Elements for a Conceptual Model of Fragility

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Every human group has a system of some kind already in place for addressing the prevailing challenges and opportunities.

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I. Introduction: Looking into the 'Black Box'

In the development literature, fragility is broadly associated with evidence of a *structurally increased risk of events with extreme consequences* such as conflict, violence, societal upheaval, and human tragedy caused by the absence of state's basic functions. Originally referred to low-income countries with very weak state capacity, the notion of "fragility" has progressively expanded to cover a wide range of situations - higher capacity middle-income countries, sub-regions and regions - and to include fundamental intertwined dimensions such as societal fragility and socio-economic drivers. The rather diverse set of definitions and the multiplication of measurement dimensions have raised the question of the 'fuzziness' of the notion of fragility. Fragility is at risk of seeming like a "black box" of tautological non-explanation.

A recent review by the Independent Evaluation Group, calls for a review of mechanisms to identify fragility to support increased development effectiveness in addressing fragility and conflict (IEG 2013). The review recognizes the increasing divergence between the CPIA-based definition and specific contexts of fragility, and the important limitations of a dominant response that mostly emphasize state-building.

How can fragility be conceptualized and operationalized in a way that is useful to policymakers and practitioners when designing development strategies, and allocating funds? Woolcock (2014) calls for a shift away from the question of 'whether a state is fragile (categorically)' and points to the need to increase understanding of the ways fragility is changing over time.

We suggest that distinguishing between *status representation* ('defining fragile situations') and understanding of *dynamic properties* ('understanding dynamics in fragile situations') could be a useful framework for facilitating this thinking. While acknowledging the importance of the literature on the former, this note develops the latter and suggests a few elements for a *basic conceptual model* of fragility[1].

[1] A similar approach is laid out by Longstaff et al (2010) on building resilient communities. The authors attempts to move beyond debating definitions of resilience (a concept also perceived by some as "fuzzy") and suggest a preliminary conceptual framework for assessing community resilience.

II. Complexity, Multi-Dimensionality, and Multiscalarity of Fragility in Local Contexts

While the literature presents different approaches to describing and measuring fragility through a variety of dimensions and a range of contexts, there is a growing agreement that fragility is complex, multi-dimensional, and cannot be disassociated from local contexts.

Fragile *contexts* have been described at all levels - national, regional, district, community, village, societal dynamics[2], and interaction between units/groups. Fragile contexts can be detected in social preferences, social norms, shared mental models guiding individual decision-making. Fragility is multiscalar[3], and occurs at *various interlocking scales of resolution.* The closer the analysis, the more detail is revealed, exposing a recursive fractal-like patterns of fragility[4].

Multi-scalar views can improve the understanding of how fragility determines dynamics and responses in specific situations, to internal and external stresses and shocks. Macro-shocks, like conflict, can change social interdependence and shared mental models and create traps for individuals and communities, with low trust and high prejudice[5]. On the other hand, individual decisions can affect macro-behavior patterns.

Box 1. The World Bank measure of Country Fragility

Attempts to measure fragility have been mostly focused on three broad set of properties: institutions and systems, economic dynamics and structural change, environment and societal relations, and their interplay[6]. The World Bank measure of State fragility focuses on the expert assessment of the status of institutions, systems and economic situations (as expressed in the CPIA ratings[7]), with the third dimension of societal relations, and the interplay of properties, included and explored in detail in country specific Social Analysis and in Fragility Assessments[8]. Analysis of environment factors has also been developed by the Bank as part of a framework to address the effect of climatic changes, and as part of the disaster risk management framework. Despite the

[2] See Marc et al (2013) for a comprehensive review of societal dynamics and fragility.

[3] Multiscalarity: property of a system that focuses on interlocking processes occurring at different scales. The concept was developed by Schiller (1978).

[4] Fittingly, fractal geometry is used among others to understand turbulence in fluids.

[5] World Development Report 2015.

[6] Progress on the three dimensions has positive affects on reducing the likelihood of shocks, reducing the size of negative events, and reduce the overall harm. It also positively affects the role of covariate risks.

[7] The CPIA rating allow for measurement of change through comparative statics.

[8] See Mark et al 2013.

use of various tools for appraisal, there is no single World Bank framework for a multi-disciplinary integrated assessment[9] of fragility as determined by the interplay of institutions and systems, economic dynamics and structural change, environment and climatic changes, societal dynamics and social cohesion.

Box 2. The Drive to Broaden the Dimensions Representing the Status of Fragility

The literature on fragility has explored a broad set of factors driving the development on long-term resilience, and proposed various sets of broad set of categorization. The initial focus on peace outcomes and state legitimacy has been constantly expanded to achieve a more comprehensive view of dimensions of resilience. Marc *et al* (2013) have developed the dimension of societal dynamics. In its forthcoming report, the OECD (2014) suggests the inclusion of two additional dimensions: resilience to economic, social and environmental shocks and disasters, and the economic fundamentals for sustainable development. As a further example of the effort of reaching exhaustiveness, the OECD is expanding the definition of peaceful societies to include micro-drivers such as organized crime, illicit flows and violence.

III. Defining The Spatial Context of Fragility

Fragility has been most commonly associated with nation-states, and most of the burgeoning literature of improving the status representation through fragility indicators adopts countries as their object of analysis. The spatial dimension of fragility however does not necessarily recoup with the boundaries of national statehood. Fragility can refer to territories within countries or across national boundaries. The disintegration of statehood into ethnic or sectarian entities often cuts across existing national borders (e.g. Syria, Iraq, Algeria, Mali). Some states are home of 'ungoverned situations'[10]. Further, there are situations where man-made barriers have created spatial variations that are part of the stresses and systemic weaknesses that generate fragility. Isolation of territories (e.g. Gaza) or the creation of national boundaries that scatter ethnic minorities over a set of multiple nations are two examples of fragile situations that transcend the notion of fragility of the nation-state. At the same time, localized areas[11] of fragility can exist within the boundaries of an otherwise high capacity country, as in slums or illicit trade

[9] On the challenges to provide genuine multi-disciplinary assessments of local contexts, see Rao and Walton (2004).

[10] E.g. Southern Somalia, Northeastern Yemen, Borno State in Nigeria, parts of Mauritania, Northern Mali, Cyreneica in Libia, the Waziristan in Pakistan

[11] Some authors use 'pockets of fragility' – we prefer using terms such as 'areas' or 'context' as 'pockets' mays suggests the idea of self-contained situations.

corridors in middle-income countries. For this reason, we use the term 'fragile contexts' in this note[12].

The use of 'fragile situations/contexts' instead of 'fragile country' is not semantic. Lack of data, indicators and analysis beyond the nation-state level may limit our understanding and leaving us with 'blind spots'.

The notion of fragile country presents important limitations even in countries with weak state capacity and legitimacy, as country-level focus of analysis may underestimate the importance of the urban-rural divide, ethnic differences, important socio-economic inequalities, and large and widening gaps in access and outcomes across the national territory. Such limitation is more important for countries that have not yet displayed any of the acute symptoms of fragility (self-identifying as fragile through episodes of violence or societal upheaval), where lack of understanding of situations may blind collective capacity to identify drivers of brewing crisis before crisis explode in the open.

Finally, a transnational view can account for situations where fragility is determined by transnational (or transcontinental) factors, like illicit trade in drugs, people and arms. Both the analysis and response should be at a greater scale than the country, possibly at regional or global level.

IV. Developing an Intersubjective Understanding of Stresses, Shocks and Vulnerabilities

Early Views of Fragility as Risk

In its earliest formulation, the conceptual model of fragility aimed at accounting for the observed risk of relapsing into conflict and violence, as half of African conflicts resumed within a decade after peace (Bigombe, Collier and Sambanis, 2000). The model aimed at understanding risk factors underpinning the likelihood of relapsing into conflict, and included three broad dimensions of risks: grievances, ethnic dominance, inequalities and greed. The framework included a dynamic change of risk factors in post-crisis years: while grievances after conflict tend to fade relatively rapidly (the healing property of time), risks derived from management of ethnic dominance and economic inequalities

[12] 'Contexts' are defined as 'wholes', made of parts, but wholes nevertheless, and as States do, they include a spatial dimension, patterns of interactions, social and governance arrangements (Prosperi and Morgado 2011).

remain elevated for a longer time[13]. A parallel rich literature developed around the notion of weak national state institutions[14].

The WDR11 Framework

The World Development Report 2011 on Fragility and Conflict offered an integrative framework, defining fragility as a dynamic and persistent condition resulting from the interplay of weak societal institutions confronted with internal and external stresses, and shocks. The condition of fragility is both the result and the cause of internal and domestic pressures and shock. The multidimensionality of fragility reflects the multiple vulnerabilities, as well as the complex ripple effects of shocks. The "stresses" approach suggested in the WDR11, has the advantage of offering a framework that can both account for existing multi-dimensional and covariate stresses, and be expanded to include additional stresses as fragile countries undergo transformation, most significantly with demographic stresses, urbanization, the appearance of a youth bulge, climatic changes, and stronger integration in a globalized world. Marc et al (2013) have called for a broadening of the narrow focus on state institutions, and pointed out the role of social cohesion in significantly reducing fragility, as more cohesive societies are better able to manage internal and external stresses, reduce risks, and absorb shocks.

An Intersubjective Meaning of fragility[15]

In 2013, as part of the OECD-INCAF New Deal, the g7+ group of fragile states called on development partners to advance an *operational definition of fragility* that could overcome the stigma of an association of countries to fragility. They call to engage fragile countries as partners in assessing fragility, and in suggesting policies and reforms to increase resilience. Answering to this call requires the development of an intersubjective meaning of fragility, i.e. a common understanding of stresses, shocks, vulnerabilities, and resilience.

As pointed out by Gauri, Woolcock and Desai (2011), in defining societal fragility it matters whether elites regard political exclusion as a result of insufficient inclusion, or as upholding a social norm. In addressing economic vulnerability to droughts, it matters whether land is perceived as a tradable capital good, or whether it is associated with individual and national identity. Lack of an intersubjective understanding

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13 The operational consequence is that post-crisis recovery strategies need to evolve over time from short-term management of post-conflict risks, to longer-term management of inherited risks factors (legacies).

14 See Bertoli and Ticci (2010) for a comprehensive literature review.

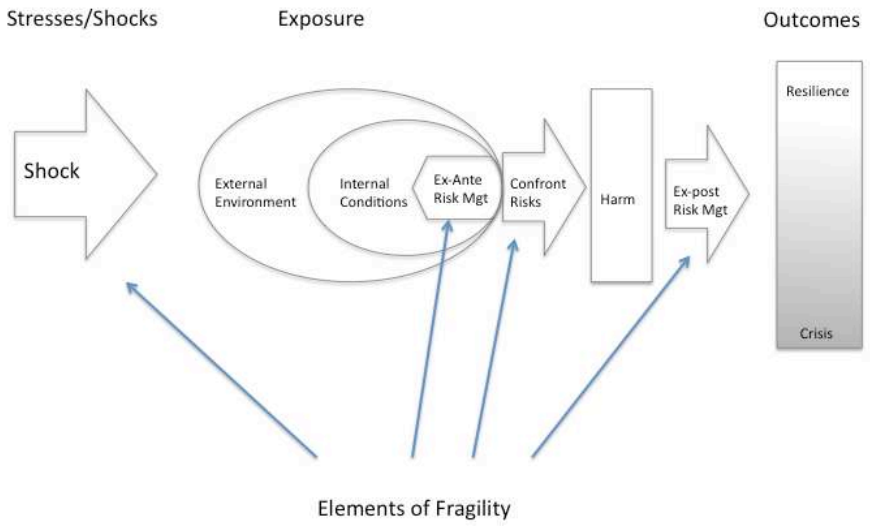
15 By intersubjective meaning Gauri, Woolcock and Desai (2011) refer to the extent to which multiple relevant actors share a common subjective understanding of the nature of the problems they face, and the possible solutions to those problems.

is central in driving public action failures, and explaining predominant modalities of response to shocks and opportunities in different local contexts[16].

The WDR14 contribution

The World Development Report 2014 on Risk provides a complementary framework for understanding the risk chain, and its ex-post and ex-ante impact, giving an insight into the "black box" of effects of stresses and shocks on outcomes. In the following (simplified, one dimensional) risk chain, the elements of fragility have been highlighted. Fragility can both stem from localized weaknesses, or from overall system breakdowns.

The factors determining the response to stresses and shocks can stem from state institutions and governance systems, societal dynamics, socio-economic structure, and their interplay. As an example, a resilient response to rising food prices will depend on the quality of response across the state/society/economy continuum. In a worst case scenario, the combination of a weakened economy, an inefficient state and fractured societal relations could lead to violence, or even push a society over the edge into open conflict.



Risk Chain. Adapted from World Development Report 2014, Petersh (2013).

[16] Societal divisions may hamper the development of a intersubjective understanding of fragility. Parts of the society might identify very different drivers of fragility than other parts. To account for this divergence of interests, fostering a sense of national dialogue around a common understanding of problems is necessary.

The descriptive tool of 'risk chains' is not intended as device for subtracting layers of complexity from contexts. Quiet the contrary. We suggest the risk chain is a useful device for framing the multi-dimensionality of the fragility context, corresponding to different policy responses, even within the limited scope of a single dimensional stress/shock. It helps provide a different framework for understanding capability traps, and suggest highly context specific diagnostics drivers of fragility/resilience. It may provide a useful diagnostic framework for application of operational approaches such as PDIA (Problem-Driven Iterative Adaptation) suggested by Desai, Pritchett and Woolcock.

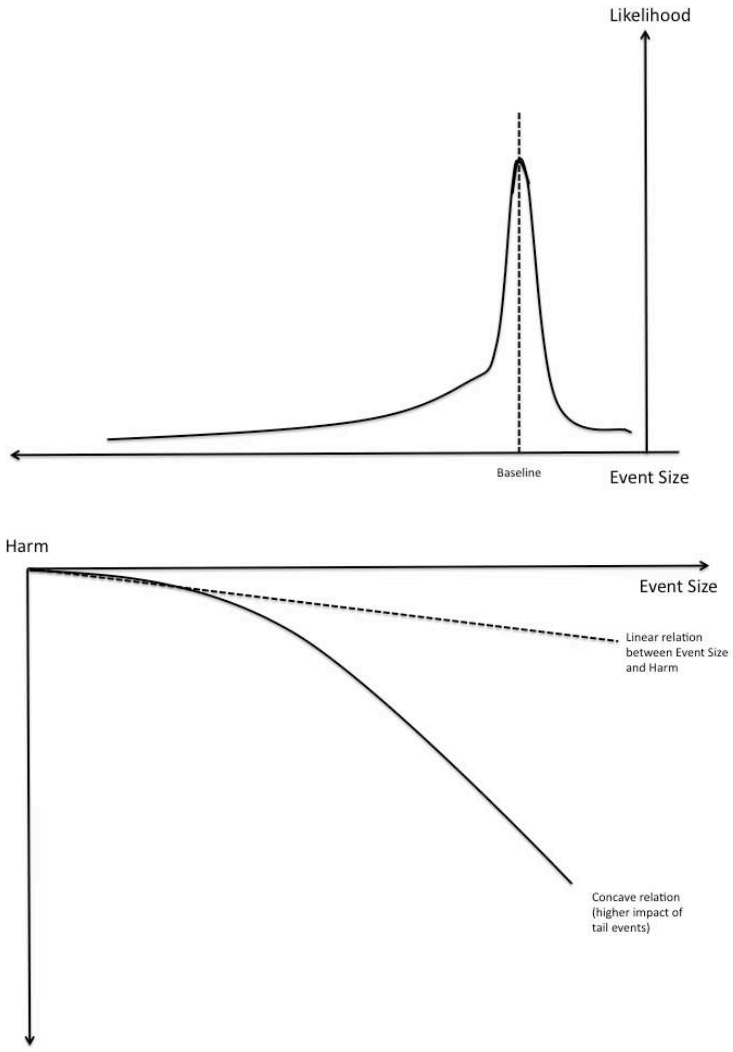
V. Integrating Extreme Events, Hidden Exposures and Tail Risks

The fragility literature has devoted little attention to risk of events with extreme consequences. This has led to an under-identification problem (type II error)[17]. The magnitude of the under-identification may be significant: in recent years shocks have played an important role in reversing progress in fragile contexts, and revealing (hidden) fragility in higher capability situations, such as in the Arab World.

The recent spurt of literature on tail risk in the financial sector in the wake of the 2007 financial crisis can provide a useful organizing framework for expanding the understanding of fragile contexts (see Taleb *et al* 2012). Its relevance is especially strong for understanding hidden exposures and tail risks, which are concept that had been neglected for long in the banking sector literature, and continue to be neglected in the country fragility literature.

In the wake of the internal and external stresses highlighted in the WDR 2011 framework, a negative outcome is essentially determined by three variables: the event size, its likelihood, and the size and dynamic of the resulting harm. The illustration below is drawn from the framework suggested in Taleb *et al* 2012. In case of concave pay-off structures, the harm of the tail event escalates exponentially.

[17] Hidden exposures may lead to fragility self-identifying itself in the form of open crisis. On the other hand, states that do not display crisis are less likely to be considered fragile (creating a selection bias, Bardhan in DEC Lecture 2014). A too close identification through outcomes, and the risk of type II errors, fuel the criticism of fragility being tautological.



Accordingly, high levels of fragility and exposure to risk can be determined either by a) high likelihood, or b) size of the event, or c) high level of impact. Negative convexity effects can also be present when complexity results in (d) positive feedbacks. This can be described by fragility functions, similar to functions employed in the earthquake literature.

The recent Ebola outbreak has pointed to lingering fragility in countries such as Liberia and Sierra Leone, which had outgrown fragility to conflict, while massive displacement has increased the perception of fragility in Lebanon. At the same, recent extreme events in attention in higher capacity countries (Ukraine, Egypt, Syria, Nigeria, among others) point to the limits of not systematically assessing fragility dynamics in countries outside the low-income group.

Fragility in low income/low capacity countries may appear different than fragility in medium income/higher capacity countries as in the latter concavity of tail events may

be more predominant, while in the former fragility may appear in the form of substantial likelihood of events that present a linear negative pay-off curve. We are not however suggesting a clear-cut distinction between low capacity and high capacity context – concavity effects may be present in lower capacity countries as well. This is what the nascent literature on conflict and effects of climatic changes seems to be pointing to (see Hsiang, Burke, and Miguel 2013).

VI. Long-term resilience and transformation

In the long-run, resilience is the outcome of three broad, complex, multi-scalar, covariate and inter-twined dimensions of development such as peaceful and inclusive societies, effective institutions and management systems (including the natural environment), supported by a process of socio-economic transformation (sustained shared growth of livelihoods).

In the short-run, there is no single blueprint for progressing toward strengthening resilience. Dercon (2007) distinguishes between a) preventive strategies (alter the risk profile), b) mitigation strategies (alter the outcome experience), c) coping strategies (relieve the impact of shocks). Resilience to shocks and stresses is determined by both the strength of individual element and the resilience of the overall context. Resilience can be improved by either addressing single vulnerabilities (e.g. droughts) and reducing stresses, develop stabilizers (e.g. insurance), or strengthening the overall institutional structure. The institutional structure can be improved either through systemic redesign, or by targeted evolutionary improvements that increase the overall resilience. A coordinated systematic approach across actors is more likely to provide results, avoiding an uncoordinated discrete set of interventions.

Evaluation of resilience requires a cross-scalar approach. Traditional development policies hinge on the assumption that transformation can be understood as a process of continuous improvement, and that continuous improvements reduce vulnerability and fragility. However, per definition, change does not imply stability, and hence transformative policies may lead to change the overall structure of stresses and vulnerability, without achieving an overall resilience. As an example, centralization may increase the national state's capacity, however it may increase vulnerability of local governments. This idea echoes the g7+ group definition of fragility as a "period of time during nationhood", pointing to the inherent instability that comes with national socio-economic transformation. A cross-scalar understanding of overall resilience can allow to better point out stresses and trade-offs inherent to transformational policies.

There is little realism in expecting linear progress. Andrews, Pritchet and Woolcock (2012) identify possible damaging strategic behaviors in response to external expectations. The authors point to the risk of transformation leading to 'isomorphic

mimicry', with overall capability of state stagnating or even decreasing, creating 'capability traps'. They suggest a problem-driven iterative approach to reform focused on problem solving, leaving room for local context experimentation, and close feedback loops.

Conclusion

This note is an attempt to suggest a few basic elements for a conceptual model of fragility as a dynamic process, that could help conceptualize and operationalize fragility in a way that is useful to policymakers and practitioners when designing development strategies, and allocating funds. We've pointed out the need to overcome income-level related definitions of fragility inherited from the LICUS framework, the important limitation of national boundaries as main unit of analysis, and the relevance of the risk framework suggested by the WDR14 to complement the WDR11 framework. Further, we've suggested embracing a multiscalar view of fragility, pointing to a possible way of integrating the framework of the upcoming WDR15 on Mind and Development.

The ground covered in this note is not exhaustive. We reckon the simplicity of the conceptual model can allow for easy integration of individual dimensions, including the nascent literature of the effects of climatic change on human conflict.

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