State fragility and economic vulnerability: what is measured and why?

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by  
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Abstract. State fragility is a concept that emerged among the international community of donors in order to adapt aid policies to particularly difficult situations. Fragility has thus been measured to design a special treatment in favour of fragile states, otherwise left behind. In this context, but somewhat paradoxically, fragility has been measured by a low policy and institutional assessment, operated through the “CPIA”, in the multilateral development banks that also used this index as the major indicator to determine their aid allocation. Some other more multidimensional measures have broadened the scope of the indicators used to identify fragility. All these measures appear to be rather subjective, unstable, leading to discordant lists of fragile states and not really representing a risk to fail.

For analytical and operational reasons, there may be advantages of turning to the concept of structural economic vulnerability (apparently close, but strongly different). Structural economic vulnerability, the risk to be durably affected by exogenous shocks, depends both on the size of the shocks and on the exposure to the shocks. It can be measured by the Economic Vulnerability Index (EVI), set up at the UN to identify the Least Developed Countries (LDCs). It is a rather objective and stable index, also reflecting a risk of becoming a fragile state, as illustrated by the fact that most of the LDCs have been considered as fragile at least once. Such an index can be used as a positive criterion of aid allocation, besides the CPIA, a low income per capita and a low level of human capital. Its inclusion among aid allocation criteria is supported by equity, effectiveness and transparency reasons. It allows one to treat the case of fragile states in an integrated framework, leaving only the most acute cases of fragility or failure for an exceptional treatment.
1. Introduction: the fragility concept in retrospect

Concepts have a history, and fragility has one. Before becoming the fashioned notion it is now, with multiple definitions, meanings and few measurements, state fragility has appeared as a political response to an operational issue. The history of the (state) fragility notion is linked to the design of aid policies, the measurement of fragility to the issue of aid allocation.

When the notion of fragile states emerged

A kind of international recognition of the notion of “fragile states” appeared in 2005 when the Development Aid Committee of the OECD organized two high level meetings on these states defined as “a lack of political commitment and insufficient capacity to develop and implement pro-poor policies” (OECD/ DAC 2005). These meetings led to the constitution of a “fragile states group” within the DAC. One year before, US AID (2004) published a white paper relying on a sharp distinction between stable and fragile states. In 2005, it published a strategy paper on fragile states (US AID, 2005), as did DFID (2005), and then other bilateral donors (for instance France, Comité Interministériel de la Coopération Internationale et du Développement 2007).

This general acceptance of the notion of fragile states, not involving a unique content, met previous concerns among donors about development effectiveness and security challenges (Daviron and Giordano, 2007). DAC had to address the issue of “difficult partnerships”. The US administration, and US AID in particular, had to face the problem of “failed states,” “failing states” and “state failure”. DFID had focused on “difficult environments” for poverty reduction (Torres and Anderson 2004). And from 2002, the World Bank used the even more influential notion of the Low Income Countries Under Stress (LICUS). They were low-income countries with a low rating of their policy and institutions. Although referring to countries rather than states, the LICUS category has opened the path to fragility measurement.

Why measurement became necessary

Multilateral development banks, and in particular the World Bank, use a formula called “performance based allocation” (PBA) to allocate their assistance, where the aid to be allocated

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1 Definition by DFID (2005) is close to that of DAC: “the government cannot or will not deliver core functions to the majority of its people.”
to each eligible country depends dominantly on its policy and governance, as well as on its population size and (secondarily) on the (low) level of its income per capita\(^2\). This principle was supported by the works initiated at the Bank, according to which aid was more effective in countries pursuing “good policies”. The quality of policy and institutions was measured by the Country Policy and Institutional Assessment (CPIA) or a similar composite indicator, possibly also called CPIA (for instance at the African Development Bank), leading to various but highly correlated CPIAs\(^3\).

When it appeared clear that countries facing particularly difficult situations could not receive much from the PBA, although they could need more, the answer was then to give them a specific treatment for effectiveness or security reasons. Fragile states were first identified, by one way or another, as countries where the PBA should not apply. The resulting paradox has been that, while the aid allocation per capita was normally increasing with the CPIA, it was no longer the case for very low levels of CPIA, since fragile states were countries with quite a low CPIA.

Wording has changed over time. The initial set of the Low Income Countries Under Stress (LICUS), identified in 2002 from a CPIA lower than 2.5, has been succeeded by a larger World Bank definition of fragile states, referring to higher thresholds adapted over time. In the last documents, the Bank, although still using the category, no longer uses it for aid allocation, preferring a narrower category of “Post Conflict Countries” (PCCs) to this aim. PCCs, still a heterogeneous category, since they include a country such as Afghanistan, that one would like indeed to be post conflict, have thus become a sub-group of fragile states, in which the policy is assessed through a specific index to determine their allocation. Other institutions did not follow the same direction: for instance, the African Development Bank initially used the category of post conflict as an amendment to the Performance Base Allocation (PBA) rule, and now refers to fragile states, without much change in the number of countries concerned.

As a result, due to the emphasis put on the CPIA, there has been a tendency to measure the fragility of states through a low level of this index, but with various thresholds, and also through specific or ad hoc categories, such as the Post Conflict Countries.

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\(^2\) In the “PBA” a major weight is given not only to the CPIA, but also in the CPIA, to its cluster D, more related to governance. An assessment of the Bank portfolio is also taken into account.

\(^3\) Since 2005, the World Bank has called IDA Resource Allocation Index (IRAI) the index corresponding to the CPIA when it is used for determining aid allocation to IDA eligible countries. Since there is no conceptual difference between the two indices, we still use the word of CPIA.
How the scope of fragility broadened, not easing its measurement

Since it could be too restrictive to limit the assessment of fragility to the measurement of the CPIA, even if this one has an average of sixteen components (Annex1), several works have recently presented a more complex or diversified view of fragile states, and fragility of states as well, without necessarily an operational purpose. Noticeably, a UNU-WIDER project on “Fragility and development”, leading to numerous papers, has simultaneously explored the dimensions of household vulnerability and state fragility in development, bringing inter alia, “an economic perspective to the concept and classification of fragile states” (Naudé et al. 2008), and including various papers addressing measurement issues. Another example of a multidisciplinary approach can be given by the book *Etats et sociétés fragiles* published under the direction of Châtaigner and Magro (2007), where some quantitative insights can be found. More recently, the OECD DAC (2008) has published a short book on *Concepts and Dilemmas of State Building in Fragile Situations*, which is the result of a study commissioned by the Fragile States Group and prepared by the Center on International Cooperation at New York University. The work proposes to modify the OECD /DAC definition of a fragile state, simply as “one unable to meet its population’s expectations or manage changes in expectations and capacity through the political process.” Under the heading of a “dynamic concept,” fragility is said to reside “at the opposite side of resilience, which implies the ability to cope with change while maintaining the bargain of the social contract” (p18). Maybe as a counterpart of this so-called dynamic approach (and of the reference to resilience), the book, which contains rich developments, does not include any quantitative indicator.

How fragility is distinguished from vulnerability, specifically measured

Moving from the category of fragile states to an examination of the state fragility by itself, sometimes of the “fragility of the societies” (eg Châtaigner and Magro, 2007), could lead to meet the notion of economic vulnerability. Economic vulnerability is a concept used at the macroeconomic level (country vulnerability), as well as at the household one. And it is likely to

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4 In particular Steward and Brown, Carment et al. considered below.
be measured, indeed more or less adequately. Fragility and vulnerability are apparently close, but in fact strongly different concepts according to the present literature, each with its own history, as explained above for fragility and below for vulnerability. A first etymologic distinction could be made between fragility, which is a risk to be broken, and vulnerability, which is a risk to be affected or wounded. The second and more substantive difference, resulting from the use of the words, is the fact that fragility is mainly related to the state, its will and its capacity, while vulnerability at the macro level is related to the whole economy and its susceptibility to exogenous shocks. Of course there may be some overlapping of the two notions, as far as the overall economic vulnerability partly depends on the capacity to cope with the shocks, or in other words, on the resilience.

If we consider the structural vulnerability that depends only on factors beyond the present will of the country, the distinction becomes sharper. Consequently the assessment of fragility involves more subjective judgment than the assessment of vulnerability, at least of structural vulnerability, making its measurement more debatable. Finally, it might be considered that fragility, because it is linked to political variables, corresponds to a more transitory or reversible situation than the structural economic vulnerability, except in that they both depend, to some extent, on the development level. Paul Collier (2007), who uses the concept of failing states, for “those low income countries that are below the cut-off for governance and economic policies,” underlines how often “the rating crashed and then rapidly rebounded.”

Considering successively “state fragility” and “structural economic vulnerability” may help to examine the relevance of the indicators of one and the other. However, it is not enough to fairly assess state fragility. If state fragility is influenced by structural economic vulnerability, then assessment of the latter may contribute to that of the former.

This is why the two next sections are respectively devoted to the measures of state fragility and their limitations, then to the indicators of economic vulnerability and their links with those of state fragility.
2. Measurements of state fragility and their limitations

Following the brief historical perspective presented above, it is easy to distinguish two different approaches in the quantitative assessment of fragility, i.e. the assessment by means of indices. One relies on the assessment of policy and institutional performance through a single (composite) index, the CPIA or a similar index. The second one is more multidimensional and relies on several indices, covering different features of the country.

Fragility measured from a policy and institutional assessment

It is natural that the first approach has been mainly used in the perspective of aid allocation as far as some transparency was sought, in particular in the multilateral development banks. As seen above, the policy and institutional performance has been the main aid allocation criterion for these banks, what could leave behind poor countries in a particularly difficult situation and greatly needing assistance. The assessment has been implemented at two levels. The first one is the identification of a large set of “fragile states” and the second one is the determination of the eligibility to supplementary financing.

Identifying fragile states from the CPIA

Fragile states are generally defined as states that lack the capacity and/or willingness to perform the basic functions of the state (maintaining security, enable economic development, ensuring essential needs of the population) (OECD 2008). That can indeed be understood in a narrow or broad manner. The will and capacity are supposed to be adequately captured by the CPIA (Country Policy and Institutional Assessment). The reference to the CPIA has been the first and main practice to identify the fragile states. The CPIA rates countries against a set of 16 criteria grouped into four clusters: (a) economic management; (b) structural policies; (c) policies for social inclusion and equity; and (d) public sector management and institutions (see Annex 1).

The World Bank first used this home index with a threshold of 2.5 when it designed the LICUS category, and then applied a threshold of 3 for the preparation of IDA 14, enhanced to 3.2 for IDA 15. In this framework, fragile states are low-income countries with a CPIA below a certain threshold, which means with poor policies and weak institutions.
It is also with reference to an absolute CPIA threshold that Chauvet and Collier (2006, 2007) define what they call “failing states”. Chauvet and Collier (2006) define the failing states as countries having had a CPIA lower than a threshold of 2.5 during four consecutive years or an International Country Risk Guide (ICRG) lower than 47.7 (on a scale of 0 to 100) that generates the same proportion of fragile states. It appears from their data that, between 1970 and 2004, 51 states have been considered failing at least once.

A close measure was adopted for statistical reasons by the fragile states group of the DAC, as well as by DFID, still referring to the World Bank CPIA. But fragile states are located within the two bottom quintiles of the CPIA (set of IDA eligible countries): the fragile states were thus designed as a relative category, with respect to a relative, then moving threshold instead of with respect to an absolute threshold. By definition, forty percent of the IDA eligible are always considered as fragile, what may seem debatable. However the corresponding threshold of the CPIA is approximately the same as the enhanced absolute threshold of the World Bank (3.2).

The Asian Development Bank (ADB), although not having a formal policy for fragile states similarly identifies them, also called “Weak Performers Countries”, by a ranking in the two bottom quintiles of a Country Performance Assessment (CPA) (for two of the most recent years) or when a country is considered to be in conflict or recovering from conflict and thus fragile (ADB 2009). To be noted, the CPA takes the quality of its portfolio projects into account in addition to the CPIA.

Determining the eligibility of fragile states to supplementary financing and the allocation of the latter: fragility assessed again

The identification of fragile states by the World Bank, as just indicated, does not necessarily involve access to supplementary finance, but only some attention, presence, monitoring and warning. Otherwise, it would contradict the principle of the ‘performance based allocation” that relies on the idea that aid is more effective in countries with good policies. But as evidenced by

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5 In March 2009, DAC informally referred to a different definition, relying on three classifications: they were retained as fragile states countries either within the CPIA two bottom quintiles (of IDA eligible), they were within the bottom quintile of Brookings Institution index of state weakness (set up for 141 countries) or they were among the “weak states” of the list of countries established by the Carleton University country indicators of foreign policy (CIFP) (see infra).
Collier et al. (2003) and Collier and Hoeffler (2004), aid can be supposed highly effective in post-conflict situations.

Initially the LICUS status gave access to a special trust fund. Access to supplementary finance is given to a narrower sub-group, the “post conflict” countries. For the determination of this group of particularly fragile countries, criteria are less clear-cut. The criteria refer to the damages caused by the conflict (human casualty, population displacement, physical destruction) and to conditions for efficient involvement of the Bank, related to the domestic political situation and prospects (reduction of conflict, expectations of stability, government counterpart) and to evidence of international cooperation. In addition to these post conflict countries, there are a (IDA 14) few “reengaging countries” that without having experienced severe conflict have known an extended period of IDA inactivity. At the end, the inclusion needs a political choice, which may lead to some heterogeneity in the small set of countries retained (presently eight countries, including Afghanistan) (see Annex 3).

The same applies to the eligibility of the fragile states facility at the African Development Bank, where ipso facto fragile states are identified as a narrow group, as is the post conflict group at the World Bank. Countries declared eligible to a “supplemental financing window” meet two-stage criteria: (1) commitment to peace and security and key socioeconomic needs indicators; (2) commitment to an improvement in macroeconomic conditions and pursuit of sound debt policy and financial management practices. The other (five) fragile countries experiencing marked deterioration in performance due to conflict and crisis can have access to a “Targeted Support Window” dedicated to technical assistance activities and service delivery to non-sovereigns. Presently, only nine countries are published on the list countries having access to the first window, all being fragile states in the World Bank broad meaning, but only two being in the World Bank group of post-conflict (Burundi and Democratic Republic of Congo, see Annex 3), although most of the seven other countries could also be considered in a situation of post-conflict.

Once the eligibility for special financing is determined, its amount is still to be calculated and quantitative assessment of fragility is again needed. The less fragile the fragile country, the more it should receive, so that the allocation comes back to the PBA principle. In other words, the

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6 These countries can also have access under special conditions to the Arrears Clearance Window.
country receives an allocation according to a country policy assessment (CPA)\textsuperscript{7}. At the African Development Bank, the supplemental allocation under ADF 11 is a multiple of the country allocation under ADF 10, which itself depended on the previous CPA. At the WB, a specific index is applied, the “Post Conflict Performance Indicators” (PCPI), a kind of CPIA for the most fragile. It also includes four clusters, each with three items (see annex 2): (A) security and reconciliation; (B) economic recovery; (C) social inclusion and social sector development; (D) public sector management and institutions. Its specificity is essentially in cluster A, reflecting security, reconciliation and disarmament, which is, of course, crucial in a post-conflict situation, and one item of cluster (C), the reintegration of displaced populations. Other items are similar to those that can be found in the CPIA. In early 2009, a panel of external experts convened to review the methodology and the process of the PCPI recommended to “differentiate between the criteria used to assess performance in post-conflict countries and those used for the remaining countries, while preserving to the extent possible a common set of elements.” It would entail having a set of three (or four) clusters in common with the CPIA, and another fourth (or fifth) cluster dedicated to specific aspects of recovery in post-conflict situations.

\textit{Fragility measured from multiple criteria}

Another quantitative approach of state fragility is starting from several criteria of fragility that are likely to represent different features of fragile states, each of which is measured by an index. This approach has been illustrated by a Canadian team working for the Foreign Affairs Ministry (CIFP 2006, Carment, Prest and Samy, 2008). They identify three main dimensions of fragility: authority failure, service entitlement failure and legitimacy failure. Then from 75 indicators pooled in 6 clusters they both calculate a synthetic index and identify a group of fragile states. Their classification has been informally retained by the DAC in March 2009 as one of three substitutable reference lists used to identify fragile states. The two other lists include the traditional list set up according to the two bottom quintiles of the CPIA (of IDA eligible countries) and the bottom quintile of the “Indicator State Weakness” of the Brookings Institution (2008), another multidimensional index that is itself an average of five clusters (economic, political, security, social welfare, GNI per capita), set up for 141 developing or transition economies.

\textsuperscript{7}The CPA (World Bank acronym) is an average of the four clusters of the CPIA (giving a major weight to the cluster D) and of a country portfolio rating.
The same three dimensions of authority, service entitlement and legitimacy have been retained by Stewart and Brown (2009) in a broad study on the characterization of fragile states. For each of the three dimensions, indicators are defined. According to the level of these indicators, states that are considered as fragile are classified either as “failed” or as “at risk”. Authority failures are measured from civil conflict and violence, service entitlement failures from human development outcomes (child mortality rate, primary enrolment rate, provision of improved water) and legitimate government failure from level of democracy and level of autocracy (Polity IV). The list of IDA eligible countries considered as failing or at risk, according to each dimension of fragility, is given in annex 3. It is striking that there is little correlation between the three dimensions of fragility. No country is failing according to the three dimensions and only three according to two dimensions (Burundi, Democratic republic of Congo and Myanmar).

In these conditions it would make little sense to aggregate the three dimensions in a composite index and the multi-criteria analysis cannot provide a guideline for aid allocation. However this analysis can be useful to determine the best ways to help states move away from fragility depending on its source.

Fragility of the measurements of fragility

The table in Annex 3, even if the lists of the various columns are not rigorously comparable due to discrepancies in the period of observation, suggests a large variety in the contents of the category of fragile states, and the fragility of the category itself.

Subjectivity in the choice of index components

A common limitation of the various measures examined is their subjectivity. This subjectivity is involved by the concept of fragility, which relies on an assessment of economic and social policies and institutions: these are complex matters where a consensus does not always exist. The CPIA, which is the main indicator used to assess fragility, has often been criticized for this reason.

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8 There are other attempts of establishing synthetic indices of state fragility from a list of a priori components, as listed in Rice and Patrick (2008), for instance the “State Fragility Index” of George Mason University (Marshall and Gladstone, 2007), the Mo Ibrahim Fondation “Index of African Governance” (2007), or or the “Failed State Index” of Foreign Policy, 2008, to which we come back below.
and attempts to improve it have remained limited\(^9\) (see for instance Kanbur, 2005, Lafourcade, 2007, Minson, 2007, for the conclusions of a seminar organized by the Initiative for Policy Dialogue, and Steets, 2008).

Another analytical weakness includes fragility measurements: because they essentially rely on a judgment of policies, they are unstable and do not really reflect the risk to fail that also depends on structural factors. As they are measured, fragile states are more often failed states than states at risk to fail.

Is fragility as a specific risk measurable?

A logical definition of fragility (and fragile states) should rely on an estimation of a risk to fail. To estimate such a risk, there should first be an agreement on what is failure: is failure a continuous or a discontinuous variable? Fragility suggests a discontinuity (risk to be broken), and is then difficult to identify. The clearest or utmost failure is civil conflict, the risk of which can be assessed on a continuous basis (by the number of battle deaths) or on a discontinuous basis (when the number of battle deaths is higher than a given threshold). Then there should be a good estimation of the function of the risk. As for the risk of a civil conflict, since the seminal paper of Collier and Hoeffler (1998), many estimations have been done, leading to a lively debate\(^10\). As for the broader risk of political instability, several attempts have been made to propose a corresponding index of fragility, without really leading to a consensus (see in particular the “Peace and Conflict Instability Ledger”, Hewitt et al., 2008,\(^11\)). Anyway it seems hardly conceivable to use such econometric estimations for aid allocation.

Analytical weaknesses probably explain why, in spite of the huge attention given to the fragile state concept in international organizations, it has not really become an operational concept. We have seen that, after having defined fragile states, the World Bank prefers to use the post-conflict notion to give access to supplementary financing. The main potential use of the analysis of state fragility is rather to suggest orientations for the aid modalities in countries facing various kinds of difficult situations, as done by Chauvet and Collier (2006, 2007).

\(^9\) There are also technical issues, such as those related to the shape of the distribution of the CPIA, which have led Baliamoune-Lutz and McGillivray (2008) to measure “fuzzy” CPIA.

\(^{10}\) See the review of Raynal-Querol 2009, and the recent paper of Collier, Hoeffler and Rohner, 2009

\(^{11}\) The “Failed State Index” of Foreign Policy, 2008, already quoted above, relies on components that are likely to be be “early warning and assessment” of a risk of internal conflict, but does not seem to rely on a formal model.
3. Economic vulnerability versus state fragility

In order to obtain a more objective and more operational measure of fragility, it is conceivable to turn to the notion of vulnerability. For a long time, this concept has drawn the attention of economists and the international community as well. Nearly fifteen years ago, and repeatedly, UN conferences have expressed the wish for an index reflecting the vulnerability of the economies, in particular the small ones (Guillaumont 2006, 2009). After having recalled the meaning of the concept of economic vulnerability, we analyze its links with that of fragility. We draw some consequences of the fragility measurement. Operational implications for aid policy are finally underlined.

Concept and measurement of vulnerability

Three dimensions of vulnerability

The economic vulnerability of a country can be defined by the risk for (poor) countries to see their development hampered by the shocks they face, natural or external. Two main kinds of exogenous shocks are the main sources of vulnerability: 1) “natural” shocks, namely natural disasters, such as earthquakes or volcanic eruptions, and the more frequent climatic shocks, such as typhoons and hurricanes, droughts, floods, etc; 2) external (trade and exchange related) shocks, such as slumps in external demand, world commodity prices instability (and correlated instability of terms of trade) etc. Other domestic shocks may also be generated by political instability, or more generally by unforeseen political changes, but they cannot be considered as exogenous in the same way.

Vulnerability can be seen as the result of three components: (a) the size and frequency of the exogenous shocks; (b) the exposure to the shocks, that depends on the size, the location and the structure of the economy; (c) the capacity to react to the shocks, or “resilience” (Guillaumont 2006, 2008b). The resilience is more dependent on the current policy, more easily reversible and less structural. However (even more clearly at the micro level than at the macro level) resilience may also depend on ex ante conditions, such as the administrative structure and the inherited
fiscal space, limiting the set of available policies. A way to address this issue would be to consider these ex ante conditions among the determinants of exposure to the shocks.

Regardless, a distinction can be made between structural vulnerability, which results from factors that are durably independent from the current political will of countries, and the vulnerability deriving from current policy, which results from present choices. If a vulnerability index is to be used for selecting certain countries and providing them with a durable support by the international community, the vulnerability to be measured is the structural one, which essentially results from the size of the shocks that can arise from the exposure to such shocks, and from the structural components of resilience, as far as they can be distinguished from the structural aspects of exposure.

The measurement of structural vulnerability

While the resilience could be measured to some extent by policy and institutional indicators, such as the CPIA and the other indices considered in the previous section, the structural economic vulnerability should be captured by a specific index. We primarily refer to the Economic Vulnerability Index (EVI), a composite index set up at the Committee for Development Policy (CDP) of the UN for the identification of the Least Developed Countries, applied first in 2000 and revised in 2006. We refer to this index not only because it has been officially used, but also because, compared to other attempts to build an economic vulnerability index, it is supposed to only correspond to the structural determinant of vulnerability. Moreover, it refers to a logical framework combining shock indicators and exposure indicators.

The present EVI is a composite index calculated from seven component indices, made up of four shock indices and three exposure indices. Using an arithmetic averaging, equal weight is given to the sum of the shock indices and the sum of the exposure indices. In the shock indices, equal weight is given to natural and external shocks, while in the exposure indices equal weight is given to population size and to the total of other indices. Naturally, there are several other ways, some possibly more logical, how these component indices could be weighted and averaged, in particular with regard to the interaction between the size of the shocks and the exposure to them (Guillaumont 2006, 2008). The method adopted in EVI by the CDP has been chosen for reasons

An anonymous referee is to be acknowledged for this point.
of simplicity and transparency. The components of the EVI have been retained so that they reflect the main channels through which structural vulnerability affects growth potential. The components of the EVI are as follows (respective weights are given between brackets):

- size of shocks:
  - external shocks: instability of goods and services exports, measured as the squared relative deviation from a trend value estimated from a time variable and the lagged endogenous variable (“mixed “ trend) (0.125);
  - natural shocks:
    - agricultural production instability, measured by the same method as the export instability (0.0625);
    - percent of population displaced by natural disasters, as obtained from the Emergenegy Disasters Data Base produced by the Center for Research on the Epidemiology of Disasters (CRED) (0.0625)\(^\text{13}\).

- exposure to shocks:
  - population size (in log), index taken in the opposite direction (0.25),
  - distance from world markets, an index calculated at CERDI, corresponding to the minimum average distance to reach a significant amount (50%) of the world market, adjusted for the degree in which the countries are landlocked (0.125);
  - concentration of goods exports, as calculated by UNCTAD (Hirschman index) (0.0625);
  - and relative share of value added in agriculture, forestry, and fishing activities;

**Links between economic vulnerability and state fragility**

*Fragility as resilience*

The state fragility as previously defined can be seen as a weak resilience, even if the analysis of fragility hardly makes reference to shocks. A recent OECD document quoted above considers “resilience”, defined as the capacity to cope with difficulties, as the dynamic opposite of fragility,

\(^{13}\) A detailed analysis of the EVI is presented in Guillaumont (2008b, and 2009).
but without any measurement attempt (OECD 2005). Designed as the opposite of the resilience, state fragility is clearly distinct from structural economic vulnerability.

Fragility resulting from structural vulnerability

However the notion of fragility should reflect the risk for a country to fail, rather than the fact that it has actually failed. In that perspective, the state fragility depends on the structural vulnerability, which makes the latter a partial and indirect measure of the fragility. Shocks and exogenous sources of instability are factors of economic and social deterioration. Not only are they factors of slower growth, but also factors of durable impoverishment (generating poverty traps), social unrest, criminality and civil wars (see a review in Guillaumont 2006, 2008). More generally, they make a good policy management and effective state building more difficult.

An illustration of the link between structural vulnerability and state fragility may be given by the relationship between the measure of structural vulnerability by EVI and the CPIA. According to the provisional results of an on-going study with M. Gillivray and L. Wagner, using a panel model, and retrospective estimates of EVI, the level of CPIA seems very significantly affected by the level of EVI (elasticity of around 0.27), and all the more, the level of CPIA is weak (quintile regression). Among the components of EVI, the instability of exports has the stronger negative influence on the CPIA.

The Least Developed Countries (LDCs) as fragile states

In the literature on state fragility understood in a broad meaning as state weakness, it is often underlined that a low level of human capital and more generally of income per capita are durable factors of fragility. If the major permanent factors of a risk to fail are the level of income per capita, the level of human capital and the structural economic vulnerability, it follows that the countries belonging to the category of the LDCs, precisely defined as countries meeting three corresponding criteria, are particularly at risk to fail. The table in Annex 3 illustrates the risk for an LDC to be classified as a fragile state in one way or another. The LDCs, which are the low income countries suffering the most of structural handicaps, identified through low level of human capital and high economic vulnerability, are also a group of fragile states. As it appears in

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14 As for the risk of civil conflict, the influence of the level of income, as opposed to its variation, is a matter of controversy (Raynal-Querol 2009)
Annex 3, all the 49 LDCs except two (Maldives\textsuperscript{15} and Tuvalu) have been classified as fragile states at least once by at least one fragile state classifications.

\textit{Implications of a structural approach of fragility: back to aid allocation}

Turning to structural economic vulnerability, possibly by referring to EVI, helps to address the main criticisms of state fragility as previously defined.

From an analytical point of view, the use of a structural indicator such as EVI (and indicators of the level of human capital as well) are less subjective and more stable than the opinions on the quality of policies and institutions.

From an operational point of view, there is a rationale to introducing structural vulnerability and human capital in the aid allocation formula of the multilateral institutions. It would be a good way to address the issue of fragility, not only when the states have failed, but preventively. This new approach would be fully consistent with the principles that we believe should be followed for aid allocation: equity, effectiveness and transparency.

\textit{Vulnerability as a structural handicap for which to be compensated}

The first principle is equity. It is poorly represented in the PBA by the per-capita income criterion, due to its assigned little weight. If equity corresponds to equal opportunities, the criteria should reflect the factors constituting structural growth handicaps for the country, in other words what factors beyond their control do not give them identical chances to grow (or to reach the Millennium Development Goals). To satisfy the principle of equity, aid should be allocated to compensate for structural handicaps. In that perspective, structural vulnerability (and low human capital) are to be taken into account.

\textit{Structural vulnerability as a factor of aid effectiveness}

Where development aid is concerned, equity cannot be considered independently from effectiveness. To truly offset the handicaps involved, aid must be effective. Accordingly, the

\textsuperscript{15} Maldives is to be graduated from the category in 2011.
allocation criteria must reflect the factors that in the receiving countries influence the effectiveness of the aid they receive. The CPIA was initially incorporated into the PBA—as a presumed factor in performance—for that purpose. Our econometric calculations indicate structural vulnerability, especially export revenue instability, as a more robust factor that affects the aid effectiveness in terms of growth than policy or governance (Guillaumont and Chauvet 2001): structural vulnerability increases the marginal effectiveness of aid, which corresponds to the fact that aid reduces the effects of vulnerability. In particular, aid has a stabilizing impact with regard to exports, which largely explains the contribution of aid to growth. In other words, the more aid allocated to vulnerable countries, the better it protects growth (or avoids negative growth). In the long term, aid helps make countries less economically vulnerable by promoting growth and the economic diversification that accompanies it (Guillaumont and Chauvet 2001, Chauvet and Guillaumont 2004, 2009 and for more micro evidence, Guillaumont and Laajaj 2006).

**Structural vulnerability as a means to enhance transparency and consistency in aid allocation**

The third principle is transparency. Aid allocation among countries is a policy choice that should be easily understood by the authorities and public opinion in both North and South countries. Making vulnerability an aid allocation criterion may help enhance coherence and transparency in allocation. Using the criterion of vulnerability can help treat cases of fragile states without specifically having recourse to this category or a similar one, as an exception to the principle of performance-based allocation (PBA). In addition, the impact of poor policy and bad governance on aid allocation would be dampened as far as they result from structural vulnerability. Simulations, done using CPIA, GNI pc, EVI and HAI (Human Asset Index) with similar weights in a revised PBA formula, show that in this way target groups of countries, such as the World Bank fragile states or LICUS and the LDCs, receive a fair part of the aid volume (Guillaumont 2008a). Improvements are conceivable following improvement in the CPIA itself and EVI as well.

For these three reasons, it would seem that we could justify making structural vulnerability one of the main criteria for the development of aid allocation. While fragility can be treated in this way

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16 This higher robustness is confirmed by the comparative assessment of aid-growth regressions made by Roodman (2007)
in an integrated framework, only the most acute situations of failure, essentially linked to civil war, should be treated as exceptional cases.

It does not mean that, besides these exceptional situations of failure, the assessment of state fragility or weakness, does not have an important role to play in aid policy. It should be more of a factor for determining aid modalities, in particular the share of budgetary support, than a criterion for aid allocation (Guillaumont and Guillaumont Jeanneney 2006, 2007).

References


Political Instability Task Force website: [http://globalpolicy.gmu.edu/pitf/](http://globalpolicy.gmu.edu/pitf/)


Annex 1: Definition of the World Bank CPIA

The Country Policy and Institutional Assessment (CPIA) rates countries against a set of 16 criteria grouped into four clusters: (a) economic management; (b) structural policies; (c) policies for social inclusion and equity; and (d) public sector management and institutions.

A. Economic Management
1. Macroeconomic Management
2. Fiscal Policy
3. Debt Policy

B. Structural Policies
4. Trade
5. Financial Sector
6 Business Regulatory Environment

C. Policies for Social Inclusion/Equity
7. Gender Equality
8. Equity of Public Resource Use
9. Building Human Resources
10. Social Protection and Labor
11. Policies and Institutions for Environmental Sustainability

D. Public Sector Management and Institutions
12. Property Rights and Rule-based Governance
13. Quality of Budgetary and Financial Management
14. Efficiency of Revenue Mobilization
15. Quality of Public Administration
16. Transparency, Accountability, and Corruption in the Public Sector
Annex 2: World Bank Post-Conflict Performance Indicators

Cluster A: Security and Reconciliation
  Q1: Security
  Q2: Reconciliation
  Q3: Disarmament, Demobilization, and Reintegration

Cluster B: Economic Recovery
  Q4: Fiscal and Monetary Policies, Debt, and Inflation
  Q5: Trade and Foreign Exchange Policies and Private Sector Environment
  Q6: Management and Sustainability of National Recovery Program

Cluster C: Social Inclusion and Social Sector Development
  Q7: Reintegration of Displaced populations
  Q8: Building Human Resources
  Q9: Social Cohesion, Non-Discrimination, and Human Rights

Cluster D: Public Sector Management and Institutions
  Q10: Fiscal and Budgetary Management and Efficiency of Revenue Mobilization
  Q11: Reestablishing Public Administration and Rule-Based Governance
  Q12: Transparency, Accountability, and Corruption in the Public Sector
Annex 3 : Fragile States according to various definitions

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### Source:

1. World Bank FY 2007 including the Territory of Kosovo
2. International Network on Conflict and Fragility (INCAF) OECD-DAC 2009 including Iraq, North Korea, Pakistan and Palestinian Administration
3. IDA Resource Allocation Index (IRAI) 2006 on the World Bank website\(^\text{17}\) (quintiles calculated after adding to the list 3 inactive countries where CPIA is supposed to be at lowest levels: Liberia, Myanmar and Somalia)
4. Brookings Index of State Weakness in the Developing World 2008: two bottom quintiles (bottom quintile (xx) and second quintile (x)) of the index of state weakness including Burma, Colombia, East Timor, Iraq, North Korea, Pakistan, Sri Lanka, Swaziland and Turkmenistan
5. Carleton University Country Indicators of Foreign Policy (CFIP) 2007 index including Iran, Iraq, North Korea, Pakistan, Palestinian Territories and Swaziland
6. AfDB 2008
7. Collier 2006 including 9 other middle-income countries (Albania, Egypt, Ghana, Honduras, Nicaragua, Pakistan, Ukraine, Vietnam and Turkmenistan)
8. Stewart and Brown 2009, referring to various dates between 2000 and 2004 in absolute thresholds

Annex 4. Comparison of the contents of the main state fragility indicators

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<th>Overall index of fragility</th>
<th>Identification of fragile states</th>
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<th>Effectiveness</th>
<th>Legitimacy</th>
<th>Authority</th>
<th>Economic management</th>
<th>Structural policies</th>
<th>Social and institutional policies</th>
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<td>Four clusters, 16 indicators: a) economic management; b) structural policies; c) policies for social inclusion and equity; and d) public sector management and institutions. Country classified as a fragile state if CPIA &lt; 3.2</td>
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<tr>
<td>African Development Bank’s CPIA</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>4 clusters, 16 indicators for 53 countries</td>
</tr>
<tr>
<td>Chauvet and Collier 2006</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>World Bank’s CPIA below 2.5 for four consecutive years</td>
</tr>
<tr>
<td>DFID (DAC until 2008) World Bank’s CPIA</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>World Bank’s CPIA, 2 bottom quintiles of IDA-eligible countries</td>
</tr>
</tbody>
</table>
### Compilation of the World Bank’s CPIA, the Brookings Index of state weakness and the Country Indicators for Foreign Policy (cf below)

<table>
<thead>
<tr>
<th>Fragile and conflict affected states INCAF (DAC 2009)</th>
<th>Reference concepts</th>
<th>Economic variables</th>
<th>General remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall index of fragility</td>
<td>Identification of fragile states</td>
<td>Capacity</td>
<td>Effectiveness</td>
</tr>
<tr>
<td>Brooking Index of state weakness (2008)*</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Carleton University &amp; ACDI Country Indicators for Foreign Policy (CIFP), failed and fragile states indicator</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

75 structural indicators pooled in 6 clusters: Governance, Economics, Security, Human Development, Demography and Environment. 192 countries
Oxford CRISE Stewart and Brown's list of fragile states (2009)

Threefold criteria: authority failures (Major Episodes of Political Violence dataset from the Centre for Systemic Peace (Marshall 2006)), service entitlements failures (provision of improved water source, child mortality rates, and primary enrolment rates) and legitimate governance failures (Polity IV dataset scores). 79 countries. No ranking of countries but identification of countries failed and countries at risk. Distinction between absolute and progressive thresholds.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Overall index of fragility</th>
<th>Reference concepts</th>
<th>Economic variables</th>
<th>General remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mo Ibrahim Foundation's Index of African Governance</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>5 categories: safety and security, rule of law, transparency and corruption, participation and human rights, sustainable economic opportunity and human development. 14 sub-categories, 58 indicators 48 African countries.</td>
</tr>
<tr>
<td>Center for Global Development (2004)</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>One indicator for each gap: childhood immunization for capacity, voice and accountability for legitimacy and battle deaths for security. Identification of around 50 fragile states</td>
</tr>
<tr>
<td>Political Instabilty Task Force (CIA)</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>List of state failures events Focus only on severe state collapse, “severe internal political crisis” Relies on factors highly correlated with crises.</td>
</tr>
</tbody>
</table>
### Indicators

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Overall index of fragility</th>
<th>Identification of fragile states</th>
<th>Reference concepts</th>
<th>Economic variables</th>
<th>General remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marshall and Cole George Mason University “State Fragility Index” (2007-08)</td>
<td>x</td>
<td>x x x</td>
<td>x</td>
<td>x x x</td>
<td>Employing about 16 underlying data sources, they generate effectiveness and legitimacy scores in each of these 4 dimensions. The 8 resulting scores range from 0 (no fragility) to 3 (high fragility) and are summed to produce an overall fragility score for over 160 developed and developing countries. 2x4 matrix of indicators (effectiveness and legitimacy indicators for security, governance, economic, and social dimensions of state performance) and composite indices of legitimacy, effectiveness and state fragility</td>
</tr>
</tbody>
</table>

### Fragility Assessment Based on Statistical Analysis of the Risk of Instability or Violent Events

<table>
<thead>
<tr>
<th>Fund for Peace &amp; Foreign Policy “Failed States Index”</th>
<th>x</th>
<th>x</th>
<th>x</th>
<th>x</th>
<th>x</th>
<th>x</th>
<th>x</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Maryland Hewitt &amp; al. “Peace and Conflict Instability Ledger” (2008)</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

* includes a survey of existing indices, that has been useful to build this table