

# **Taking Global and Diffuse Risks Seriously**

## *A Risk-Clusters Typology*

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## ABSTRACT

What are global and diffuse risks? How should we think about their potential to turn into threats that overwhelm societal resilience in areas of limited statehood, precipitating violent conflict and governance breakdown? This working paper explores these questions in two sequential steps. First, it shows that existing explanations at the onset of violent conflict and governance breakdown remain focused on local conditions and immediate “bad neighbourhood” effects, neglecting global and diffuse risks. In a highly interconnected and interdependent world such neglect represents a fundamental omission with substantial theoretical and policymaking costs. Global and diffuse risks must be conceptualized, evaluated, and systematically integrated into predictive models, preparedness-efforts, and resilience-building strategies. Secondly, it articulates and explores a five-cluster typology of global and diffuse risks. It is only by taking global and diffuse risks seriously as explanatory variables at the onset of violent conflict and governance breakdown that the EU can make genuine progress in developing a long-term resilience-building strategy.

## INTRODUCTION

Existing explanations of the onset of violent conflict and governance breakdown in areas of limited statehood (ALS) overwhelmingly focus on local conditions and immediate “bad neighbourhood” effects while excluding global and diffuse risks.

This lacuna is partly derivative of a long legacy of “methodological nationalism” (Wimmer and Schiller 2002) that has tended to reify the state, treat domestic and international causes in binary terms, and relegate external factors to a residual category of influence (Lawson 2019). It is also an unintended consequence of a virtually hermetic disciplinary divide between those interested in the causes of civil war, revolution, and state fragility versus the more recent and fragmented interest in global and diffuse risks, with the latter emerging from disparate disciplines concerned with a wide variety of natural and anthropogenic risks. Indeed, the prediction of conflict onset and political instability remains a controversial topic in academic research, and no early-warning system has proved reliable for policy-making.

In a highly interconnected and interdependent world, this represents an omission with substantial theoretical and policymaking costs. It undermines our understanding of the causes of violent conflict and governance breakdowns, but it also hampers the ability of policymakers to evaluate the sources and limitations of

societal resilience, identify potential tipping points for future outbreaks of deadly conflict, and foster conditions of enhanced resilience in the EU neighbourhood.

The prevailing exclusion of global and diffuse risks is best illustrated with reference to the three explanatory logics dominating the literature on civil war onset. Civil wars are by far the most common type of contemporary political violence in ALS and have been explained in terms of grievance, greed, and opportunity (Cederman and Vogt 2017). Dating back to the 1960s, grievance-based accounts view violence as a reaction to deep-seeded ethnic, political, or socioeconomic injustice. In contrast, explanations centred on greed adopt a microeconomic approach in which violent conflict and governance breakdowns occur, where the opportunity costs of fighting are low, and where rebels can maximize economic gain from lootable natural resources or rent seeking. According to the third and most influential explanatory logic of civil wars, insurgent violence is best explained by the opportunities opened for rebels to challenge state authority in weak states. All three explanations emphasize intra-societal processes and state-level institutional conditions.

A similar state of affairs prevails in the state fragility field. Summarizing over a decade of research by the influential Political Instability Task Force, Goldstone (2008) identifies “five major pathways that comprise the most common processes leading to state-failure”. These are: (i) escalation of communal group (ethnic or religious) conflicts; (ii) state predation; (iii) regional or guerrilla rebellion; (iv) democratic collapse leading to a coup d’état or civil war; and (v) succession reform or crisis in an authoritarian state. The latest major studies on causes of acute political instability similarly identify exclusionary political regimes, uneven economic development, the local culture of opposition and protest, or a widening gap between formal (state) and informal (societal) institutions as the causes of governance breakdown and insurgent violence (Bosley 2017). Although some scholars have recognized that transnational dynamics play an important role, none have systematically mapped or integrated global and diffuse risks into their explanatory logics (Cederman and Vogt 2017).

This gap has become jarring. The latest World Bank *Strategy for Fragility, Conflict and Violence 2020-2025*, observes that “Climate change, demographic change, migration, digital transformation, illicit financial flows, and violent extremism are often interconnected, with effects that transcend borders” (World Bank 2020). Similarly, EU defence ministers have tasked the High Representative for Foreign Affairs and Security Policy with developing a “comprehensive, 360 degrees analysis of the full range of threats and challenges” facing the EU (Council of the European Union 2020). Yet analysts have expressed concerned over a “Christmas tree approach” to risk identification that is both disorganized and omits controversial issues (Koenig 2020).

With these needs and potential criticisms in mind, this Working Paper articulates a five-cluster typology of global and diffuse risks most likely to affect societal resilience in ALS surrounding the EU. The category of global and diffuse risks is, by definition, enormously extensive and varied, so both analysts and practitioners can easily be overwhelmed by its breadth and complexity. Its almost unfathomable complexity is further compounded by the historically unprecedented connectivity of the world (Farrell and Newman 2016; Khanna 2016) and the arguably growing inability of Europe to effectively isolate itself from its tumultuous neighbourhood (Kaplan 2018).

Accordingly, we define the need for a comprehensive but parsimonious risk typology in section II below and then proceed to articulate a five-cluster risk typology in sections III through VII. Finally, a brief conclusion is presented in section VIII.

## GLOBAL RISKS AND DIFFUSE RISKS

Although a universally agreed-upon definition for risk has been difficult to attain, the concept is essentially “a measure of the probability and severity of adverse effects” (Lowrance 1976: 4). It embodies the likelihood of harm, the expected severity of that harm and, implicitly at least, a temporal dimension that includes the immediacy and duration of harm to a given biological or social system. Put in more operational terms, we can think of risk scenarios as necessitating the application of four risk assessment questions: *What can go wrong? What is the likelihood? What are the consequences?* and *What is the time frame?* (Haimes 2009: 1651). Within this conceptual universe, we distinguish global and diffuse risks both from one another and from other categories of risks. We focus on these categories of risk to address the prevailing scholarly lacuna. Although specifically applied to the EU neighbourhood in this case, the definitions and taxonomy herein would benefit risk assessments in any region of the world.

For the purpose of this Working Paper, *global risks* are risks that originate or emanate from identifiable geographical locations outside a given state or region’s immediate neighbourhood. A supervolcanic eruption, of the type that occurred on Indonesia’s Mount Tambora in 1815—causing a global cooling of 1°C and crop failure as far away as the United States (Raible et al. 2016)—is a stark example of a global risk. In contrast, *diffuse risks*—such as climate change—are either not geographically contingent or non-territorial in nature, even though their impact on different localities is likely to vary.

The distinction between global and diffuse risks may not always be clear-cut or immediately apparent. A cyber-attack on critical infrastructure may be launched by a



state, alliance, or non-state actors operating under the loose command and control of a state. Under this scenario, the attack would possess the identifiable geographical markers of a global risk. Yet such an attack may also emanate from hackers utilizing servers across the globe, in which case it would approximate a diffuse risk, at least in terms of a legal culpability challenge. Similarly, the sometime blurry line dividing institutionalized from diffuse “lone wolf” terrorism represents a grey-zone area, where the distinction between global and diffuse risks can be difficult to mark with clarity.

Three framing caveats are pertinent to delineating the boundaries of global and diffuse risks for our purposes:

First, given the need to highlight the role of global and diffuse risks, we do not reiterate those causes of violent conflict and governance breakdown that are already well established in the literature.

Second, global and diffuse risks are not synonymous with *existential risks*, meaning risks that threaten the destruction of humanity’s long-term potential through either extinction or unrecoverable civilizational collapse. Existential risks—such as an asteroid collision or stellar explosion—would extinguish all human civilization, regardless of varying levels of societal resilience or state-capacity and are, therefore, analytically redundant in considering risks that “merely” tip ALS into governance breakdown and violent conflict.

Lastly, in mapping applicable global and diffuse risks, we are, as a rule, temporally bounded to a short to medium-term time horizon of three to seven years. That said, where applicable, we identify risks that require longer-term monitoring and preparedness efforts.

We articulate a five-cluster typology of global and diffuse risks most likely to affect societal resilience in ALS surrounding the EU.<sup>1</sup> The typology is summarized in Figure 1 below:

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<sup>1</sup> Earlier work adopted six clusters of risk, with the sixth cluster being “Technology-Driven Disruption”. However, we have omitted the sixth cluster here since its impact is generally certain to occur outside the relevant time-frame. Readers interested in the full exploration of the six risk clusters are referred to Magen et al. (2019).

*Figure 1: A five-risk cluster typology*

- Cluster 1: Geopolitical rivalry and risks of major conflict
- Cluster 2: Unconventional security risks (hybrid warfare, terrorism, WMD, cyber)
- Cluster 3: Environmental (including uncontrolled urbanization and diseases)
- Cluster 4: Demography and uncontrolled migration
- Cluster 5: Global financial and economic risks

While mindful that processes of conflict onset and governance breakdowns display great complexity, we offer a risk typology meant to balance comprehensiveness with complexity-reducing parsimony. In this, we follow the science of systems modelling, which recognizes a continuous process of trade-offs between complexity and accuracy (Haimes 2009). Accordingly, our typology is as simple as possible and as complex as needed.

## **1. GEOPOLITICAL RIVALRY AND RISKS OF MAJOR ARMED CONFLICT**

This section deals with order contestation and the risk of a major armed conflict that includes one or more of the major global contenders. In the current contestation atmosphere, such conflict has the potential to change the international order's current balance. Three trends increase this risk: (1) Russia and China's advancement of an alternative international order and increased assertiveness in pursuing such an order's interests and broadening its sphere of influence (2) The steadily increasing level of cooperation between Russia and China to counter liberal ideologies and Western policies, and (3) the continued military dominance of the US and its reluctance to cede its hegemonic role to any geopolitical competitor.

Global order contestation is a major risk with a meaningful potential to influence ALS. As with many issues of global order, the US is a profound factor that has been shifting away from its traditional trajectory in the past decade. The Obama and Trump administrations recognized that the US' "returns" on its investment of the global order have increasingly diminished. President Obama relied more on international agreement and cooperation than his predecessors in the last decades, whereas President Trump seemed to barely rely on international agreement and cooperation. Although seemingly pulling the US in different directions in terms of the global international order, both movements are altogether different from the traditional international order in the aftermath of WWII (Cooley and Nexon 2020). Similarly, other distinct contenders for global order such as Russia and China are pushing for an incremental change in the international order through a confrontational approach.

Although an elusive and oversimplified term, this section refers to the international liberal order as the set of positive outcomes that has marked international affairs since 1945. Among these are the global economy, the responsiveness of states to their citizens, joint action regarding transnational issues, tolerance, individual wellbeing, human rights, and a decrease of great-power wars (Bobbitt 2018). In a broad sense, it refers to norms, rules, and institutions that govern international politics, which is strongly tied to international power. The liberal international order was born in many ways at the end of WWII (with roots in WWI Wilsonian ideas), and the UN system was its first layer. It was then followed by the addition of Western and Eastern blocks during the Cold War. Over time, decolonization also resulted in new states and new interlacing layers. The collapse of the Bretton Woods system further changed its economic and political landscape, and eventually, the collapse of the USSR reinforced the idea that liberalism could not apply to only a subset of countries but to all of them (Bobbitt 2018; Friedman Lissner and Rapp-Hooper 2018).

As Expected, this order contestation unfolds in physical and non-physical domains across the globe. The highest risks for a major armed conflict exist in Russia and China's backyard where friction with the West exists. Attention and continuous risk assessment capacities should be devoted to the South China Sea, the Sino-Indo border, Eastern European and Baltic countries that border with Russia, the Horn of Africa, and the Middle East and North Africa (MENA). The relevant criteria for observation should include the contenders' interests in the area, the structural characteristics of the country or region, military-related developments, and the country's resilience (Gavin 2018; Office of the Director of National Intelligence 2019: 4).

Although Russia, and especially China, participate in and enjoy the fruits of the liberal international order, they are not satisfied with their role in it, which they perceive to ultimately undermines their core interests. Using a wide range of tools, they attempt to weaken aspects of the liberal order while progressing alternative visions and pulling other actors into their spheres of influence. They constantly test the fundamental norms of the liberal order—such as sovereignty and freedom of navigation—and use their militaries to intimidate and coerce other actors to acquiesce their ambitions. These patterns can be traced back to various declarations and speeches that provide indications of their attitudes (e.g., President of Russia Office 2018; Xi Jinping 2017). In essence, the leaders of Russia and China present vaguely defined alternatives to the liberal order and its institutions that befit their long-term interests in the context of global power competition with Western hegemony.



Additionally, the level of cooperation and engagement between these powers is increasing despite a divergence of national interests and a growing power asymmetry in favour of China. The increase in cooperation is mainly a tool to counter Western influence locally, regionally, and internationally. A recent report by the US Director of National intelligence mentions that Moscow and Beijing “are more aligned than at any point since the mid-1950s, and the relationship is likely to strengthen” (Office of the Director of National Intelligence 2019: 24; Rolland 2019).

Activities in Eurasia serve as a useful example of this growing cooperation. Both countries have their core interests in the region and compete for primacy and the advancement of economically significant regional projects<sup>2</sup>, and yet, Rolland notes that they have “demonstrated a remarkable consistency in trying to avoid competition and to develop instead a cooperative framework that allows for an alignment of their respective Eurasian initiatives” (2019: 10). The leaders of both countries have reiterated their pledge to strengthen economic integration, safeguard stability in Eurasia, advance principles of sovereign equality and non-interference in internal affairs, and consider how their flagship projects could mutually complement and strengthen the both Russia and China (Lewis 2018).

The most relevant aspects of cooperation are in the international organizations and military sphere. Beijing and Moscow aim at weakening US unilateralism and interventionism as well as the Western conception of human rights and democracy. They cooperate in international organizations such as the UN by emphasizing sovereignty narratives that serve their narrow national interests (Ministry of Foreign Affairs of the Russian Federation 2016).

Additionally, Russia and China have increased their strategic military exercises such as the latest VOSTOK 2018. Politically, the goal of this exercise was to “present a common front to their perceived potential adversary, the United States” (Johnson 2018). VOSTOK 2018 is also militarily significant. Neither NATO-Russia nor China-Russia operational cooperation have ever approached this scale. When reviewing the regularity and scale of shared exercises, it seems that Russia and China are working to build “multidimensional military and military-industrial cooperation” (Johnson 2018). In sum, geopolitical tensions and Great Power rivalries have grown markedly over the past several years, generating structural risk of both limited and more general conflict (Cooley and Nexon 2020).

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<sup>2</sup> Examples of this include Russia’s Eurasian Economic Union (EAEU), Putin’s 2016 suggestion of the “Greater Eurasian Partnership”, and China’s Belt and Road Initiative (BRI) and participation in the Silk Road Economic Belt (SREB).

## 2. UNCONVENTIONAL SECURITY RISKS

Security risks of an unconventional nature caused by disruptive technologies are likely to worsen in the coming years as an increasing number of actors will enhance their technological capabilities. Information technology and increased global interconnectivity will provide greater access to expertise in the form of information and skills. Open, restricted, legal, or illegal knowledge that was once available only to a handful of states will become attainable by non-state and independent actors. Furthermore, access to better computing, storage, and sensing capabilities is expected to increase as well, serving as a power multiplier for weaker actors. Instances representing this trend have already taken place in recent years. In some cases, actors have used seemingly benign devices to disrupt or neutralize the activity of critical infrastructures. In others, novel technologies were employed to surprise even well-prepared actors. In tandem with technological developments, new conceptions, doctrines, capabilities, and tools will be developed to compliment disruptive capabilities and to be employed in a manner that will require equally novel solutions (Rees 2018: 11-15, 83-88).

### 2.1 Cyber-Warfare

Unlike conventional and unconventional weapons, whose consequences are known and often horrifying enough to prevent their use, the lawless and normless nature of cyber weapons make the risk of conflict more likely. The limited number of case studies and the secrecy that shrouds the use of advanced cyber-weapons make it harder to assess their efficiency, true value, and risk. Nonetheless, the use of such weapons is expected to increase in the next five to ten years. Countries invest heavily in offensive capabilities as a means of defence through pre-emptive attacks, but the vague nature of these capabilities complicates traditional calculations and present new challenges to security (Valeriano and Jensen 2019: 3–5). A report by the US Cyber Command illustrates the difficulty of effective and accountable use of cyber-weapons. The idea of effectively deterring adversaries in a domain that is ruled by anonymity, countless actors, and no distinct borders is far-fetched and risky and furthers the militarization of cyberspace:

We have learned we must stop attacks before they penetrate our cyber defenses or impair our military forces; and through persistent, integrated operations, we can influence adversary behavior and introduce uncertainty into their calculations. [...] Through persistent action and competing more effectively below the level of armed conflict, we can influence the calculations of our adversaries, deter aggression, and clarify the distinction between acceptable and unacceptable behaviour in cyberspace. (US Cyber Command 2018: 2–7).

Though the number of countries capable of causing critical damage with cascading effects is still small,<sup>3</sup> the first and most-relevant risk remains state and state-sponsored cyber-attacks. States can dedicate significant resources for perpetuating such attacks, and the most severe risk is that a highly capable country will target a weaker but technological-dependent one. Past cyber-attacks on Estonia, Georgia, Ukraine, and North Korea serve as powerful templates for the future. In addition, a paralysation of critical infrastructure and a series of explosions and fires in key infrastructure facilities in Iran is another recent example with a potentially larger physical signature. Moreover, a growing number of countries, such as Iran and North Korea, is trying to join the club and is already experimenting with such weapons (Breene 2016; Detsch et al. 2020; Steiger et al. 2018). These risks could culminate into a cyber war. Theoretically speaking, this would be a war in which attacks from the cyberspace would achieve effects of strategic importance, rather than just temporary tactical advantages. Researchers are divided on whether it is even possible, and—assuming that it is—whether a cyber war would be a clean affair without any large-scale, physical fighting, or whether it is likely to supplement, and possibly exacerbate, open warfare (Geers 2015).

The Russian cyber activities in the ongoing conflict with Ukraine are a part of cyber warfare but do not amount to a cyber war. Russia was able to harness its cyber capabilities in the conflict to achieve operational and strategic goals to previously unseen levels. Though not a full-fledged cyber war, the conflict entailed cyber skirmishes that could be reproduced with a higher intensity in a cyber war with potentially more destructive results. For example, Moscow used a variety of cyber weapons in combination with methods of intelligence collection and kinetic military operations by special and conventional forces. Such disciplined use of cyber-attacks is expected to feature more prominently in future conflicts (Giles 2015: 23–25; Wirtz 2015: 36–37).

Technological advancement enables growth and socioeconomic opportunities, but it also increases dependency. Modernized economies, governments, and militaries are becoming more dependent on information technology. This creates significant vulnerabilities to attacks from cyberspace. This trend is accelerating as the internet expands to other items and systems in various fields such as power grids, air and ground traffic control, satellites, banking, medical services industrial plants, and consumer products. Technology permeates every aspect of people's lives via their smartphones, affecting everything from consumer habits to sources of information

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<sup>3</sup> Such countries include the United States, China, Russia, Israel and the United Kingdom. See Breene (2016).



(US Joint Chiefs of Staff 2018b: i2-i4).

The promise in cyberspace for attackers is that they can inflict damage on many sectors and with various degrees of severity—from minor inconveniences such as ransomware, events of medium severity through disinformation operations, and catastrophic results such as interrupting the supply of electricity. Attackers can do all of the above while enjoying relatively high safety. The problem for those who wish to defend themselves is that establishing deterrence in cyberspace is hard. The logic of retribution plays a minor role, due to the difficulty in identifying the attacker or the actor that controls the attacker. Furthermore, cyberspace cuts across physical and sovereign boundaries, and its nature facilitates anonymity and enables deception.

Soon, the risk of violent conflict escalation due to cyber-attacks will increase as well. Capabilities will become more lethal and accurate, and accountability will remain elusive at best. Norms in the cyber-domain remain woefully underdeveloped and contested, and the issue of infringing state sovereignty remains open to flexible interpretation (Lotrionte 2018). To what extent can and should states exercise sovereignty in cyberspace? In theoretical discussions, some argue that, despite being nonphysical, the potential for physical damage means that cyber-attacks can constitute a *casus belli* or just cause for military action and war. This consequence-based approach increases the risk of violent conflict, however, since accidents and misunderstandings in cyberspace can also cause physical damage (Smith 2018).

## 2.2 Grey-Zone-Warfare

Introducing innovative capabilities and tools can presents security and even social risks. These risks are exacerbated when these capabilities are used as part of a structured doctrine to achieve a larger effect during a confrontation. Leading military powers are developing and experimenting with grey-zone/hybrid Warfare, which could destabilize regions with higher sensitivities or ongoing low-intensity conflicts. Both grey-zone and hybrid warfare represent a holistic approach to conflict that is distinguishable from better-known uses of military force. Their holistic characteristics combine kinetic and non-kinetic activities against military and civil targets, and psychological operation campaigns are aimed at civilian populations and political echelons using a wide variety of mediums. The underlying goal is to weaken the motivation for escalation on the part of the adversary (Freedman 2017).

Grey-zone and hybrid warfare are similar but not identical. They are alike in the sense that both are intended to circumvent the adversary's ability or will to engage in confrontation. The main difference is that grey-zone warfare is meant to be used below the threshold of war, thus blurring the boundaries between peacetime and military conflict and complicating the decision-making process and leaving more

room for miscalculations. Hybrid warfare takes the idea of combined warfare a step further, decompartmentalizing traditional combat arms and fusing them with political, irregular, and cyber warfare (Freedman 2017).<sup>4</sup>

Blurring the distinction between peacetime and war using these doctrines increases the risk for (1) an escalation and unintended consequences caused by exchanges below the threshold that will heighten tension and bring about a larger-scale armed conflict, (2) miscalculated reactions caused by the difficulty to assess if the desired effect on the adversary's perception is achieved, and (3) the unintended consequences caused by the enormous complexity that a transregional, multi-domain, and multifunctional campaign entails (US Joint Chiefs of Staff 2018a: 31–32). The 2014 Russian campaign in Ukraine serves as a useful illustration. It was preceded by a speech by Valery Gerasimov, the chief of Russia's general staff, describing what a hybrid military campaign might look like:

“In the future”, he says, “wars will start without declarations. Countries that are otherwise stable and well-off could experience the most intense armed conflict in a timespan of a few days to few months. Military and non-military means will be used to achieve strategic ends. Among the non-military means, he mentioned political, economic, information and humanitarian efforts. Between the military and non-military one finds the use of covert force to enable deniability, manipulation of the local population and their support, using them as a fifth column or as a cover for concealed military forces.” (Freedman 2017: 223–24).

The centrality and even the existence of a *Gerasimov doctrine* is a point of contestation among scholars. In practice, it does not matter. It is more important to understand what such warfare entails. The methods in use have been developed through many campaigns: the war with Georgia, the campaign and later annexation of parts of Ukraine, the intervention in Syria and Libya, and the cultivation of a frozen conflict between Azerbaijan and Armenia. These campaigns have included the use of militias, the grooming separatists and guerrilla movements, the application of propaganda and regional and global agitation, cyber warfare, the utilization of migration, and the weaponization of energy supplies (Kilcullen 2020).

Similar to the Russian case, the US military is working on its doctrine: A recent report

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<sup>4</sup> There are multiple terms in use today to describe this novel doctrine such as “asymmetric warfare”, “new-generation warfare”, “non-linear warfare”, “liminal warfare”, and others. The plurality of terms is not without justification, as each focuses on a different aspect of the same new and incompletely understood phenomena.



by the US Joint Chiefs of Staff (2018a) labelled such warfare as *Integrated Campaigning*, defined as a “Joint Force and interorganizational partner efforts” set to “enable the achievement and maintenance of policy by integrating military activities and aligning non-military activities” (6). This effort will take place within a calculated scope and scale, performed simultaneously and across multiple domains. The similarities to Gerasimov are not coincidental. The authors of the report in the Department of Defense (DoD) recognise the challenge of emerging and resurging global powers, and their hegemonic aspirations. They expect these powers to follow the lines of Gerasimov’s vision, but to specifically do so below the threshold that invoke a traditional military response from the US, thus not allowing it to utilise its superiority (v).

The report encapsulates this concept with the term *competition continuum*. It enables us to grasp the complexity of such a conflict, moving forward from the binary concept of peace and war. Three steps span over the continuum:

- *Armed conflict* in which the use of violence is the primary mean to satisfy interests (varies in intensity and range from limited warfare to major wars)
- *Competition below armed conflict* when two or more actors work toward incompatible interests but try to avoid an escalation to armed conflict
- *Cooperation*, which includes the mutually beneficial relationships between actors with compatible interests (See Figure 2 below)

Figure 2: *Competition continuum*



Source: *US Joint Chiefs of Staff (2018a: 8)*

Grey-zone warfare poses a significant global risk for an increase in violent conflicts as well as in the eastern and southern periphery of the EU. Creating more room to manoeuvre under the threshold of war could tip the fragile balance of action and response using military force. Actors could dare to conduct bolder action under the threshold if they expect the other side to respond lightly or not at all, which increases the chance for miscalculation. In the case of a full-fledged conflict, hybrid warfare will include higher levels of disruption and destruction to civilian populations, infrastructure, and social fabric. The integrated nature of the doctrine targets not only the military and government but many aspects of civilian life and infrastructure to collapse the adversary's will to retaliate. Unlike the traditional dynamics of escalation, hybrid warfare's escalation is sharp. A country could find itself attacked—or believing it is attacked—in multiple military and civilian domains. Thus, the risk of unintended escalation and miscalculation increases immensely.

### 2.3 Biological Weapons and Synthetic Biology

Significant scientific advances have enabled the engineering of existing organisms and the creation of new ones that do not exist in nature—a process known as synthetic biology. Notwithstanding the great promise of preventing diseases, improving food productions, and dealing with pollution, there is an inherent risk to international security. The progress of synthetic biology in the coming years will expand the possibility of creating new weapons, increase the risk of mistakes, and broaden the range of actors that could use such processes in malicious ways. The highest risk originates in the fast-paced advancements in synthetic biology comparing to the slower development and implementation of biosecurity and biosafety practice (Trump et al. 2020).

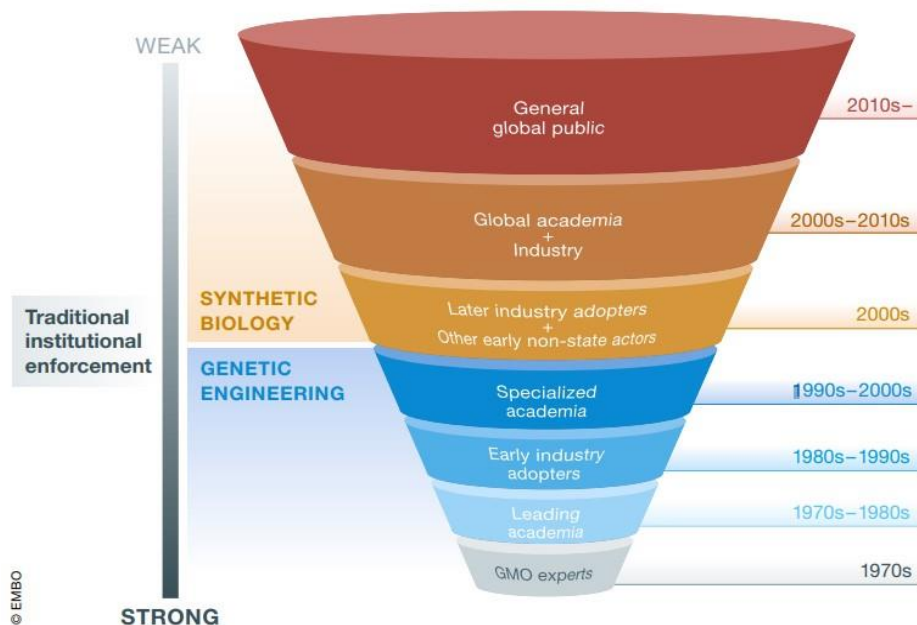
A study group of the National Academy of Sciences has recently published a study that was commissioned by the US Department of Defence to explore potentially harmful uses of emerging technologies (National Academies of Sciences, Engineering, and Medicine 2018). The group's findings are troubling. Not only are significant risks expected to arise in the coming years, but the ease of using synthetic biology also makes them available to a growing array of actors, from individuals to states. The list below describes those risks that the group categorized as the highest relative risks that require immediate attention. Even the most immediate risks are not without barriers, but those barriers are very much dependent on either the resources available to the malicious party or time (i.e., the time needed for the technology to mature).

- The recreation of known pathogenic viruses. Synthetic biology technology would make it easier to revive diseases and synthesize them to be more deadly through increased virulence, resistance to antibiotics, and the ability to produce toxins and evade known treatment modalities (37–41).
- “The making existing bacteria more dangerous: Creating a modified version of a known bacterium in which one or more traits have been altered to make the bacterium more dangerous” (32).
- The creation of new harmful biochemicals: engineering an organism, such as a microorganism that can survive in the human gut, to produce a desired biochemical and delivering this microorganism in such a way that it can produce and release this product in situ (32).
- Making existing viruses more dangerous: “Creating a modified version of a known virus in which one or more traits have been altered to make the virus more dangerous (such as by enhancing its virulence)” (31).
- Manufacturing chemicals or biochemicals by exploiting natural metabolic pathways: producing naturally occurring toxins by engineering an organism to contain the pathway for the desired product (32).

The potential harm of these new technologies is assessed according to the following criteria, and risks are then rated according to their calculated concern (in layman terms: probability and severity relative to each other). These include: (1) the usability of the technology including the ease of use, rate of development, barriers to use, and synergy with other technologies; (2) its usability as a weapon, including the ease of production and delivery, the scope of casualties expected, and the predictability of the expected malign results; (3) the requirements that actors need to fulfil, including access to expertise and resources and what size of the organizational footprint is required to use as a weapon; and (4) the mitigation potential when asked to defend against manifested risks (i.e., resilience). This category includes deterrence and other prevention capabilities, the ability to recognize an attack and attribute it to an actor, and capabilities to manage the consequences of an attack (National Academies of Sciences, Engineering, and Medicine 2018: 24–31).

As noted above, the main barriers to misuse of synthetic biology are the availability of technology and time to accumulate knowledge. These may hamper only independent and non-state actors from advancing in the field. State actors, however, could overcome them relatively easily, as the lack of oversight and control remains a serious issue. The access to gene drives, editing, and synthesis is increasingly conferred with limited or no oversight by industrial actors and national and international organizations (as seen in Figure 3 below) (Trump et al. 2020).

Figure 3: Increasing number of global users able to access genetic engineering (blue) and synthetic biology (orange) technologies over time



Source: Trump et al. (2020: 3)

### 3 ENVIRONMENTAL RISKS

#### 3.1 Disease Outbreaks

Public health emergencies constitute a risk when triggered by a bio-terrorist attack or, alternatively, by secondary biological, chemical, or radiological contamination ensuing a cyber or kinetic terrorist attack on critical national infrastructures such as a water sanitising plant or an industrial chemical plant (Banks et al. 2019). Even the outbreak of a man-made disease poses significant risks to political stability, as security and military forces deployed abroad can be incapacitated, and the potential for transnational contamination can be presented.

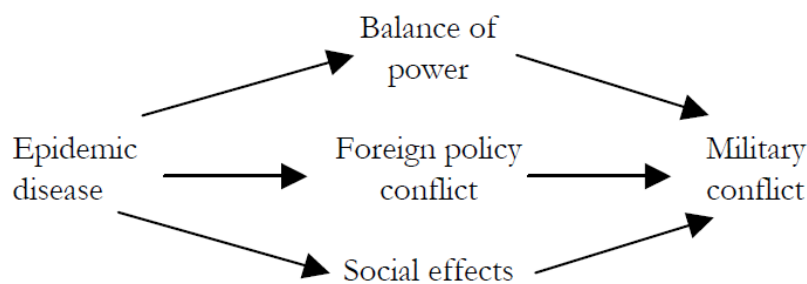
When our original risk survey report was compiled,<sup>5</sup> the role of health—epidemics and pandemics—in triggering conflict and governance breakdown was only vaguely imaginable and understood (Nel and Righarts 2008). Today, a year into the COVID-19 pandemic, a conflict and governance breakdown due to a pandemic seems more probable, though perhaps only slightly better understood. The inability of the

<sup>5</sup> Magen et al. 2019. See note 1, supra.

governing forces to contain the spread of the disease can precipitate the region into chaos and even conflict. Halting international trade and the contamination of livestock can aggravate the situation by affecting people's livelihoods. Such devastating scenarios could originate in Africa, parts of the Middle East, and other areas prone to the outbreak of infectious diseases. As with COVID-19, their effects will be felt much beyond the borders of the initially affected state(s) or region (Bruckner and Checchi 2011).

Health crises may not affect intrastate and inter-state conflicts in the same way. Some scholars argue that they affect intrastate conflicts in a direct way and civil wars in an indirect way (via their negative effects on national wealth). This is caused, primarily, by the emergence of xenophobic and ethnocentric cultural norms in the wake of widespread infectious diseases (Letendre et al. 2010).

*Figure 4: Epidemic disease and military conflict*



*Source: Peterson (2002)*

Other scholars identify three scenarios in which infectious diseases may provoke war: by influencing the relative balance of power among adversaries, generating disputes between nations over appropriate health and human rights policies, and engendering domestic instability (Peterson 2002) (see Figure 4 above). The latter raises particular concern, “by causing severe economic, political, and social effects, epidemic disease can produce domestic instability, civil war, or civil-military conflict, or it may lead a state to lash out against another state” (Peterson 2002: 57). In sub-Saharan Africa, for example, AIDS and the death of the main bread-winners has caused sudden income declines where “health care and burial costs mount, savings are depleted, surviving children leave school to work or care for sick relatives, food consumption drops, malnutrition and poverty worsen, and medical expenditures soar” (Peterson 2002: 58). Other infectious diseases may have similarly devastating consequences on ALS.

The spread of Ebola and the loss of over 10,000 lives have underscored yet another level of relationship between political instability and health-related risks. In

Northern Congo, Ebola is spreading because medical personnel cannot access zones of conflict and tend to the sick. Similar difficulties could arise where the capacity of the health services is stretched thin by a conflict, and hospitals cannot attend to those stricken by the disease (Larson 2019).

Finally, even in the absence of conflict, pandemics such as COVID-19 or smallpox can create world-wide chaos and destabilize fragile political entities. Even though smallpox was declared eradicated following a worldwide campaign of vaccination, the effectiveness of the smallpox vaccines has faded, raising concerns about vulnerability to a new outbreak.<sup>6</sup> As seen with COVID-19, a novel virus might have no proven medical treatment, and the development of vaccinations is a long and difficult progress. Once developed, barriers in production and supply could still hamper efficient administration and even exacerbate tensions if it becomes an issue of international or internal politics. For example, in the event of an outbreak of smallpox, vaccines must be administered within hours, as the death toll rises sharply following the initial contamination. Stockpiles of vaccines may run out, even with the help of the US, the UN, and other EU member states. Preparing and responding to an outbreak of smallpox includes knowing where vaccines are and in what quantities and establishing priorities in administering them. In and around Europe, enhancing preparedness to health disasters also means contending with antibiotic resistance, which could make it more difficult to contain a spill-over of a health outbreak. In terms of global health vulnerability, antimicrobial resistance—the ability of microorganisms to resist antimicrobial treatments, especially antibiotics—is perceived as a high-security priority in many parts of the developed world. The EU takes it very seriously, investing 1.5 billion euros a year on antimicrobial resistance (Builder 2014; European Commission 2019).

In the realm of health disasters as with other global and diffuse risks, resilience has the potential to prevent risks from materializing into threats. Educating the public and law enforcement officials, enhancing cooperation with medical services in neighbouring states, and developing procedures for triage and vaccine distribution can help societies withstand the pressure of a disease outbreak.

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<sup>6</sup> In 1999, the John Hopkins Center for Civilian Defence Studies ran a scenario on the spread of smallpox, and the results were apocalyptic (Garrett 2001: 79). In particular, they envisaged that, in one US city, the National Guard enforced martial law over the city's two million residents. This is also the outcome envisaged in the movie *Outbreak*, where the US Army declares martial law to limit the spread of a form of the Ebola virus (85).



### 3.2 Uncontrolled Urbanization

Urbanization, simply defined as a radical shift from a rural to an urban society, is an essential corollary of industrialization that goes hand in hand with the role of human settlements as engines of growth in the economy and as promoters of scientific, socio-cultural and technological development (Nsiah-Gyabaah 2003). As with many other risks analysed in this report, urbanization may remain a risk and never materialize as a threat. However, uncontrolled urbanization constitutes a risk in the sense that it may tilt exiting ALS into lawlessness, the breakdown of law and order, or outright civil conflict.

Indeed, rapid or uncontrolled urbanization presents a significant risk to political stability by threatening livelihoods, health, security, and the environment. Rapid urbanization generally involves a surge in population growth, the concentration of people in urban areas, and/or the conversion of agricultural land into industrial zones (Cockayne et al. 2017). This process has been witnessed in many African cities, such as Lagos in Nigeria, or Abidjan in Cote d'Ivoire. In Africa, the annual growth rate of cities is 1.6% compared to 0.8% in developed countries, and the trend is unlikely to subside. Similarly, politically fragile states like Iraq, Syria, Yemen, and Afghanistan are all expected to more than double their urban population in less than 30 years (Afghanistan's will almost triple from 8 to 22 million) (Sampaio 2018). Looking at worldwide trends, the figures tell a similar story: whereas roughly 34 percent of the world's population lived in urban areas in 1961, by 2030 the figure will rise to over 60 percent (cities and towns will become home to more than 1.4 billion additional people). Nearly all of this growth and movement will take place within the developing world, much of it in ALS (USAID 2017).

The potential of rapid urbanization for destabilization and dislocation cannot be underestimated, particularly when such process takes place in ALS and CO. Rapid urbanization puts pressure on the delivery of goods and services (Saghir and Santoro 2018). In areas that suffer from higher vulnerabilities, such as Sub-Saharan African, these risks can, in turn, increase the likelihood of endemic disease, vulnerability to climate events, gang violence, and radicalization. The combination of high population density, poverty, and lack of planning and infrastructure can also turn rapid urbanization towards a tipping point.

### 3.3 Environmental Risks

The likelihood of natural catastrophic events happening within a short to medium time frame (three to seven years) is relatively low. For this reason, this report focuses on natural disasters, which, unlike catastrophic events, strike every year with increasing frequency and intensity, often affecting more than one state at a time.

Floods, for example, stand out as a major cause of human and financial destruction and loss. Fifty people died in the 2014 floods in the Balkans, and it is estimated that flooding rivers will affect about 300,000 people per year in the EU by the 2050s, and 390,000 people by the 2080s. The British Isles, Western Europe, and northern Italy are among the most vulnerable regions (European Environment Agency 2016). Under a high emissions scenario (assuming an 88 cm sea-level rise), the number of deaths in the EU due to coastal flooding in the 2080s would increase by 3,000, with two-thirds of these deaths in Western Europe. Coastal adaptation measures (e.g., dikes and beach nourishment) can significantly reduce those risks, demonstrating the impact of preparedness and prevention (European Environment Agency 2016). However, they, too, require significant investments.

For all these reasons, the cycle beginning with the prevention of natural disasters and leading to enhanced disaster management and recovery has become a national security priority. Alongside international and domestic terrorism, cyber, and military confrontation, the UK lists natural disasters, including severe coastal flooding, among the highest security priorities (HM Government 2010).

Similarly, the US has placed “all types of severe weather, which have the potential to pose a significant threat to human health and safety, property, critical infrastructure, and homeland security” under the umbrella of the Department of Homeland Security (US Department of Homeland Security 2018). In the US, climate change has been recognized as “an urgent and growing threat to our national security contributing to increased natural disasters, refugee flows, and conflicts over basic resources like food and water” (White House 2015: 12). This echoes the EU’s Global Strategy, which states that “hybrid threats, economic volatility, climate change and energy insecurity endanger our people and territory” (European Union External Action 2016).

Forecasting disaster is merely the first step in identifying the tipping point at which a disaster might trigger events leading to governance breakdown or violent conflict in ALS and CO. Moving to the second step of the analysis requires an exploration of the nexus between natural disasters and political instability in general, and in ALS and CO in particular. The field has grown in recent years but remains fragmented (Salehyan 2014). Alongside predictions that a 2 °C rise in temperatures is estimated to substantially increase the risk of armed conflict by 13%, researchers remain uncertain as to how climatic changes interact with and/or are conditioned by socioeconomic, political, and demographic settings (Koubi 2019; Mach et al. 2019). Research in how these factors interact is still in embryonic stages, but the seeds for understanding the nexus between climate exposure on one hand and state fragility on the other have been firmly planted (Cramer et al. 2018; Moon 2007). More light will be shed on the likelihood and impact of climate disasters as insurance



companies and entire sectors (such as the hotel industry) reassess preparedness and policies in the face of climate risk.

For our purposes, what matters is that “climate change adds an additional layer of stress that can increase state fragility and likelihood of conflict” (McLeman 2017: 105), with our research focusing on the tipping point at which the political and climate vulnerabilities coincide. In other words, in what circumstances does climate change weaken state capacity and legitimacy, “creating opportunities for the disgruntled to engage in violent resistance”, thereby increasing the risk of war or the breakdown of the state? (Nel and Righarts 2008: 162) We have identified the following factors as contributing to such circumstances: economic factors, competition over river water, regime type, chronic internal conflict, prior exposure to disaster, population growth, population movement, rapid onset geological disasters, and political fragility. Although it may seem tautological to include chronic internal conflict and political fragility, the analysis below elaborates on their relevance.

The causal link between environmental scarcity and conflict on one hand, and the weakening of states, on the other, was already spelled out in the 1980s and 1990s—a time where the notion of security expanded in both theory and practice (Buzan 1983; UNDP 1994). At the time, economic factors already featured prominently. Poor societies were identified as the most vulnerable in light of their inability to sustain environmental scarcity “and the social crises they cause” (Homer-Dixon 1994: 6). In these and later studies, infant mortality was often used as the relevant variable to account for income (in)equality (Nel and Righarts 2008). In addition, disasters can damage an already fragile water and food infrastructure, generating heightened competition over resources and overwhelming the capacity of societal institutions. Environmental and political factors, as well as prior exposure to conflict, are also likely to precipitate a tipping point, potentially turning environmental risks into threats in ALS and CO (Nardulli et al. 2015).

The competition over river water has been singled out as a factor triggering war, particularly civil war. Generally speaking, the “insidious and cumulative social impacts” of resource scarcity, which include “population movement, economic decline, and the weakening of states”, can contribute to “diffuse and persistent sub-national violence” (Homer-Dixon 1994: 36). More specifically, access to river water (situations in which riparian groups do not enter into either a formal or informal agreement regarding their use of the water and how it impacts other groups located along the river banks) can greatly heighten tensions within and between states. Turkey and Iran’s use of the water from the Euphrates regularly angers Iraq, just like Ethiopia’s use of the Nile’s water has angered Egypt (Daniel and Michael 2018).

Research shows that mixed regimes increase the risk of violent civil conflict in the wake of natural disasters (Nel and Righarts 2008). Autocracies or consolidated democracies seem less prone to descend into conflict or governance breakdown in such circumstances. This is because grievances will be repressed in autocracies, and consolidated democracies “provide legitimate channels for voicing dissent, and incentives to engage in violence are less than in a partial, incomplete democracy” (Nel and Righarts 2008).

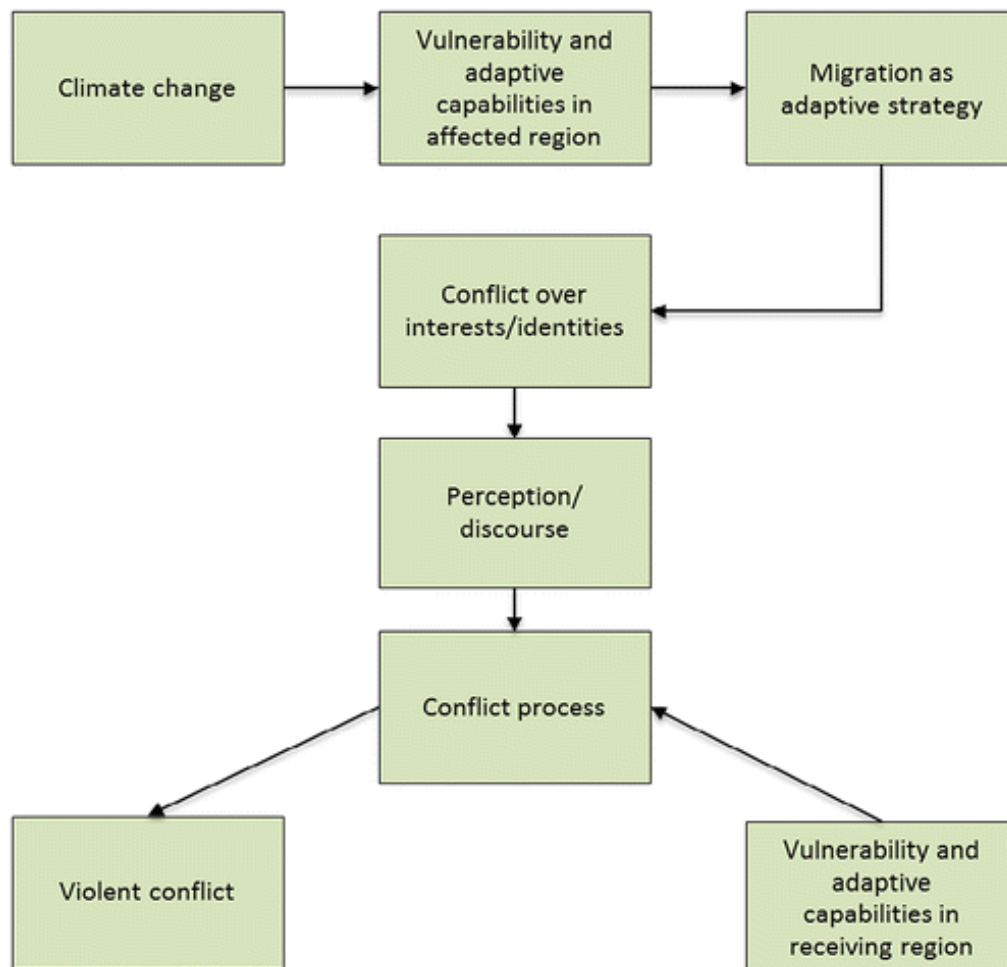
For “countries experiencing chronic internal conflict because of environmental stress”, the outcome of environmental disasters will be fragmentation or the decline into authoritarianism (Homer-Dixon 1994: 40). Such regimes “may be inclined to launch attacks against other countries to divert popular attention from internal stresses. Any of these outcomes could seriously disrupt international security” (Homer-Dixon 1994: 40). Societies prone to conflict will likely experience major conflicts, defined as leading to more than 1,000 deaths, in the wake of natural disasters (Hauge and Ellingsen 1998). Prior exposure to conflict, therefore, increases the risk of reaching a tipping point following extreme environmental events. Interestingly, prior exposure to natural disaster(s) also increases such risk: a state that experiences at least one natural disaster is 30% more likely to experience violent civil conflict than a state that has experienced none (Nel and Righarts 2008).

Demographics will also affect the impact of a natural disaster. Population growth puts more people in harm’s way and has been recognized as an important driver (UNISDR 2015: 14). Population movement must also be taken into consideration when predicting whether climate change will lead to violent conflict (most likely at the national level) (Brzoska and Fröhlich 2016).

The diagram below (Figure 5) summarizes the chain of events leading from climate change to violent conflict, with migration (analysed in section 6 below) acting as an important vector of conflict.

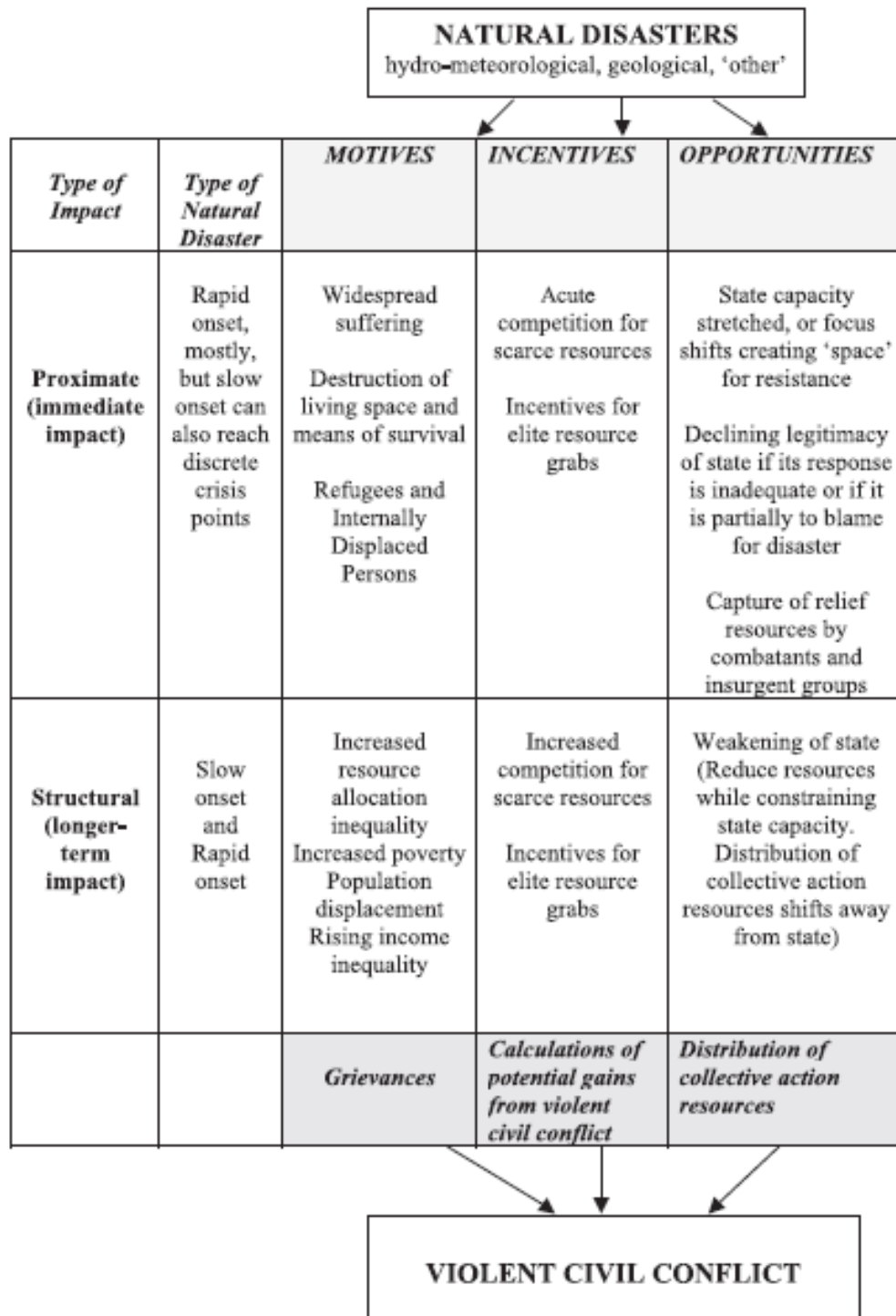
Additional determinants related to the disaster itself also play a role. Rapid-onset disasters, such as storms and floods, pose a more significant risk of violent civil conflict than slow-onset disasters (Figure 6 below). Within this category of disaster, geological disasters, such as earthquakes and volcano eruptions, pose a greater risk than climate-related disasters.

Figure 5: From climate change to violent conflict



Source: Brzoska and Fröhlich 2016

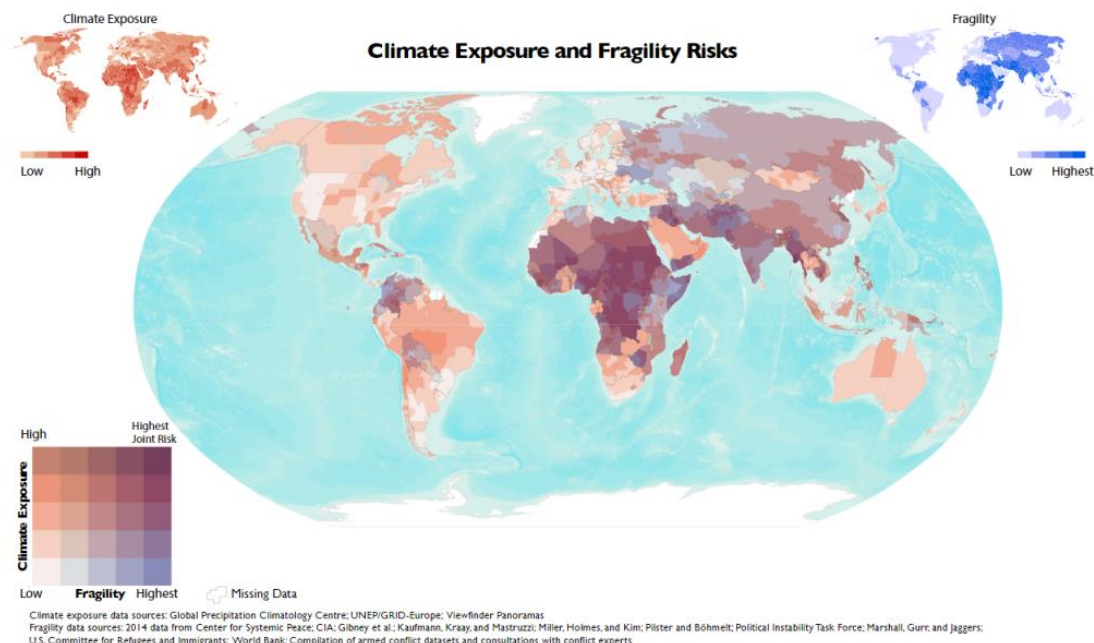
Figure 6: Summary of causal argument linking natural disasters and violent civil conflict



Source: Nel and Righarts (2008)

The most important factor of environmental risk is limited statehood itself, or, as noted in a USAID Report, state effectiveness (the capacity of public-sector institutions and practices) and legitimacy (the degree of direct or indirect public support for government arrangements, officials, and practices) assessed in the political, security, economic, and social spheres. The report explores the intersection of what it terms as *fragility* and climate risks and identifies areas vulnerable to both climate change events and political instability (see Figure 7 below).

*Figure 7: Where climate exposure and fragility risks overlap*



*Source: USAID (2018)*

It concludes that states with more than 1 million people living in high exposure areas are mostly located in sub-Saharan Africa, followed by the Middle East and North Africa (MENA) and South and Southeast Asia. Most interestingly, the USAID analysis points to Egypt as among the most vulnerable state, with 33 million people (or 39% of its population) and 13.7 million people (or 16% of its population) facing high risk and very high risk of climate exposure, respectively:<sup>7</sup>

<sup>7</sup> Like Egypt, Cambodia and Burma not only have a large number of people in very high exposure areas, but they also have a large percentage of the population living in these areas: Cambodia with 20 percent, Egypt with 16 percent, and Burma with 15 percent. In India, 44 million people live in very high exposure areas.

Populations in high exposure areas often face not just a single type of climate stressor but several overlapping climate stressors in that location—from riverine flooding and coastal inundation to droughts and wildfires. This can heighten overall vulnerability and can also place repeated stress on a range of institutions and social and economic systems. (USAID 2018: 21)

Other researchers have similarly identified areas most vulnerable to rising sea levels as predominantly located in the southern and eastern Mediterranean region. There, “social and political instability contribute to climate vulnerability, particularly for impoverished population groups and for states in which the political and social context sets strong limits for efforts to adapt to climate change and mitigate its local impacts” (Cramer et al. 2018: 977). Twelve of the 20 highest-ranked countries in the Fragile States Index are located in the Middle East, “where climate change is expected to create heightened levels of water scarcity, and three—Afghanistan, Somalia, and Syria—currently account for more than half of the world’s current refugee population” (McLeman 2017).

The United States’ National Intelligence Council’s research (2016: 13) points to the fact that, within less than five years, “regions with weak governance, poor living conditions, or persistent conflict that limit the capacity of governments and societies to cope with additional stress” will be most vulnerable to climate-related security risks.

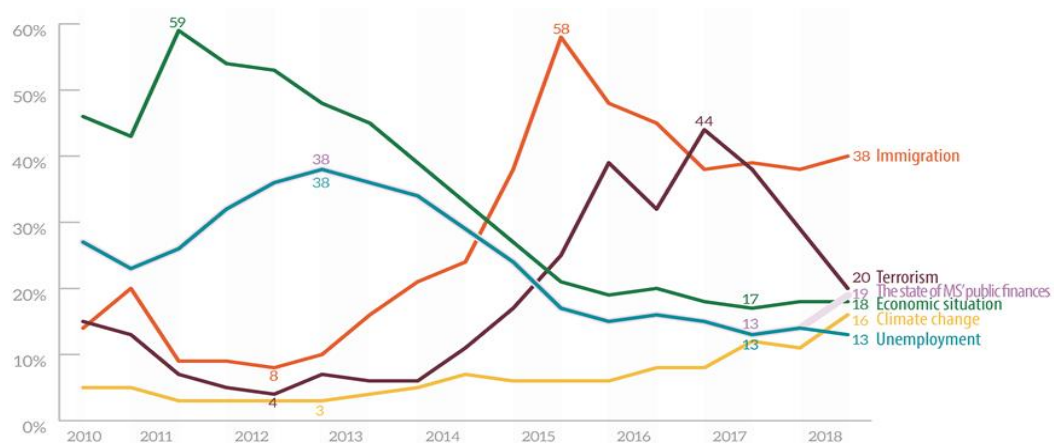
In sum, it would be inaccurate to conclude that every natural disaster will give rise to conflict and create a tipping point for ALS and CO. However, a tipping point could materialize in the short and medium-term (between one and three months after a disaster strikes). This would most likely be in the form of an internal conflict following a geological disaster (such as an earthquake or volcanic eruption) in a country with a low GDP and/or high infant mortality, and where a mixed political regime is in place. Competition over river water increases the risk of civil conflicts. Chronic conflict and prior exposure to disaster increase the likelihood of conflict, but research has also called for caution vis-à-vis areas that have not witnessed extreme events in the past, including in advanced industrial countries (US National Intelligence Council 2016). The intensity of the disaster seems less relevant to the outbreak of violence or governance breakdown. Finally, it should be noted that researchers suspect that further and presently under-researched determinants might play a role in worsening the impact of natural disasters, such as horizontal inequality between societal groups, ecological fragility, the quality and robustness of local and national authorities to deal with the type of systemic shocks posed by natural disasters, and the level of organization of the discontent group(s) initiating violence and transforming discontents acts into contentious ones (Nardulli et al. 2015).



## 4. DEMOGRAPHY AND UNCONTROLLED MIGRATION

The issue of uncontrolled migration, perhaps more than any other single public policy question, has dominated popular perceptions of risks among European citizens in the last several years. As recent Eurobarometer figures demonstrate, from relatively low salience in 2011-2012, alongside fears of terrorism (with which it is intermingled in multiple and complex ways), migration has risen to become the number one issue of concern for EU citizens, particularly following the onset of the migration crisis in 2014-2015. While over the past three years their urgency has somewhat diminished, migration remains the issue of highest public concern for EU citizens. Moreover, the searing experience of the 2015-2016 migration (or “refugee”) crisis and its political aftermath has left a difficult political and border-security legacy in the EU, a reality which demonstrates the high potential for this issue to have a deeply destabilizing effect on the EU governance system. Indeed, recent history has shown that even a relatively small influx of uncontrolled migration into the Schengen Area is likely to precipitate societal shockwaves with potentially highly-polarizing political consequences, even in times of unparalleled peace and relative economic affluence. Accordingly, in thinking about EU preparedness and adaptation, close attention will have to be given to the subject of uncontrolled migration, both directly and in terms of its interaction with other risks covered in this paper—notably those of terrorism, climate, and adverse regimes in regions neighbouring the EU.

*Figure 8: Migration tops EU citizen concerns*



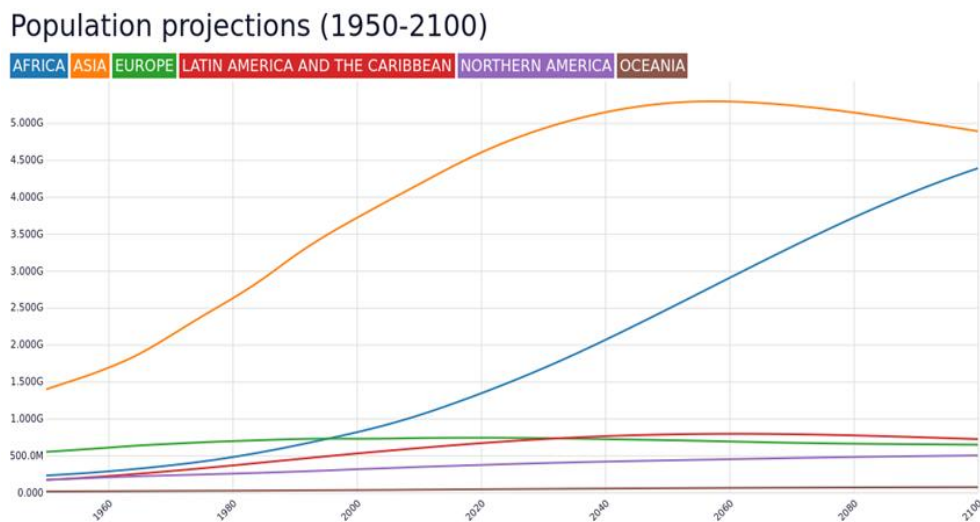
*Source: European Parliamentary Research Service (2019)*

For the purposes of this paper, demographic and migration-potential risks involve three main analytical issues that will be analysed in this section: large-scale demographic dynamics creating rising migratory pressures into the EU, current or

foreseeable concentrations of migrant populations in proximity to EU borders, and the combined risk of migration and terrorism.

While actual migratory patterns are shaped by multiple interactive factors and broadly specific future migration scales, routes and geographic end-ports are difficult to predict with any accuracy (Leiken and Brooke 2006). However, emerging demographic realities in Europe, Africa, and the Middle East point to powerful migratory incentives from the latter two regions into Europe. Indeed, given current and projected global demographic trends, it is difficult to see large-scale migration from these regions into the EU not materializing over the course of the coming decades (without even including unforeseeable crises and catastrophes that stimulate migration). According to UN projections, the most striking global demographic development in the coming decades will be the dramatic rise in Africa's and the decline in Europe's respective populations. Between today and 2100, Africa's population is expected to rise from 1.3 billion to between 3.5 and 4.5 billion people (from 17% to 40% of the world's total population). Over the same period, Europe is projected to be the only region in the world where population is expected to fall in absolute terms. Today, its population stands at around 743 million; by 2100, this is projected to fall to 653 million (Bricker and Ibbitson 2019: 55-74).

*Figure 9: Global population projections*



*Source: United Nations (2015)*

Nevertheless, these macro projections tell us little about expected migratory dynamics. The fact that China is far more densely populated than Siberia, for example, does not by itself generate substantial migratory pressures from the former to the latter. Still, these projected macro-demographic realities certainly

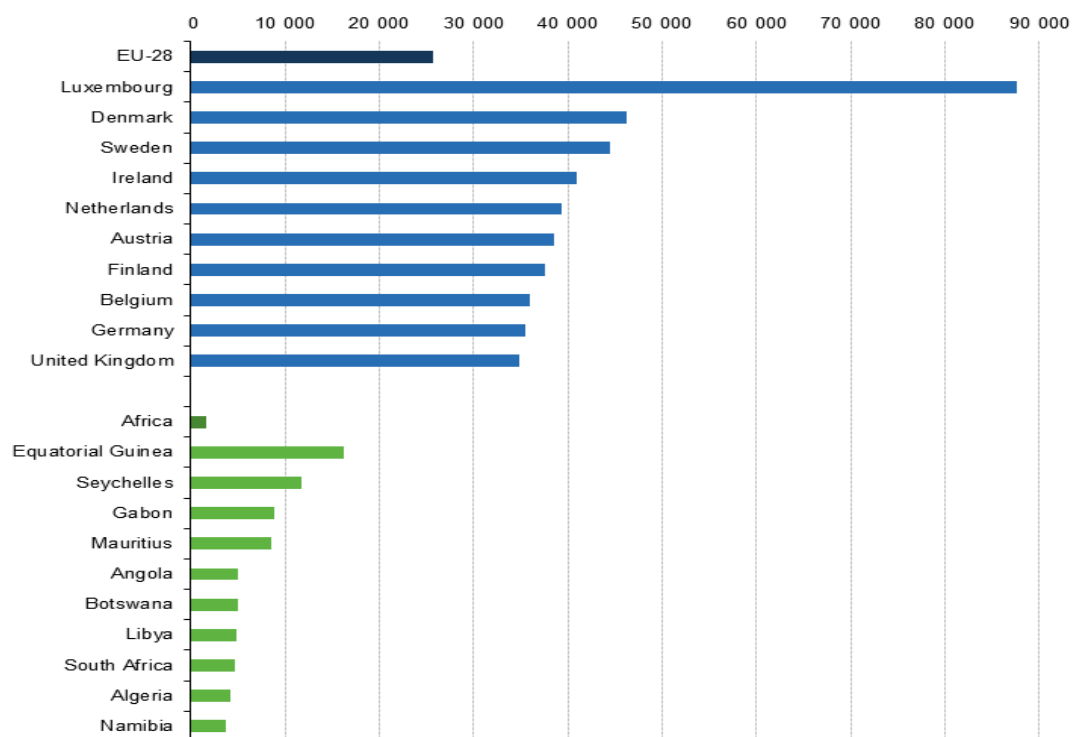


create the potential for large-scale migration from south to north. Moreover, potential migratory incentives in the Africa-Europe context are compounded by a panoply of additional potent factors. First, the expected growing imbalance in sheer population size is matched by a similar imbalance in fertility rates (World Bank 2019).

Second, growing demographic disparities are compounded by existing gaps in wealth and other predictors of human wellbeing, such as investment in education, infrastructure, and health. Lack of social and economic opportunity, coupled with growing poverty, crime, and population density could well drive many young and able-bodied workers to migrate to wealthier parts of the world. Geography, colonial-era ties, and the presence of existing ethnic and religious communities all point to Europe as the most likely magnet for migration.

Barring a stark change of course—where socio-economic opportunities and conditions improve in Africa and the Middle East, sharply decline in Europe, or both—these factors are expected to generate potent “pull” forces of migrants into Europe, particularly as below-replacement domestic fertility rates and ageing populations in Europe create a growing demand for a labour-age population import.

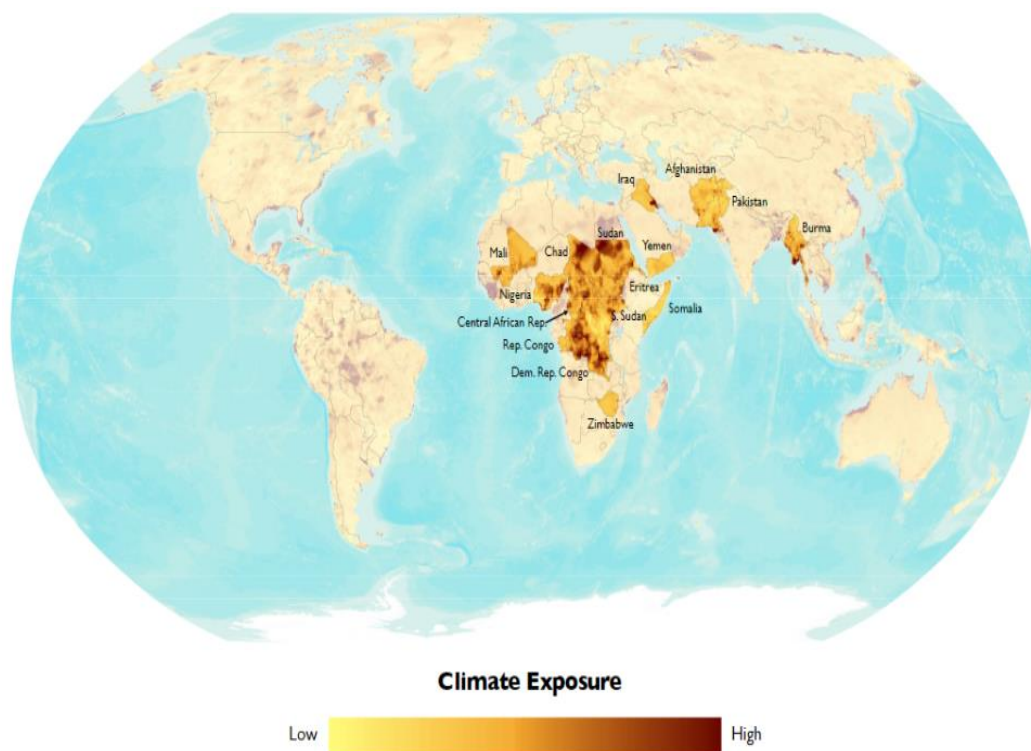
*Figure 10: GDP per capita EU & Africa*



*Source: European Commission and Eurostat (2014)*

South-north migratory pressures are expected to increase—potentially very significantly—under scenarios of increased fragility, violence, disease, and/or climate-induced adverse conditions. As discussed section 5 of this paper, parts of sub-Saharan Africa, the Sahel, and the Middle East are relatively more vulnerable to a combination of such adverse natural or man-made conditions, which could compound south-north migratory pressures. Indeed, the overall picture that emerges from the analysis of the various relevant risk-factors suggests that a host of natural (e.g., disease or environmental) and socio-economic conditions (including regime characteristics, violence and rapid urbanization) may generate additional migratory “push” factors away from large parts of sub-Saharan Africa, North Africa, and the Middle East towards Europe. One such indicator is what the USAID has recently described as the double burden of fragility and climate exposure (USAID 2018).

*Figure 11: Combined risk of fragility and climate exposure*



Climate exposure data sources: Global Precipitation Climatology Centre; UNEP/GRID-Europe; Viewfinder Panoramas  
Fragility data sources: 2014 data from Center for Systemic Peace; CIA; Gibney et al.; Kaufmann, Kraay, and Mastruzzi; Miller, Holmes, and Kim; Pilster and Böhmelt; Political Instability Task Force; Marshall, Gurr, and Jagers;  
U.S. Committee for Refugees and Immigrants; World Bank; Compilation of armed conflict datasets and consultations with conflict experts

*Source: USAID (2018)*

Summarizing the plethora of “push” factors from the Middle East, North Africa, Sahel, and parts of sub-Saharan Africa towards Europe, a recent report by the Denmark-based Mixed Migration Centre highlights some important aspects of migration from the MENA region into Europe (Mixed Migration Centre 2018). The

MENA region, in particular, has been going through a long period of instability, which shows little signs of abatement. In some cases, governments lack the capabilities to serve their citizens to such an extent that their citizens are willing to take high risks in their attempts to find a better future. In other cases, governments actively target their citizens with violence, making dislocation the only viable option. As urbanization accelerates in MENA and parts of sub-Saharan Africa, awareness of migration opportunities rises, as does the capacity for would-be migrants to mobilize. The overall migration profile in the region is also diverse, which increases the complexity of the problems. Migrants arrive from an assortment of countries from the Levant, North Africa, East Africa, and West Africa. These communities differentiate themselves from one another on many levels (including religion and ethnicity), which complicates long-term solution structures (Mixed Migration Centre 2018).

Indeed, the Mixed Migration Centre report suggests a number of dynamics are likely to increase population movements and exacerbate tensions around south-north migration by 2030. These include the prospect of upper and middle-class populations fleeing degenerating conditions; further population swaps and ethnic/sectarian violence in the MENA region (as the result of Turkish, Syrian, and Iranian reactions to Kurdish aspirations for greater autonomy or independence for example); rapid spurts of migration as the result of regime instability or collapse (in Algeria or Egypt for instance); and drought, earthquake, or disease-induced large-scale south-north migration.

Lastly, European intelligence agencies and the International Organization for Migration (IOM) have expressed concern that immigration flows represent considerable terrorism risks (IOM 2003; 2010). This has already led to the “securitization of migration” in most western countries, including the EU (Neal 2009). Existing evidence on this risk reveals several important insights. For example, several studies have established that the likelihood of conflict spill over significantly increases with a larger refugee influx from nearby conflict-torn countries (Salehyan and Gleditsch 2006). Indeed, one study found that refugee influx is associated with the spread of terrorism across pairs of states (dyads) (Milton *et al.* 2013). However, these findings pertain to areas characterized by spatial units with geographical contiguity, which is generally not the case in the EU. The latest available scholarship on the relationship between migration and terrorism points to a mixed picture of risk. Migrants stemming from terrorist-prone states moving to another country are an important vehicle for the diffusion of terrorism from one country to another. At the same time, migrant flows itself (i.e., when increased immigration is not linked to terrorism in the migrants’ countries of origin) is actually associated with lower levels of terrorist attacks (Bove and Böhmelt 2016).

## 5. GLOBAL FINANCIAL AND OTHER SYSTEMIC ECONOMIC RISKS

The global financial crisis of 2007-2008 represented the greatest financial and economic upheaval since the Great Depression of the 1930s. It took the financial world by surprise, and its aftershocks—notably the Greek debt crisis—have been identified as major drivers of populist politics in Europe and have diminished trust in the EU’s ability to predict and mitigate systemic risks. Since 2008, economists, traders, and fund-managers have wearily watched for signs of financial and economic risks that could trigger the next crisis. The potentially destabilizing impact of such global financial downturns and their aggravating effect on ALS and CO equally call for caution on the part of the EU and its member states.

Apart from lingering concerns about the possibility of some form of a repeat of the 2008 financial crisis as the result of slacking financial-sector regulation, economists tasked with scanning for future systemic economic risks—such as the US Federal Reserve, the IMF, and OECD—identify three main areas of near to medium-term concern: (1) Brexit, Eurozone fiscal challenges, and wider sovereign debt that may negatively impact the EU, the US, China, and other major economies and lead to a global economic slowdown or full-blown recession; (2) trade tensions leading to a global economic slowdown or recession; and (3) corporate debt.

### 5.1 Brexit, Euro-Area Fiscal Challenges and Sovereign Debt

In a highly interconnected global financial system, vulnerabilities within the EU itself (or the EU plus the UK in a possible post-Brexit scenario) have the potential of posing risks to the financial system of other major economies, particularly that of the US, which maintains dense linkages with large European economies and, to a lesser extent, China (which is already experiencing substantial slowing in growth rates). As the US Federal Reserve recently warned, two scenarios pose substantial risks for the US financial system to the extent that, should one or both materialize, they could trigger a global economic slowdown or full-blown recession (Board of Governors of the Federal Reserve System 2018). These fears are also at the heart of the IMF World Economic Outlook reports for 2019 and 2020 (IMF 2018, 2019b).

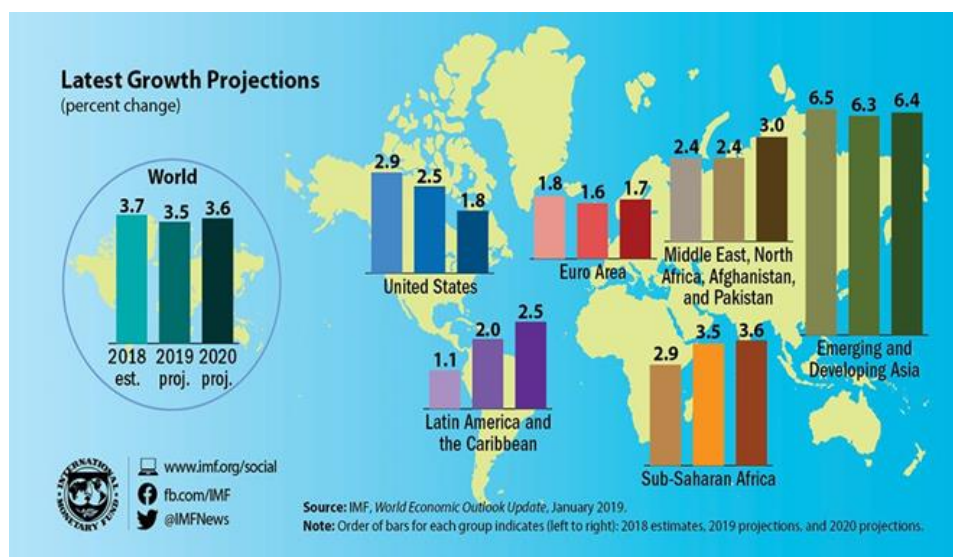
Lingering uncertainties over future economic relations between the EU and UK carry the potential for significant disruption in trade and investment in the UK and Single Market. Under a scenario of no gradual withdrawal agreement in particular (i.e., “no-deal”), there will be no orderly transition period and a wide range of economic and financial activities in the UK—the world’s fifth-largest economy—could be seriously disrupted. Indeed, the IMF World Economic Outlook update report published in January 2019 identifies a no-deal Brexit as one of the two biggest risks to the global economy in 2019 and 2020 (IMF 2019b). According to the US Federal Reserve, a Brexit-induced disruption in the UK and EU economies could adversely impact the US

economy through several transmission channels, precipitating a slow-down or recession, which could then further exacerbate the downturn in the UK and EU.

First, Brexit could lead to market volatility and a sharp pullback of consumer confidence and investors connected to UK and EU-related assets, as occurred during the June 2016 Brexit referendum and Greek debt crisis. Second, “spillover effects from the UK and other European banks could be transmitted to the US financial system directly through credit exposures as well as indirectly through the common participation of globally active banks in a broad range of activities and markets” (Board of Governors of the Federal Reserve System 2018: 37). Third, a sharp economic downturn in the UK and EU—triggered or exacerbated by Brexit and likely accompanied by dollar appreciation—could harm US and Chinese trade at a time when China (the second-largest economy in the world) is already experiencing significant economic slowing, as mentioned above. Moreover, after years of rapid credit expansion, both Chinese lenders and borrowers are more exposed in the event of a slowdown. Under these conditions, developments that trigger a serious straining of Chinese companies and consumers to repay debt—such as an escalation of international trade tensions or a sharp drop in Chinese real estate prices—could have adverse effects on the Chinese and global economy.

Under conditions where the US, EU (or EU plus UK), and Chinese economies all experience simultaneous economic downturns, the risks of a global economic recession would be substantially increased, threatening to trigger a sharp economic downturn (including sovereign fiscal crises) in some EU member states and in vulnerable economies neighbouring the EU.

*Figure 12: Latest growth projections (% change)*



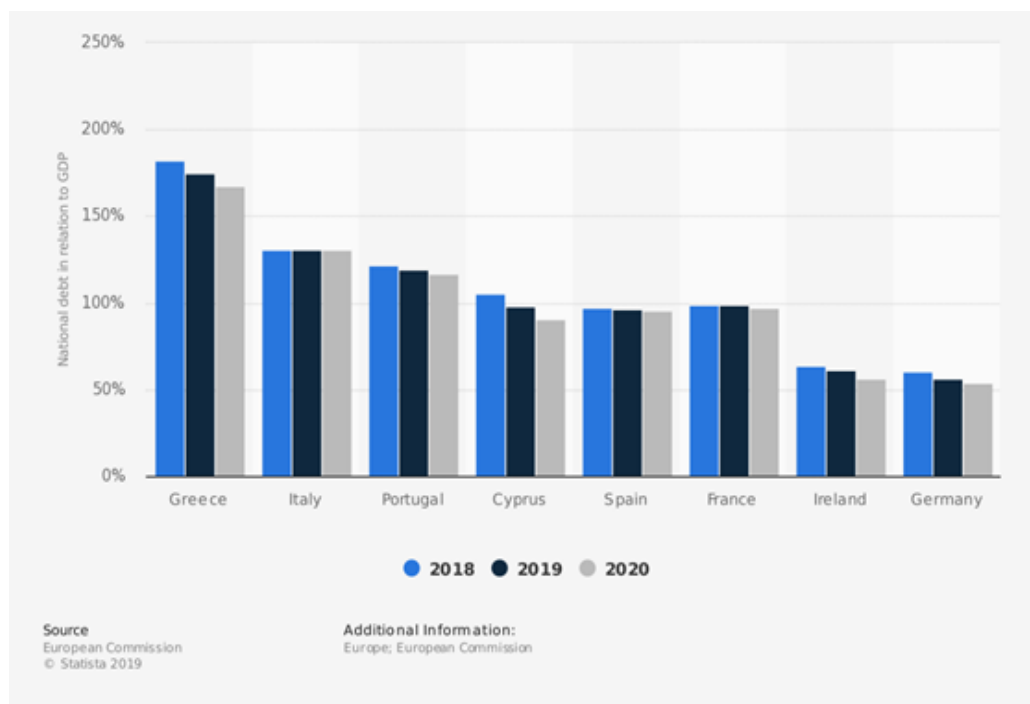
Source: IMF (2019b)



Despite improvements since the 2010-2012 sovereign debt crisis, confidence in the euro area’s fiscal and financial stability remains fragile, and there are fears that a substantial downturn in the EU economy (as the result of Brexit or a wider global economic slowdown) could trigger a new debt crisis, most worryingly in the EU’s third-largest economy, Italy.

According to the IMF, the burden of public debt is a growing problem across the globe. In advanced countries, public debt is at levels not seen since World War II (IMF 2019a). Gross borrowings by governments from the bond markets are also set to reach a new record level in 2019, according to the recent OECD report (OECD 2019). Emerging-market public debt has accumulated to levels last seen during the 1980s debt crisis, and 40% of low-income countries—that is, 24 of 60 countries—are in or at high risk of debt distress, resulting in the inability to service public debt, which could produce significant disruption of economic activity and employment (Mühleisen and Flanagan 2019).

*Figure 13: National debt forecast of selected Euro countries 2018 to 2020 (in relation to GDP)*



*Source: European Commission (n.d.)*

High debt levels are not a cause for concern as long as real interest rates are very low, as they are at present in many advanced economies. Yet high levels of debt make governments much more vulnerable to a tightening of global financial conditions

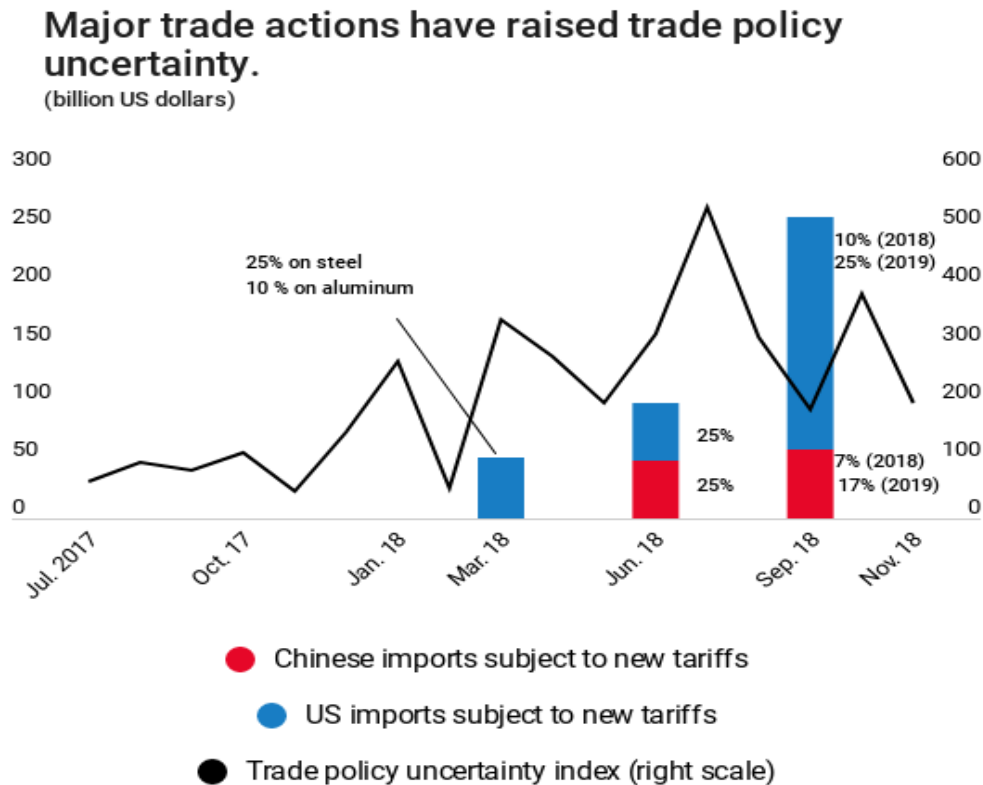
and higher interest costs. A debt crisis may be triggered when levels of debt are already high and a country is then hit by a sharp economic downturn (as the result of a regional or global recession), or in the wake of natural disasters or economic shocks that impair its ability to repay or otherwise service the debt. It is typically low-income countries that face the most difficult debt challenges and are also usually the least well-equipped to respond. Countries characterized by a high debt-to-GDP ratio in the EU's neighbourhood are notably Lebanon, Egypt, Jordan, Mauritania, and Morocco.

## 5.2 Trade Tensions

At the time of writing, US-China negotiators appear to be close to reaching an agreement on a new bilateral trade deal, somewhat alleviating recent fears of rising trade and geopolitical tensions between the two largest economies in the world. That said, there are concerns that, even if a deal is reached, it would not eliminate the other sources of tension in the economic and strategic duel between Washington and Beijing—notably over the South China Sea and Taiwan—and that the implementation of any new trade deal (which is expected to include US-controlled enforcement mechanisms) could itself be a source of further tensions (Politi and Hornby 2019).

The potential systemic economic risk of a new escalation in tariffs, and new accompanying stresses for global financial markets, can be glimpsed from the recent US-China trade tensions entailing the imposition of tariffs on imports from each of the respective countries between March and September 2018. As the IMF World Economic Outlook report documents, the global growth forecast for 2019 and 2020 had already been revised downward (to 2018 levels) because of the negative effects of tariff increases enacted in the United States and China earlier that year. Looking forward, IMF Managing Director, Christine Lagarde, recently stated that the IMF has re-assessed its analysis of the US-China trade war's effects, showing that if all trade between the world's two largest economies were subjected to a 25% tariff (as US President Donald Trump has warned), US gross domestic product (GDP) would fall by up to 0.6%, while China's would fall by up to 1.5% (Lagarde 2019).

Figure 14: Trade tensions



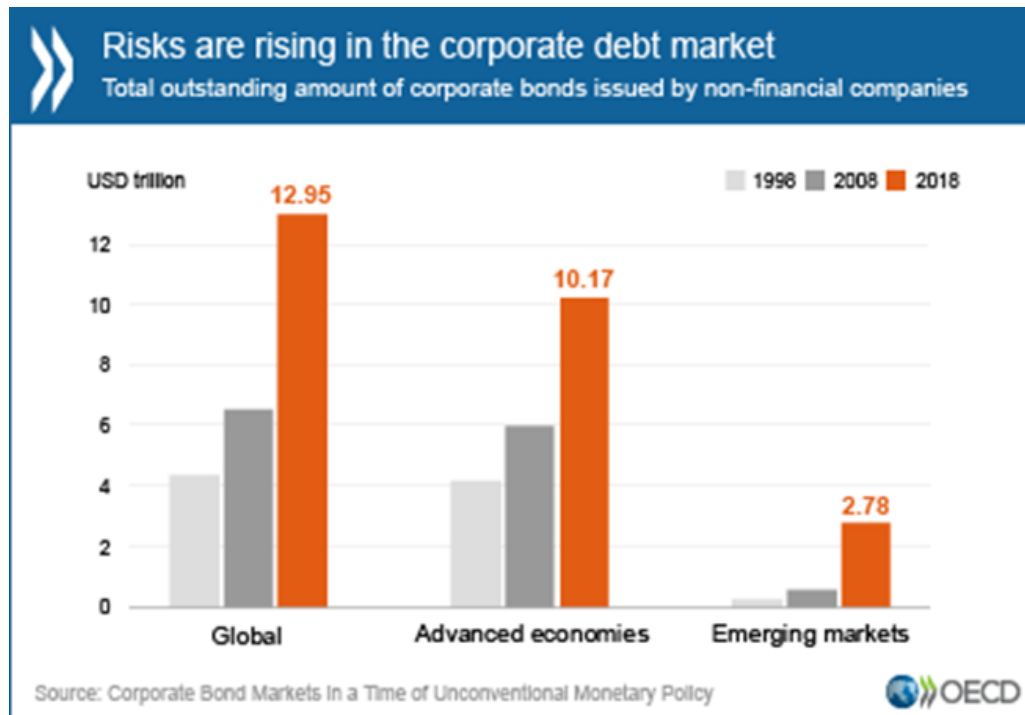
Source: Baker et al. (n.d).

### 5.3 Corporate Debt

Both the US Federal Reserve and the OECD have recently focused on corporate debt (non-financial companies borrowing money) as a major growing risk to the global financial system (Board of Governors of the Federal Reserve System 2018; Çelik et al. 2019). Global corporate debt (in the form of corporate bonds issued by non-financial companies) has ballooned over the past decade, reaching a record high of almost 13 trillion USD at the end of 2018. This is double the outstanding amount in real terms before the 2008 financial crisis. Between 2008-2018, global corporate bond issuance averaged USD 1.7 trillion per year, compared to an annual average of USD 864 billion during the years leading up to the crisis. Companies from advanced economies, which hold 79% of the total global outstanding amount of corporate bonds as of 2018, have seen that volume grow by 70%, from USD 5.97 trillion in 2008 to USD 10.17 trillion in 2018. The corporate bond market in emerging markets, mainly driven by growth in China, reached a total outstanding amount of USD 2.78 trillion in 2018, up 395% compared to a decade ago. China has moved from a negligible level of issuance prior to the 2008 crisis to a record issuance amount of USD 590 billion in 2016, ranking second highest in the world (Board of Governors of the Federal Reserve System 2018; Çelik et al. 2019).



*Figure 15: Total outstanding amount of corporate bonds issued by non-financial companies*



Source: Çelik et al. (2019)

The existing vulnerabilities in the corporate debt market are significantly different from that of the previous pre-crisis cycle, raising several causes for concern. While corporate debt in itself does not constitute a risk, the share of lowest quality investment-grade bonds (i.e., bad credit risk) stands at 54%, a historical high, and there has been a marked decrease in bondholder rights that could amplify negative effects in the event of market stress.

At the same time, according to the OECD, over the next three years, companies will have to pay back or refinance about 4 trillion USD worth of corporate bonds. This is close to the total balance sheet of the US Federal Reserve. In the case of a financial shock similar to 2008, an additional USD 500 billion worth of corporate bonds would degenerate to the non-investment grade market within a year. In the case of a downturn in the US, Europe, or China, highly leveraged companies would face difficulties in servicing their debt, which, in turn, could amplify the effects of a downturn through lower investment and higher default rates. Indeed, in the event of cooling economic growth from US-China or US-EU trade tensions and a slower rate of expansion in China, the ability of firms to generate the income to repay the loans may be seriously compromised, turning economic slow-down into a full-blown recession in the US, EU, and possibly China (Board of Governors of the Federal Reserve System 2018: 37–38).



## CONCLUSIONS

In a world defined by unprecedented connectivity and complex interactions, actors seeking to anticipate governance breakdown or violent conflict and engage in more effective resilience-building require a fuller toolkit for risk analysis and prediction. This is particularly true in the EU's neighbourhood, which includes several ALS vulnerable to global and diffuse risks. As an external governance actor in its neighbourhood, the EU must supplement risk analysis of vulnerable areas with resilience-building. Strengthening the ability of a community to withstand extreme weather can minimize the risk of mounting tensions with neighbouring groups and enable local leaders to continue providing basic services even in times of crisis. Resilience-building efforts can thus play a significant role in containing the impact of global and diffuse risks. A new EU strategy should also holistically analyse the impact of the various risks and vulnerabilities: any approach that looks at risks as hermetically sealed clusters is doomed to overlook a looming tipping point and undermine efforts at building resilience to individual risks.

Beyond the immediate context of EU external relations, the main purpose of this Working Paper has been to highlight the need to identify and integrate global and diffuse risks into explanatory logics of violent conflict and governance breakdown. It is only by squarely facing this challenge that we can generate better predictive models, improve our capacity to forecast conflict and chaos, and develop resilience-building strategies. In this context, our aim has been one of framing and illustration; our typology is deliberately suggestive and provocative, and the five risk clusters we delineate invite future engagement. The demand for such engagement is there and likely to grow in the coming decade.

The typology draws on quantitative and qualitative approaches and integrates insights learned from the leading research in multiple branches of political science—political instability risk assessment, armed conflict prediction, and disaster forecasting—to ensure relevance and completeness. Ultimately, the identification and classification of diffuse risks seeks to assist the EU and its member states in preventing ALS from deteriorating into governance breakdown and violent conflict.

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