalence of HIV/AIDS, UNDP poverty index

In this paper we focus on the PBA or conventional formula and refer separately, when needed, to other allocation formulas or systems. We argue that the corresponding rules of aid allocation should be revisited and suggest how it can be done.

The paper is organized as follows. First, it is necessary to come back to the principles which should underly aid allocation, retaining essentially the search for equity (defined as the promotion of equal opportunities) and for effectiveness (in the contribution of aid to the reduction of poverty or more generally the achievement of the MDGs). Secondly, referring to these principles, we consider what is wrong with the usual formulas: essentially a neglect of the equity concern and a misleading use of the notion of performance, needing arbitrary adjustments and exceptions. Thirdly, we suggest the main lines of an integrated approach, transparent because using a limited number of clear criteria, balancing effectiveness and equity criteria, straightforwardly including structural economic vulnerability, and thus treating specific cases and categories within a general and consistent framework. Fourthly, relying on rough simulations of various formulas, we consider some implications of the implementation of the rules proposed. Finally, comments are made on some remaining issues, in particular the consideration of regional integration and climate change in aid allocation.

Back to principles: combining effectiveness and equity in a transparent manner

Any formula of aid allocation should rely on three principles:

- 1) effectiveness: aid should be allocated in such way it can contribute effectively to the attainment of its goals, here supposed to be the MDGs;
- 2) equity: aid should be allocated in an equitable manner, depending on what is meant by equity, here supposed to be the equalizing of opportunities;
- 3) transparency: the main rules of allocation should be clear and available to anybody, since they reflect the policy of the international community.

We briefly consider these three principles.

(modified), growth instability, geographical location (various indicators: import transport costs, population density, landlockedness and insularity,...), three categories of performance with their own indicators (aid, economic, social), plus various ceilings and floors, etc.

Effectiveness

Aid effectiveness has been the subject of numerous discussions during the last ten years. Everybody may agree that aid effectiveness depends *inter alia* on some specific features of recipient countries. If these features are clearly identified, they should be retained as aid allocation criteria, so that aid will be allocated "effectively".

A preliminary issue is the determination of aid goals. It can be agreed that these are the Millennium Development Goals. However the bulk of the analysis of aid effectiveness is related to the relationship between aid and economic growth. Indeed poverty reduction (MDG1), and some other Millennium goals as well, depend primarily on economic growth, but based on links and coefficients likely to differ among countries. Thus, the criteria of aid effectiveness should normally be broader in scope than growth alone..

Two main criteria of aid effectiveness have emerged from the debate in the last decade .

The first one is *policy, institutions and governance*: measured in one way or another, these criteria have been the core of the mainstream literature on aid effectiveness initiated by a Burnside and Dollar paper (1997-2000) and the book *Assessing Aid* by the World Bank (1998). The basic idea is that aid is more effective when the policy and institutional environment is "good", because aid is then more likely to be used rationally, or not wasted. The determination of aid effectiveness by the quality of policy and institutions is a basic relationship in the model of optimal aid allocation by Collier and Dollar (2001, 2002). However, the robustness of the econometric finding has been seriously debated² (e.g. Hansen and Tarp 2001, Dalgaard and Hansen 2001, Lensink and White 2001, Easterly 2003), including in the *World Bank Economic Review* (Roodman, 2007). Moreover the supposed relationship relies on the hypothesis that aid has no effect on policy, a hypothesis which has itself been debated in an influential book edited by the World Bank authors (Devarajan, Dollar, Holmgren, 2001, and comments by Berg, 2003, and Tarp, 2001). Policy may finally be considered less because it is a factor in aid effectiveness than because its change is a goal

² In more technical terms in a growth regression the coefficient of the additive " policy" variable is positively significant, while that of the multiplicative variable "policy x aid" is not.

of aid allocation. The meaning of a possible policy criterion is not then the same, as we shall see.

A second category of factors is related to *exogeneous shocks and structural economic vulnerability*, to which can be added the post-conflict situation. While vulnerability to exogeneous shocks, external or natural, is a negative factor of growth, aid is likely to dampen their effects, lowering the relative shortfall of resources and avoiding economic collapse (Guillaumont and Chauvet, 2001). In post conflict situations aid facilitates recovery and lowers the risk of new conflict (Collier and Hoeffler, 2004). Thus, vulnerability increases the marginal effectiveness of aid. The econometric tests of this finding have been found more robust than those of the conventional view on the effectiveness of policy-driven aid (Roodman, 2007). And it has been confirmed both at the macro and the micro levels (respectively in Chauvet and Guillaumont, 2004, 2008, and Guillaumont and Laajal, 2006). Moreover, it can be argued that aid, by dampening the impact of shocks, makes growth not only faster, but also more pro-poor, because more unstable growth is less pro-poor (Guillaumont, 2006, 2007b).

Briefly stated, structural vulnerability seems to be a major factor in aid effectiveness. However, a more open conclusion would be to consider both structural economic vulnerability and the quality of policy as significant factors in aid effectiveness and consequently as relevant criteria for aid allocation.

Equity

Although official development assistance is not designed as a simple redistributive transfer from richer to poorer countries, with the aim of increasing global welfare, equity considerations cannot be omitted in designing principles for aid allocation. Aid allocation should not only be effective, it should also be equitable. Implementation of such a principle needs to make explicit the meaning given to "justice". A modern idea of justice, developed in particular by Rawls (1971) and Roemer (1998) with reference to individuals is to give equal opportunities to all individuals: inequality is not opposed to justice insofar as it results from differences in effort or performance, but it is when it results from differences in opportunities³.

³ The *World Development Report 2006* endorses this idea of justice (World Bank, 2005)

Looking for justice then involves *equalising opportunities*. The same applies to nations⁴. With regard to economic growth and poverty reduction goals, international justice means trying to compensate countries for their structural handicaps to growth and reducing poverty. Structural handicaps are those which are durable and beyond the present will of the country (of course they may result from past policy): they mainly reflect the impact of historical or geographical factors, as well as that of the international environment.

We here should note that the Least Developed Countries (LDCs) have been precisely designated as those low income countries suffering the most from structural handicaps to growth. They are consequently identified by three criteria: income per capita, human capital (measured by the Human Assets Index, HAI) and structural vulnerability (measured by the Economic Vulnerability Index, EVI); the levels of (100-)HAI and of EVI, two composite indices, are supposed to reflect the main structural handicaps faced by the country (United Nations 2008, Guillaumont 2008). It follows that there is a rationale in the specific target internationally agreed for ODA to LDCs, a topic to which I will come back later.

Transparency and simplicity

The third principle to apply in formulating aid allocation criteria is the transparency of the method applied. The allocation of aid is a political decision. The rules and principles behind this decision need to be perfectly understandable to the policy maker. There may be sophisticated calculations needed to obtain the component indicators leading to the composite indices, but the nature of these indicators should be clear, as well as the rule for their aggregation.

Briefly stated, for aid allocation there is a trade-off between the possible complexity of the effectiveness and equity assessment and the need for clarity and simplicity.

⁴ Llavador and Roemer (2001), then Cogneau and Naudet (2007), have attempted to apply this principle in an optimal aid allocation model, but both with an aid effectiveness relationship of the pure Collier and Dollar kind (depending only on policy) and some peculiar results (cf Mc Gillivray 2006).

What is wrong with the usual formulas?

The usual formulas have been empirically set up and progressively reformed in response to their most obvious shortcomings. At the present stage of the process, they neither rely on sound analytical bases nor illuminate by their transparency. The extent to which they are known and understood by public opinion in the donor countries and appreciated by the governments of the recipient countries is doubtful.

The usual principles of allocation refer to "performance" and "needs", which could respectively correspond to the effectiveness and equity principles presented above. In both cases, however, the actual correspondence is loose, at best. Let us first consider needs, then performance, two appealing but ambiguous concepts.

A narrow view of needs instead of a search for equity

Aid needs are not a new topic. They were calculated three or four decades ago as a gap between the amount of investment required to reach a given rate of growth and the level of savings available, or as a gap between the amount of imports also required for a given rate of growth and the likely level of exports: these two gaps, familiar in the development literature of this time, were related to foreign capital inflows of any kind (the so-called resource gap), not to ODA only. Indeed the bases of their calculation have been strongly and rightly criticized. But they were clearly needs to reach a goal. The needs (of aid) which are now considered in the conventional allocation formulas are not really assessed with regard to the goals to be reached⁵. The only, but reasonable, indicator of aid needs per capita⁶ in the usual formula is the level of GNI per capita, to which a small weighting is given. Simplicity is here to be acknowledged.

The single reference to needs as related to the level of income presents two drawbacks. First, it gives a narrow view of the MDGs and of real needs, since no human indicator is considered. Secondly, it does not correspond to the idea of justice as an equality of opportunities which is to be promoted by development aid. With respect to this idea of justice, structural handicaps

⁵ It should not be the case in optimal allocation models of total aid (see for instance the calculation of aid required to halve poverty, country by country in Anderson and Wadington, 2007).

⁶ Of course total "needs" also depend on the population number, which is included in the formula as a multiplicative factor, and is consequently said to be given a significant weighting.

have to be considered, as well as the level of current income. A low level of human capital (measured by health and/or education indicators) is then missing in the usual criteria for two reasons: it corresponds more closely than income to the Millenium Development Goals and it reflects a structural handicap to growth. For the second reason structural vulnerability, which is a major handicap to growth and development (Guillaumont 2006), is also missing.

Subjective assessment of performance instead of a search for effectiveness

Performance too is an ambiguous concept. Strictly speaking, it refers to the quality of results obtained from policy, but in the conventional (PBA) aid allocation formulas, it refers to the alleged quality of policy itself. It seems that the meaning of performance has been shifting, along with the process of designing aid allocation criteria. Initially, following the argument developed by *Assessing Aid*, Burnside, Collier and Dollar (the "ABCD paradigm"), the criterion introduced under the headings of performance referred to the policy or institutions likely to enhance aid effectiveness (for growth). Although the empirical grounds of the relationship between policy and aid effectiveness were weak, the rationale was the search for effectiveness. In this respect, the main criticism of this approach was the omission among criteria of the other factors likely to determine aid effectiveness. As noted above, a major factor is the economic vulnerability of countries, which would be a relevant criterion because it increases aid effectiveness, and not only because it is a structural handicap to be compensated for equity reasons.

Maybe due to the weakness of the link between policy and aid effectiveness, the meaning of "performance" has changed, becoming more and more an assessment of the recipient's policy made by donors and reflecting what they think to be the right policy for developing countries. It is not an assessment of the impact of policy, which the word performance suggests. Performance criteria have thus become a reward for having adopted the alleged right policy and an incentive to adopt it, rather than a solid basis for increasing aid effectiveness. Allocating aid according to a judgement on policies may also have been a response to a concern of public opinion in developed countries.

This move is well illustrated by the use made of the CPIA⁷ in the World Bank formula. Not only is the weighting given to the CPIA overwhelming compared to the GNI per capita (on the grounds that the formula is applied exclusively to IDA eligible countries), but the IDA calculation of the so-called "country performance rating" (CPR)⁸ gives a major weighting to part D of the CPIA, which covers the governance items.⁹ Through the CPIA, the "performance" criterion aims at rewarding good policy and governance, and giving an incentive to reform.

Within the discussion on aid allocation criteria, a specific debate has emerged on CPIA, on its composition as well as its use. Criticism has concerned the subjectivity and variability of the assessment of the items, which we do not discuss here (see for instance Michailof 2005 or Lafourcade 2007), and their relevance as performance indicators. Indeed, as stressed by Kanbur (2005) most of them are related to policy measures or environment, none to outcome and impact. Ravi Kanbur has made what he names a "modest proposal" to add items such as changes and levels in child mortality, to have both indicators of real performance and of real needs. Performance assessment should indeed rely more on the impact of policy than on the policy itself.

This issue is linked to that of the conditionality of budget support: traditional conditionality related to policy measures has been criticized because it discourages ownership and is then ineffective (see for instance Collier et al. 1997), and it has been proposed to replace it by an outcome-based conditionality, also called performance-based conditionality (performance being measured by outcomes or impact), with some partial attempts to implement it, in particular by the European Commission (of which a preliminary assessment has been given in

⁷ The CPIA (Country Policy and Institutional Assessment), designed by the World Bank, is composed of 16 components, gathered into four clusters (A: Economic management; B: Structural Policies; C: Policies for Social Inclusion; D: Public Sector Management and Institutions)

⁸ Under the PBA system used for aid allocation by IDA, and other multilateral development banks as well, the resource allocation formula includes in its "performance" component, called "Country performance rating" (CPR) not only CPIA elements, but also a portfolio performance rating (PORT) reflecting the percentage of IDA-funded projects at risk in each country. The composition of the CPR has recently changed (for IDA 15, and ADF 11 as well) so that to avoid a double counting of a part of CPIA inherent in the previous formula, and using a decomposition of CPIA between clusters A to C (related respectively to economic management, structural policies, policies for social inclusion) and cluster D related to governance, stronger weighting being given to cluster D : 0.24 for CPIA_{A-C}, 0.68 for CPIA_D, and 0.08 for PORT (World Bank, 2007). Then the resource allocation formula is a geometric average of the CPR (exponent 5), the GNI per capita (exponent -0.125) and the population (exponent 1).

⁹ Items of section D "Public Sector Management and Institutions" are: property rights and rule-based governance; quality of budgetary and financial management; efficiency of revenue mobilization; quality of public administration; transparency, accountability, and corruption in the public sector.

Adam et al. 2004). The superiority of outcome criteria (outcomes preferably related to the MDGs) over policy measurement criteria, for aid allocation as well as for the conditionality of budget support, is to promote ownership¹⁰, gaining in legitimacy. With regard to the present move towards an outcome-based conditionality of budget support, it would seem consistent to modify the so-called performance criterion of aid allocation by focusing on achievements, such as the reduction of child mortality or the increase of learning attainment, at least by giving more weighting to them.

Anyway, it is still debatable whether "performance", designated either by policy or by outcome, is a criterion as relevant for aid allocation as it is for the conditionality of budget support. It can be argued that what matters for aid allocation is the search for effectiveness and that only factors of effectiveness should be retained as allocation criteria, while the search for the right incentives is a matter of conditionality. Governance itself may be more important as a factor in choosing the type of aid than as a factor for determining its level (Guillaumont and Guillaumont Jeanneney, 2007).

Fragile states, fragile concept

The shortcoming of the quasi exclusive reliance on policy and governance indicators (through CPIA) has led to a paradoxical situation. According to the principle of performance, the major criterion for aid allocation was the CPIA. It has rapidly become clear that a rigorous application of the principle was untenable. Numerous countries, in particular those in post conflict situations, facing the most severe political problems, evidenced a very poor CPIA rating and at the same time a strong need for assistance. For these low income countries in the most severe situations and appearing as aid orphans, a new concept was designed, that of LICUS (low income countries under stress), now included in the broader one of "Fragile states". And a special window (or budget) had been opened for some fragile states (eg post conflict countries with IDA) in the aid allocation framework of several multilateral institutions.

¹⁰ And to abandon the assumption that donors know better than a recipient country what is the best policy for that country.

Although there are several definitions and groups of "fragile states", those used in the conventional allocation procedures rely also on CPIA (fragile states are low income countries with low CPIA). In particular the post-conflict countries evidence a low CPIA. Thus the aid allocation decreases when CPIA decreases, but when the latter has become very low, it may be made higher. For instance, with reference to the quintiles of the CPR among the IDA eligible countries, the level of IDA disbursements per capita (for 2006) first increases, then decreases (and increases again) when the CPR increases (see the table and graph in Appendix 1).

Such a hiatus or discontinuity in the use of policy and governance indicator reveals the logical weakness of the allocation rule. Fragile states do raise a real issue, which is not addressed by the current allocation criteria. But giving some of them special treatment while maintaining the traditional rule leads to disadvantaging those countries with a lower middle "performance" indicator, but not so low to be considered as deserving special support. They then may face a higher risk of becoming more fragile states. The allocation rule, relying on CPIA, with a special window or special treatment for post-conflict countries or other fragile states, appears to reveal a curative concern, rather than a preventive one.

Prevention concerns would be better answered, and discontinuity avoided, if structural economic vulnerability was taken into consideration as an allocation criterion, because it is a factor explaining the quality of policy and the risk of being a fragile state¹¹.

It should be added that the weighting given to CPIA, and particularly to governance is a factor of volatility in aid allocation, since variables behind this indicator may change rather quickly, and even more the judgement on them, according to the spirit of the day, leading to the "darling and orphan" syndrome. This would not be the case with structural economic vulnerability.

Discontinuities and segmentations in aid allocation: complexity versus transparency

The treatment of policy and governance of recipient countries is not the only discontinuity occurring in aid allocation. Another source of discontinuity is due to the treatment of

¹¹ EVI is a significant factor of CPIA (Guillaumont 2007b)

population size. The usual allocation formulas, when they are applied to all aid recipients, which means when not excluding very large countries (for instance India, Indonesia, Pakistan for IDA , also China for the Asian Development Bank), are supplemented by a limit imposed on the level of aid a single country can receive. Such a cap or ceiling leads to a threshold effect which can be considered as beneficial to those large countries just below the cap.¹² It is as if the issue is tackled when it is most acute, and neglected otherwise.

The lack of a consistent framework on which partners agree has led multilateral institutions as well as bilateral donors to introduce numerous adjustments and special cases, making the allocation rules more and more complex. As a result, the final impact of each criterion on aid allocation becomes less and less clear. An examination of the PBA practice, for instance in the major case of IDA, reveals that, once taken into account capping for the largest countries, as well as the treatment of post conflict and other most fragile states, the allocation is determined only by the basic formula for less than two thirds of the IDA resources (or less than three quarters of eligible countries)¹³.

Another way to go is to make the exceptions the rule. An illustration is given by the allocation model of the European Development Fund, which relies on the addition of many successive factors of correction from an income and population basis of allocation and results in a very complex formula.

¹² Other caps may have some impact. In very small countries the cap to the per capita allocation (World Bank formula) limits the benefit that, progressively with their smallness, countries draw from the base allocation by country: below some threshold there is no progressive advantage from smallness. Moreover, when a floor, rather than a base allocation, is applied to the country allocation (as was the case in the previous AfDB formula), it may appear relatively detrimental to the countries which would be located close to the threshold but are not small enough to benefit from the floor, leading to the application of the floor due to their small size;

¹³ Among 82 IDA eligible, 45 non-fragile states and 16 fragile states receive a regular PBA allocation (corresponding respectively to 55% and 7% of resources). Regular PBA includes the per capita cap which has also concerned 7 countries. (cf International Development Association, 2007b).

Main lines of an integrated approach

The approach developed below is drawn from the principles examined above, and from the critical analysis of the main practices. Its aim is to combine consistency and transparency, through four main features.

Looking for transparency by using a limited number of clear criteria

For the sake of transparency and simplicity it seems better to retain only a limited number of criteria. It is a condition to make the rule transparent. Of course there may be some sophistication in the composition of each criterion, but their meaning should remain clear.

Also for clarity it should be easy to assess the impact of each criterion on the allocation, which can be better obtained by measuring the indicators corresponding to respective criteria on an identical scale (from 0 or 1 to 100, using the max-min transformation when needed). Two other problems should be addressed.

One, rather technical, is to choose between an arithmetical average and a geometrical average of the criteria. With the arithmetical average, the weightings given to each component show the absolute change in aid allocated to a country for a given absolute change in the criterion indicator (the derivative of the allocation with regard to this indicator). With the geometrical average, the weightings show the relative change in aid allocated to a country for a given relative change in the indicator (the elasticity of allocation to the indicator): with the geometrical average the absolute marginal contribution of a criterion depends on the level of other criteria indicators, which is a way to assume that the criteria are not perfectly substitutable. Multilateral banks have been hesitating between the two. Although the geometrical average can be considered as more logical, some preference seems to have been recently given to the arithmetical one for supposed reasons of simplicity (International Development Association, 2007c). Indeed the geometrical average may appear less simple than the arithmetical one. But it does not seem less easy to explain the impact of a relative than of an absolute change in the value of components, once all are expressed as indices. Moreover, according to the above IDA proposal, the choice of an arithmetical average was limited to the calculation of the CPR, while the resource allocation would still result from a

geometrical average between the CPR, the GNIpc and the population (this last variable being necessarily multiplicative for the determination of the value of the allocation). We still prefer to use a geometrical average below, but recognize that another choice is conceivable.

Another problem, more political, is to choose between designing specific indicators for the purpose of the exercise and using well established indicators, already internationally agreed. Of course, each aid source may choose its own indices, but the readability of its formula will be greater if it uses agreed indicators. Its allocation strategy and the corresponding specificity of its formula will be all the clearer in that they will be evidenced through the weightings (rather than by the choice of specific indicators). Candidate indicators are (besides GNIpc) the CPIA used by the World Bank, when available, or the Human Development Index components other than GNIpc, or the the Human Asset Index (HAI) and the Economic Vulnerability Index (EVI) set up and used by the Committee for Development Policy for Least Developed Countries (LDC) identification. The benefit of using such indicators is that they give the broad idea which is behind the criteria, leaving the possibility of progressively deepening the understanding of each criterion: it is better to have three indicators at first glance rather than their many components!

Balancing effectiveness and equity criteria, and balancing components of each set

A second feature of the approach we propose is to balance criteria of equity and criteria of effectiveness, consistently with the basic principles recalled in the first section, and to balance the main criteria of effectiveness, according to the lessons of the literature on aid effectiveness. We here retain four main criteria, following a line of thought developed elsewhere about aid selectivity criteria (Amprou, Guillaumont and Guillaumont Jeanneney, 2007).

As for equity criteria, we have three main candidates. One is the usual *smallness of GNI p.c.*, to be retained not so much because it gives a proxy of the weakness of the present welfare or a proxy of the expected extent of poverty for a given distribution of income than because it evidences the distance to reaching a high level of income per capita¹⁴.

¹⁴ Since the average is geometrical, this level can be measured in dollars or as an index, while when the average is arithmetical, it should be measured as an index, after being transformed by logarithms.

Another equity criterion is the level of *health and education*. It corresponds even more directly than GNI to the main MDGs. The equity, as seen above, more than to compensate for a present low welfare, is to consider this low level as a handicap to growth and to compensate for it.. For that reason an appropriate indicator is the so-called Human Asset Index (HAI), used for the identification of the LDCs and composed of four components (literacy rate, secondary enrolment ratio, under-five child mortality and the percentage of the population which is undernourished). It could be preferred to the well known "Human Development Index" (HDI), because it is more comprehensive (including a nutrition factor) and uses more reliable data (eg child mortality instead of life expectancy). Moreover the HDI includes an income component, here taken into account separately.¹⁵

Finally for the same purpose of equal opportunities, another structural handicap to growth, due to *vulnerability*, should also be taken into account as an aid allocation criterion. An indicator is available for this purpose, the Economic Vulnerability Index (EVI), designed, as HAI, for the identification of the LDCs, but useful here as well. EVI, which is presented in more detail in several previous studies (Guillaumont 2006, 2007a, 2008) as well as in CDP reports (United Nations, 2008), includes three indicators of the likely size of the exogenous shocks, either external (instability of exports of goods and services) or natural (instability of agricultural production and percentage of population displaced due to natural disasters), and four indicators of the exposure to shocks (smallness of population size expressed in logs, remoteness from world markets adjusted for landlockedness, share of agriculture, forestry and fisheries in total value added, and concentration of exports). Shock and exposure receive the same aggregate weighting within EVI.

As seen above, structural economic vulnerability is to be given special attention as an aid allocation criterion, not only because it is a handicap to growth to be compensated for, but also and even more because it is a factor increasing aid effectiveness. Retaining it in aid allocation should contribute to the dampening of likely but unforeseen shocks, and consequently to the prevention of social unrest and state fragility, which are to be prevented as much as cured afterwards¹⁶.

¹⁵ Although the HDI components other than income per capita only could be retained (HAI and HDI are compared in Guillaumont 2008, see also United Nations 2008)

¹⁶ With equal opportunities in mind, it could be useful to consider the level of natural resources. However the natural resources endowment is difficult to assess and is generally reflected by the level of GNIpc, to which in our view a higher weighting is to be given. Moreover, since resource rich countries generally have a high export

The other criterion supposed to correspond to a factor of aid effectiveness is *policy and governance*. Nobody contests the importance of economic policy and governance as factors of development. What is debated, as seen above, is the empirical grounds of their significance as factors of aid effectiveness. However, even if the econometric significance is weak, there is strong support from the international community of donors in favour of this criterion, which can also be legitimate as a signal of what is considered to be good policy and governance, and possibly an incentive to adopt such policy. Left aside here is the examination of the best way to deal with poor policy or bad governance in aid policy: ways of delivering aid may matter more than aid volume or allocation (Guillaumont and Guillaumont Jeanneney, 2007). Anyway, if such a variable is to be included among the aid allocation criteria, the issue remains of how it should be measured. The CPIA, and more specifically its cluster D, related to governance¹⁷, as used by the World Bank, can only be retained for an aid allocation formula limited to IDA eligible countries, but not for the whole set of developing countries, since CPIA is not made available for countries other than the IDA eligible ones. For application to a larger set of countries it is necessary to use other policy or governance indicators, such as the well known Kaufmann and Kraay index. In some studies, related to aid selectivity, it is argued that the choice of the indicator does not really matter since the various policy indicators are correlated (Dollar and Levin, 2004), but it appears that, for instance, a correlation between CPIA and the Kaufmann and Kraay index does not prevent the two indices from resulting in very different selectivity measures (Amprou et al. 2007). In any case, the relevance of a subjective assessment of policy and governance is always open to question.

Treating vulnerability, population size and state fragility consistently

In the preceding section we have highlighted the reasons why (structural economic) vulnerability should be included among aid allocation criteria. Vulnerability is not totally omitted in the usual PBA, in as far as special consideration is given (at least in the World Bank system) to the "small vulnerable countries" by allowing them to have access to the IDA (concessional) window even if they are above the IDA operational cut-off. A vulnerability concern may also be revealed by the base country allocation, the benefits of which are greater

concentration index, deleting this index in the EVI, as we proposed elsewhere (Guillaumont 2008), would go in the same direction (although its weighting in EVI is only 6.25%)

¹⁷ Let us recall that the criterion used by the World Bank is the CPR Country Policy Rating, a weighted average of the CPIA clusters, and a portfolio performance rating, as explained in note 6

the smaller the country (bounded by the cap applied to aid per capita). However, it is more straightforward to introduce a vulnerability indicator as an allocation criterion.

We have seen the discontinuity resulting from capping the total amount of aid for large countries in order to avoid a concentration of aid in large countries. A more gradual solution would be to calculate the total aid allocation to a country, applying to the population number an exponent lower than one. It is the solution retained by the Asian Development Bank ($P^{0.6}$) or by the Netherlands ($P^{0.7}$), and explainable by the fact that in these two cases the set of recipient countries includes countries with a large population.

Again, using a relevant index of vulnerability as a criterion is another answer to this issue. The EVI level is strongly influenced by the population size (which receives a weighting of $\frac{1}{4}$, and also influences the level of some other components). For the largest developing countries, which are at a very low level of EVI, the allocation is automatically reduced, and for very small developing countries, which are generally at the highest levels of EVI, the allocation is automatically enhanced.

Using an index such as EVI has another advantage, due to the fact that it is a proxy of structural factors influencing the CPIA level, illustrating the impact of structural vulnerability on policy (Guillaumont 2007a). It thus allows one to address the issue of fragile states and to moderate the impact of CPIA as far as its low level may depend on structural factors. And it addresses the state fragility issue both *ex ante* and *ex post*, i.e. both in a preventive and a curative manner.

Is the use of a vulnerability index as an aid allocation criterion consistent with setting up facilities to compensate for exogeneous shocks? Compensatory schemes are another response to vulnerability, indeed needed, but difficult to implement rapidly and effectively (Guillaumont 2006). The funds to be allocated to each country cannot be determined in advance, so that they are treated out of the general allocation rule and taken from a special budget for unforeseen events (e.g. the "Flex" and envelope B of the EDF). Since they are allocated *ex post*, once the shocks have occurred, they can be considered as complementary of the *ex ante* allocation according to a criterion of vulnerability. The latter alone automatically enhances the stabilizing impact of aid, which is a major factor in its effectiveness (Chauvet and Guillaumont 2007).

Specific cases and categories integrated into a general framework

Our proposal of new allocation rules aims at treating the main issues to be addressed in an integrated conceptual framework instead of leaving them for consideration as special cases and exceptions. The formula we suggest, relying mainly on four criteria, GNI pc, HAI, EVI, and a policy and governance indicator (CPIA or another similar index) allows one to address the issues raised by at least three special categories of countries.

First, it supports the priority the international community is invited to give to the LDCs., since three of the four criteria retained for aid allocation are those used for the identification of the LDCs. At the same time these criteria are used on a continuum and not necessarily on the sole basis of the category membership.

Secondly, through the EVI, the aid allocation formula also takes into account the special situation of the Small Island Developing Countries and small vulnerable countries, which do not belong to an official category as do the LDCs (Guillaumont 2007c). At the same time it may facilitate the transition for small island states which have graduated from LDC status (Cape Verde, Maldives, Samoa), smoothing the loss of advantages likely to result from the graduation.

Finally, as already stressed, the revised formula leads to the consideration of state fragility ex ante as well as ex post, and in a general framework.

Implementation of the new approach*A rough simulation*

In a broad and simple approach, using largely agreed indicators, we have simulated the allocation of aid according to several typical formulas, voluntarily avoiding all "caps", floors and exceptions. The simulation is related to the allocation of the total aid to all developing countries (Appendix 2, Table 1). A variant is related to the allocation of total aid to only the IDA eligible countries (Appendix 2, Tables 2). In no case can these simulations be considered as a completed proposal. It is only an attempt to roughly compare the results obtained from

the conventional formula with those from alternative formulas. The aim is to obtain an order of magnitude for the share of global aid going to relevant groups of countries according to alternative criteria.

Indicators used as aid allocation criteria to each country are the following:

- K: index of policy and institutions, either the CPIA available only for IDA eligible countries or the Kaufmann, Kraay and Mastruzzi index (2003);
- y : the GNI per capita;
- EVI: the Economic Vulnerability Index, as designed by the CDP and calculated by UN DESA in the process of LDCs identification;
- HAI: the Human Asset Index, designed and calculated in the same way;
- P: population size.

The formulas, which are all multiplicative, are given in Appendix 2 with the main results. The allocation is first multiplied by the population size (Table 1.A), in five formulas corresponding respectively to the following principles:

- formula 1: pure PBA formula close to that of IDA, giving a strong weighting to policy (exponent 5), and a small weighting to GNI pc (exponent -0.125);
- formula 2 : same formula, but rebalancing the impact of policy and income, to which equal weightings are given, with income taken in the reverse direction¹⁸ ;
- formula 3: formula intermediate between 1 and 2 (respective weightings of 2/3 and 1/3);
- formula 4: same as 3, but with EVI and HAI replacing policy (each with a weighting of 1/3);
- formula 5: the four criteria are retained, policy, EVI, HAI and (reversed) income pc, each with an equal weighting of 0.25, what may be seen as roughly giving equal weighting to effectiveness and equity criteria¹⁹

¹⁸ To make the formula more readable and understandable , with the sum of the weightings of the criteria other than population equal to one, the indicator corresponding to the income per capita is to be taken in the reverse direction (it is an indicator of income poverty). Moreover, since the set of countries receiving ODA includes countries with GNI per capita staying roughly between 100 and 10000 dollars, and relative differences are the most relevant for our purpose, the GNI per capita has been transformed into logs, then this log value has been transformed into an index from 0 to 100, corresponding to a scale from 100 to 10000 dollars: the difference between 100 and this index has been retained as an income criterion. Another way to do this would have been to take as an income criterion an index equal to $(10000/ \text{GNIpc})$, which would also vary from 100 to one, but with a faster decline of index when the GNIpc increases.

These are of course tentative weightings, illustrating normative choices. As for effectiveness criteria, weightings should be ideally defined with reference to the lessons of empirical studies on aid effectiveness²⁰. But these lessons, as we have seen, are not clear enough to draw precise weightings, which has led us to simulate extreme (formulas 1 to 4) cases, then an intermediate one (formula 5). Nevertheless, it could be argued that the weighting given to EVI in the last formula is underestimated, insofar as structural vulnerability is both an effectiveness criterion and an equity criterion.

Then the same calculations have been made with the population size taken with an exponent of 0.5 to reflect decreasing needs and effectiveness of aid per capita when population size increases (Table 1.B), which is another way to take into account vulnerability linked to smallness of population size and underestimated in the previous formulas.

Simulations have been made for each country, using 2005 data for all the indicators. The tables of Appendix 2 only give aggregate results for the following relevant groups:

- income groups: low (LIC), lower middle (LMIC), upper middle (UMIC);
- target groups: LDCs, SIDS, landlocked developing countries (LLDC), fragile states (FS, with CPIA<3.2), LICUS, IDA eligible countries (IDA), Sub Sahara Africa (SSA).

Comparison of results with the various formulas and with actual allocation

The main lessons to be drawn from Tables 1A and 1B (aid to all developing countries) of Appendix 2 are the following:

- the allocation resulting from the application of formula 1 according to a pure conventional PBA greatly differs from the actual allocation: the actual world aid allocation does not correspond to the most influential model; this remains true even when population is taken with exponential 0.5;

¹⁹ We have chosen the same criteria to assess the aid selectivity of donors, according to several methods, in Amprou et al. 2007.

²⁰ Weightings for policy purposes cannot be designed as they would be in research work. The same problem arises for assessing the weightings to be given to EVI: reasonable and balanced weightings are retained instead of the debatable relative impacts of EVI components on growth (Guillaumont, 2006,2007a).

- results obtained with formula 2, which gives more weighting to the level of income per capita, are consistent with the actual allocation as regards allocation between income groups; as regards allocation to target groups, which are on average small sized, the results are consistent only when the exponent of population is 0.5, reflecting then a wish of the donors to favour small countries;
- with exponent one for population, more consistency is obtained with formula 5 (including the four criteria) for target groups, which, however, stays far below the actual allocation; conversely, when population is taken with exponential 0.5, target groups obtain more than the actual allocation with formula 5 and still more with formula 4 which drops the governance indicator; these results suggest that the new formulas (4 and 5) well capture target group features other than their smallness, which correspond to the reasons for higher aid levels.

If we now consider the simulations of total aid to only IDA eligible countries (Tables 2A and 2B), the results are slightly different. All the formulas with the exponential one give a lower allocation than the actual one to the low income countries. But this is not the case when the population exponent is 0.5, which demonstrates the importance of taking the population size into account, even when EVI is introduced into the formula, at least when it is left with a weighting not higher than that of the other criteria²¹. In this last case, we see that, as previously for all developing countries, formula 5 and still more formula 4 benefits the target countries such as LDCs or fragile states.

Transition from the present state

As appears from simulations which present the relative share allocated to each group of countries, if the total amount remains the same, some will gain, while others will lose, depending on the reform examined. To be noted, most of the modifications of the actually used formulas which have occurred, except as for post-conflict countries, have been designed so that they will not significantly modify the allocation. In particular it was agreed not to change (not to lower) the weight of governance. Indeed there may be opposition to a reform leading to a lower absolute allocation to any group or even to any country. It means that a new allocation pattern is feasible only if combined with aid scaling up: an increase in the total

²¹ The alternative is to give higher weighting to EVI, on the grounds that it corresponds both to a structural handicap and to a factor of aid effectiveness.

volume of aid will allow donors to progressively move towards an optimal aid allocation without loss for any country, compared to the present allocation. The corresponding cost of optimality can easily be estimated. Moreover, the principle of a compensatory allocation to countries likely to lose out will be all the more accepted in that these are countries with (less weighted) good policies.

Some remaining issues

Three remaining issues, which cannot be fully examined here, should be briefly considered.

Global and specific aid allocations

In the preceding section we have alternatively considered aid allocation criteria to be applied at the global level or by a single donor, bilateral or multilateral. The logical grounds were supposed to be the same, which they are only to some extent. It is conceivable to assess what would be an optimal allocation of the total amount of aid (through the kind of criteria presented or through a more sophisticated model), then to raise the issue of the harmonisation of the aid of each donor with this optimal allocation: all donors may not have the same formula or not give the same weightings to various criteria, and some may wish, for historical, geographical, or cultural reasons, to give a specific orientation to their aid. And very few donors (e.g. the Netherlands) consider in their allocation the level of aid from other sources. Is there a specific role for international organisations in that context?

Aid allocation and development by regional integration

Regional integration is important for development, in particular for ACP countries due to their small average size, which raises two issues for aid allocation.

The first issue is about the treatment of regional projects in the allocation process. A fair answer has been given by putting aside an allocation representing a given share of total resources (for instance 17.5% for African Development Fund, 4.6 % for all IDA and 7.2% of the IDA allocation to African countries). Still debatable are the principle and applications of a partial imputation of regional projects to the countries concerned.

The second issue has hardly been addressed (exception found in an item of the CPIA at the African Development Bank): should the policy commitment of each recipient country to regional integration be taken into account in the country allocation? The need for such a commitment is to some extent captured by the vulnerability index, but can the commitment itself be assessed objectively?

Broadening the goals of aid allocation: the adaptation to climate change

Aid allocation has been considered in this paper with regard to development goals, which mean not only economic growth and poverty reduction but also the other MDGs, to a large extent linked to growth and poverty reduction. Sustainable development also involves resilience to climate change. A well established distinction is between climate change mitigation and adaptation. A formula is used by the Global Environment Facility to allocate its resources (GEF 2005), relying on two indicators, a "Global Benefit Index" reflecting the global environment (biodiversity and climate) benefits generated by the country and a GEF Performance Index, composed of items from the World Bank CPIA²². While the latter is not really focused on adaptation, the first of these two indicators is essentially related to mitigation.

Mitigation of climate change is an issue of the utmost importance, but rather different from development aid. Conversely, aid to cover the likely costs of adaptation at the country level is clearly a development aid and it responds to a principle of equity. How these costs can be measured remains a debated issue. If they were reasonably assessed, another issue would be to know how they can be taken into account in the system of aid allocation: is aid for climate change adaptation to be allocated separately with its own criteria or integrated into an extended development aid? In the latter case how should the allocation criteria be "adapted"? One possibility would then be to augment the composition of the economic vulnerability index so that it better reflects the costs of climate change or of the adaptation to this major change²³. In the former case, criteria for the allocation of aid to the adaptation to climate

²²For 70% by the "Policies and Institutions for Environmental Sustainability" indicator, which is one of the five items of the CPIA cluster C ("Policies for Social Inclusion"), and, for 20%, by a "Broad Framework Indicator (BFI), based on the average of the five indicators of the CPIA cluster D ("Public Sector Management and Institutions"). The other 10% are for a portfolio performance indicator.

²³EVI already includes two components reflecting natural (climatic) shocks as well as exposure components likely to capture the risk of unforeseen climatic shocks. Other possible components have been considered, but

change should include a specific index of vulnerability to climate change. It should also take into account the level of income per capita (Anderson, 2008).

Conclusions

The principles of aid allocation are to be examined with the view of making allocation more adapted to development goals. The main model of aid allocation is the so-called performance based allocation (PBA), used by several multilateral agencies and bilateral donors, and considered in this paper as the conventional model. Although highly influential, it is not universally adopted and, when adopted, not fully implemented, due to exceptions, caps and special windows which are an answer to some lack of consistency. Simulations of the pure PBA of global aid show that it is far from being the world rule.

An allocation adapted to development goals should rely on two main principles, imperfectly acknowledged by the PBA usual model: equity and effectiveness. Equity means that allocation should promote more equal opportunities among countries through criteria corresponding to the structural handicaps faced by each country. Effectiveness means that allocation should contribute effectively to economic growth and poverty reduction by retaining among criteria the main factors on which aid effectiveness depends. A next step will be to combine these principles in a comprehensive model of total aid allocation, likely to be used as a global framework. In any case,, such principles could be adopted by each source of aid in an independent and transparent manner (with specific design of the criteria and specific weightings given to each of them).

Four main criteria of aid allocation seem consistent with these principles: the level of income per capita and that of the human capital, structural economic vulnerability and the quality of policy and governance. Whereas policy and governance is the core of the PBA approach, it is still considered in research circles as a rather dubious factor of aid effectiveness. The strong weighting it is given seems motivated by the search for an incentive to improve policy. Anyway, this weighting should be kept limited, compared to that given to the other criteria,

not retained, due to lack of consistency or coverage (see a broader examination of this issue in Guillaumont 2008, and the latest report of the CDP, United Nations 2008b)

the income per capita already included in the usual formula, and the other two, human capital and vulnerability, which are generally missing.

Economic vulnerability needs to be taken into account in a straightforward manner. It is both a structural handicap deserving compensation for equity reasons and a recognized factor of aid effectiveness, due to the dampening impact of aid.

Indicators are available to implement the principles. Such indicators are the Human Asset Index (close to the non income part of the Human Development Index) and the Economic Vulnerability Index set up and used by the Committee for Development Policy for the identification of the Least Developed Countries. Considering these indicators as relevant aid allocation criteria confirms the rationale of the priority given to the Least Developed Countries in aid targets by the international community. It simultaneously offers the possibility of providing a partial answer or treatment to the issues raised by special groups of countries at risk, such as fragile states and small vulnerable countries, within a general and consistent framework.

References

- Adam C., Chambas G., Guillaumont P., Guillaumont Jeanneney S. and J.Gunning (2004), "Performance-based Conditionality : A European Perspective" *World Development*, vol.32, n° 6, p. 1059-1070.
- Anderson E. (2008), *Practices and implications of aid allocation*, Background study for the 2008 Development Cooperation Forum, UN Economic and Social Council (ECOSOC) (mimeo).
- Anderson, E., Christiansen, K. and Putnam, R. (2007). Application of the Performance Based Allocation System to Fragile States. BMZ/GTZ, Berlin, Germany.
- Anderson, E. and Waddington, H. (2007). Aid and the MDG poverty target: how much is required and how should it be allocated? *Oxford Development Studies* 35(1): 1-31.
- Amprou J, Guillaumont P. and S. Guillaumont Jeanneney, (2007) "Aid Selectivity According to Augmented Criteria" *World Economy*, Vol. 30, n° 5, 2007, p. 733-763.
- Berg, E. (2003), "Augmenter l'efficacité de l'aide: une critique de quelques points de vue actuels", *Revue d'économie du développement*, 4, Décembre, 11-42.
- Burnside, C. and D. Dollar (1997), *Aid, Policies and Growth*, Policy Research Working Paper No.1777 (Washington DC: The World Bank).
- Burnside, C. and D. Dollar (2000), "Aid, Policy and Growth", *American Economic Review*, 90, 4, 847-868.
- Burnside C. and D. Dollar (2004), "Aid, Policies and Growth: Revisiting the Evidence", *Policy Research Working Paper*, WPS 3251, Washington D.C.The World Bank.
- Chauvet, L. and P. Guillaumont (2004), "Aid and Growth Revisited: Policy, Economic Vulnerability and Political Instability" in B. Tungodden, N. Stern and I. Kolstad (eds.), *Towards Pro-Poor Policies. Aid, Institutions and Globalisation*, ABCDE 2003 Annual World Bank Conference on Development Economics Europe (New York: Oxford University Press).
- Chauvet, L. and P. Guillaumont (2008), "Aid, Volatility and Growth Again" UNU-WIDER, *Review of Development Economics*, forthcoming.
- Cogneau D. and J-D. Naudet (2007) "Who Deserves Aid? Equality of Opportunity, International Aid and Poverty Reduction" *World Development*, 35(1), p.104-120.
- Collier P., Guillaumont P., Guillaumont Jeanneney S. and J.W. Gunning (1997), "Redisigning Conditionality", *World Development*, vol. 25, n° 9, p.1399-1407.
- Collier, P. and D. Dollar (2001), "Can the World Cut Poverty in Half? How Policy Reform and Effective Aid Can Meet International Development Goals", *World Development*, 29, 11, 1787-1802.

- Collier, P. and D. Dollar (2002), "Aid, Allocation and Poverty Reduction", *European Economic Review*, 46, 8, 1475-1500.
- Collier, P. and A. Hoeffler (2004), "Aid, Policy and Growth in Post-Conflicts Countries", *The European Economic Review*, 48, 1125-1145.
- Commission of the European Communities (2007), "Aid Allocation Criteria for the Geographic Cooperation with the ACP under the 10th EDF. Detailed Technical Paper" *Commission Staff Working Document (COM (2007))*.
- Dalgaard C., Hansen H. and P. Tarp (2004) "On the Empirics of Foreign Aid and Growth" *Economic Journal*, 114, p.191-216.
- Devarajan S., Dollar D.R. and T. Holmgren, Eds (2001), *Aid and Reform in Africa : Lessons from Ten Case Studies* The World Bank, Washington D.C..
- Dollar, D. and V. Levin (2004), "The Increasing Selectivity of Foreign Aid, 1984-2002", *Policy Research Working Paper* No.3299 (Washington DC: The World Bank).
- Easterly W. (2003), "Can Foreign Aid Buy Growth?" *Journal of Economic Perspectives*, vol.17, n°3, Summer, p.23-48.
- Guillaumont P. (2006), "Macro-Vulnerability and Aid Responses" in F.Bourguignon, B. Pleskovic and J Van der Gaag *Securing Development in an Unstable World*, Annual Bank Conference on Development Economics Europe 2005, (Washington DC: The World Bank), pp 65-108.
- Guillaumont P. (2007a), "EVI and its Use. Design of an Economic Vulnerability Index and its Use for International Development Policy", WIDER (forthcoming).
- Guillaumont P. (2007b), "Aid works best in vulnerable countries" *Poverty in Focus*, 2007, International Poverty Centre, October, p. 14-15.
- Guillaumont P. (2007b), "Assessing the Economic Vulnerability of Small Island Developing States and the Least Developed Countries", United Nations University/UNU-WIDER, *Research paper*, n° 2007/40, June, 37 p. (forthcoming in *Journal of Development Studies*)
- Guillaumont P (2008), *To Move Out of the Trap – The Least Developed Countries*, 2008, Paris, Economica, forthcoming.
- Guillaumont, P. and L. Chauvet (2001), "Aid and Performance: a Reassessment", *Journal of Development Studies*, 37, 66-92.
- Guillaumont P. and S. Guillaumont Jeanneney (2007), "Big Push versus Absorptive Capacity: How to Reconcile the Two Approaches?" *UNU-WIDER Discussion Paper*, n°2007/05, October 23 p.
- Guillaumont P. and R.Laajal (2006), "When Instability Increases the Effectiveness of Aid Projects" *World Bank Policy Research Working Paper*, n° WPS4034, 2006, 29 p.

- Hansen H. and F. Tarp (2001), "Aid and Growth Regressions" *Journal of Development Economics*, vol. 64, p.547-570.
- International Development Association (IDA) (2007a), *IDA's Performance-Based Allocation System: Options for Simplifying the Formula and Reducing Volatility*, February.
- International Development Association (IDA) (2007b), *Fragile States: Operational Approaches and Financing in Fragile States*, June.
- International Development Association (IDA) (2007c), *IDA's Performance-Based Allocation System: Simplification of the Formula and Other Outstanding Issues*, September.
- Kanbur, R. (2005), "Réformer la formule: une modeste proposition pour inclure des critères de résultats dans les procédures d'allocation de l'aide de l'IDA" *Revue d'économie du développement*, n° 2-3, Septembre 2005, p.79-108.
- Kaufmann, D., Kraay A. and M. Mastruzzi (2003), *Governance Matters III: Governance Indicators for 1996-2002*, Policy Research Working Paper No.310 (Washington DC: The World Bank).
- Lafourcade O. (2007), "La logique d'allocation de l'Aide par l'Association Internationale de Développement (AID) de la Banque Mondiale", *Techniques financières et Développement*, Epargne sans Frontière, n° 88, Septembre, p.46-50.
- Lensik R. and H. White (2001) "Are There Negative Returns to Aid?" *Journal of Development Studies*, 37(6) p.42-65.
- Llavador, H.G. and J.E. Roemer (2001), "An Equal-opportunity Approach to the Allocation of International Aid", *Journal of Development Economics*, 64, 147-171.
- Manning R. (2008), "Development Co-operation Report 2007" *OECD Review for Development*, OECD, Paris.
- McGillivray, M. (2004), "Descriptive and Prescriptive Analyses of Aid Allocation: Approaches, Issues, and Consequences", *International Review of Economics and Finance*, 13, 275-292.
- McGillivray, M. (2006), "Aid Allocation and Fragile States", WIDER Discussion Paper, 2006/1
- Michaïlof S. (2005), "Commentaires on Kanbur (2005)", *Revue d'économie du développement*, n° 2-3, Septembre, p.109-118.
- Rawls J. (1971), *A Theory of Justice*, Cambridge, MA. Harvard University Press.
- Roemer J.E. (1998), *Equality of Opportunity*, Cambridge, MA: Harvard University Press.
- Roodman D. (2007), "The Anarchy of Numbers: Aid, Development and Cross-country Empirics", *The World Bank Economic Review*, Vol 21, No 2, pp 255-278.

Tarp F. (2001)"Aid and Reform in Africa" (review of World Bank volume by S. Devarajan, D. R. Dollar and T. Holmgren). *Journal of African Economies*, Vol. 10, 2001, pp. 341-53

United Nations (2008), *Handbook on the Least Developed Country Category. Inclusion, Graduation and Selected Benefits*, Committee for Development Policy.

United Nations (2008b), *Report of the Committee for Development Policy*, On the Ninth Session

World Bank, (1998), *Assessing Aid: What Works, What Doesn't and Why?* (New-York: Oxford University Press).

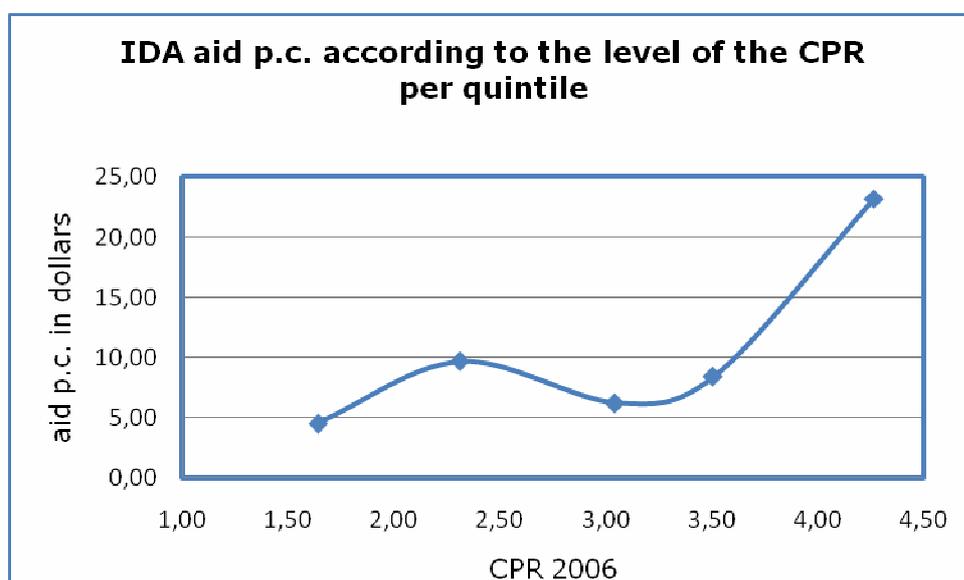
World Bank (2005), *Equity and Development, World Development report 2006*, World Bank and Oxford University Press, New-York

Appendices*

Appendix 1: Average level of IDA disbursements per capita according to the level of Country Performance Rating (CPR) for 2006

	Average CPR 2006	Average IDA aid p.c.*	Average IDA net aid p.c.
1 st quintile	1,64	4,50	2,78
2 nd quintile	2,31	9,65	7,94
3 rd quintile	3,04	6,19	5,23
4 th quintile	3,51	8,38	7,66
5 th quintile	4,27	23,22	22,95

* Gross disbursements minus debt forgiveness grants



- Aline Mosnier is gratefully acknowledged for her assistance in the simulation work

Appendix 2: Results of simulation of different formulas for total aid allocation

Actual allocation (in million dollars) = ODA Gross Disbursements - debt forgiveness grants - humanitarian aid

$$\text{Formula 1: } A_i = K_i^5 \cdot Y_i^{-0,125} \cdot P_i$$

$$\text{Formula 2: } A_i = K_i^{0,5} \cdot Y_i^{0,5} \cdot P_i$$

$$\text{Formula 3: } A_i = K_i^{2/3} \cdot Y_i^{1/3} \cdot P_i$$

$$\text{Formula 4: } A_i = \text{EVI}_i^{1/3} \cdot \text{HAI}_i^{1/3} \cdot Y_i^{1/3} \cdot P_i$$

$$\text{Formula 5: } A_i = K_i^{0,25} \cdot \text{EVI}_i^{0,25} \cdot \text{HAI}_i^{0,25} \cdot Y_i^{0,25} \cdot P_i$$

Where A_i is the aid allocated to country i , K is the Kaufmann Kraay's governance indicator calculated from 1 to 6 (instead of -2,5 to +2,5) and K' is calculated from 0 to 100 ; Y is the gross national income per capita and Y' is equal to 100 minus the index of log of GNI p.c. calculated from 0 to 100 ; EVI is the Economic Vulnerability Index ; HAI' is equal to 100 minus the Human Asset Index ; and P_i is the population of country i expressed in millions.

1. Aid to all developing countries

Table 1A

pop ¹		Actual allocation	Formula 1	Formula 2	Formula 3	Formula 4	Formula 5
By income	Low income	50%	41%	51%	48%	60%	55%
	Lower middle income	43%	41%	41%	43%	34%	38%
	Upper middle income	7%	18%	8%	10%	6%	7%
By target group	LDC	33%	7%	15%	14%	25%	20%
	SIDS	4%	1%	1%	1%	1%	1%
	LLDC	21%	4%	8%	7%	11%	10%
	FS	18%	2%	10%	8%	17%	14%
	LICUS	14%	2%	8%	7%	14%	11%
	IDA	47%	12%	23%	21%	34%	29%
	SSA	31%	11%	15%	14%	24%	20%

Table 1 B

Same formulas as 1A but with lower weighting given to population: P replaced by $P^{0,5}$

pop ^{0,5}		Actual allocation	Formula 1	Formula 2	Formula 3	Formula 4	Formula 5
By income	Low income	50%	32%	52%	48%	63%	58%
	Lower middle income	43%	34%	36%	37%	29%	32%
	Upper middle income	7%	34%	12%	15%	8%	10%
By target group	LDC	33%	19%	32%	29%	44%	39%
	SIDS	4%	8%	5%	5%	5%	5%
	LLDC	21%	13%	20%	18%	24%	22%
	FS	18%	7%	21%	19%	33%	27%
	LICUS	14%	4%	15%	13%	25%	20%
	IDA	47%	27%	45%	41%	58%	52%
	SSA	31%	24%	32%	30%	43%	38%

2. Aid to IDA eligible countries

Table 2A

p ¹	Actual allocation	Formula 1		Formula 2		Formula 3		Formula 4	Formula 5	
		KKM*	CPR**	KKM	CPR	KKM	CPR		KKM	CPR
LIC	79%	92%	90%	89%	89%	89%	88%	91%	90%	90%
LMIC	21%	8%	10%	11%	11%	11%	12%	9%	10%	10%
UMIC	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
LDC	54%	17%	18%	27%	26%	26%	25%	38%	33%	31%
SIDS	4%	1%	0%	1%	1%	1%	1%	1%	1%	1%
LLDC	31%	8%	9%	13%	12%	12%	12%	17%	15%	14%
FS	30%	6%	6%	17%	16%	16%	15%	27%	22%	20%
LICUS	24%	4%	4%	14%	12%	12%	11%	22%	18%	16%
SSA	47%	17%	18%	25%	26%	24%	25%	35%	31%	32%

Table 2B

p ^{0.5}	Actual allocation	Formula 1		Formula 2		Formula 3		Formula 4	Formula 5	
		KKM	CPR	KKM	CPR	KKM	CPR		KKM	CPR
LIC	79%	77%	79%	82%	82%	81%	81%	86%	85%	84%
LMIC	21%	20%	21%	17%	18%	18%	19%	13%	15%	16%
UMIC	0%	3%	1%	0%	0%	1%	0%	0%	0%	0%
LDC	54%	45%	41%	52%	49%	50%	48%	61%	58%	55%
SIDS	4%	8%	4%	5%	4%	5%	4%	5%	5%	5%
LLDC	31%	24%	25%	28%	28%	27%	27%	31%	30%	29%
FS	30%	17%	14%	34%	31%	32%	30%	45%	41%	37%
LICUS	24%	10%	9%	25%	22%	23%	21%	34%	30%	26%
SSA	47%	43%	43%	48%	49%	47%	48%	57%	54%	55%

*KKM = Kaufmann-Kraay-Mastruzzi index of governance

**CPR = Country Performance Rating, the index of governance used by the World Bank