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ADAPTIVE AND TURBULENT GOVERNANCE. WAYS OF GOVERNING THAT FOSTER RESILIENCE. THE CASE OF THE COVID-19 PANDEMIC

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Abstract

The current COVID-19 pandemic highlighted something that was already known for decades: modern governments need to master the art of equilibristics – they need to offer public value in all governance arenas while battling increasing levels of uncertainty and change. Looking back at the last decade, unpredictable change has been the norm rather than the exception (whether it is at political level – Arab Spring (2011), 2016 US elections, Brexit (2016) – social – Occupy Wall Street movement (2011), EU migrant-refugee crisis (2016), Black Lives Matter, #Metoo movement – or economic – the economic crisis of 2008, which prompted the sovereign debt crisis in multiple EU countries, China replacing the US as the largest economy) the environment in which governments operate in has never seen such a particular type of dynamic. The COVID-19 pandemic can be seen almost as an organic culmination of this dynamic, a perfect storm, highlighting the essence of the new environment in which governments operate: highly complex, unpredictable, and interdependent – in one word turbulent.

The point is not to discuss the nature of these changes or whether they match perfectly the definition of a black swan event, but rather to raise an important question: how should governments (and society as a whole) react and adapt to such challenges? Are the current institutional structures and patterns of governing able to deal with this turbulence? From a governance perspective, two major concepts stand out as a potential framework of dealing with such situations: adaptive governance (Hatfield-Dodds, 2007) and turbulent governance (Ansell, Trondal and Øgård, 2017).

Keywords: COVID-19, pandemic, adaptive governance, resilience, turbulent governance, disruptive change.

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1. Introduction

The current COVID-19 pandemic highlighted something that was already known for decades: modern governments need to master the art of equilibristics – they need to offer public value in all governance arenas while battling increasing levels of uncertainty and change. Looking back at the last decade, unpredictable change has been the norm rather than the exception – whether it is at political level (Arab Spring (2011), 2016 US elections, Brexit (2016)); social (Occupy Wall Street movement (2011), EU migrant-refugee crisis (2016), Black Lives Matter, #Metoo movement); or economic (the economic crisis of 2008, which prompted the sovereign debt crisis in multiple EU countries[1], China replacing the US as the largest economy[2]) and the list could go on. The point is not to discuss the nature of these events or whether they fit perfectly into the definition of a black swan event, but rather to raise an important question: how should governments (and society as a whole) react and adapt to such an environment? Are the current institutional structures and patterns of governing able to deal with these disruptive changes?

The current paper outlines several changes in the concept of governance that try to answer the questions, specifically the concept of adaptive governance (Hatfield-Dodds, Nelson and Cook, 2007) and turbulent governance (Ansell, Trondal and Øgård, 2017). We then proceed to highlight the link between these concepts and the general concept of resilience using the current COVID-19 pandemic as an example of disruptive change which can be managed by adopting such forms of governance.

2. Resilience

One of the first definitions of the concept in the scientific literature (Holling, 1973), referring to (complex) systems is 'the ability of a system to bounce back or return to equilibrium following disturbance'. Introducing the concept in the broader framework of systems theory (von Bertalanffy, 1969; Katz and Kahn, 1996) opens the door to a broader use and applicability of resilience in highly dynamic environments, a specific characteristic of modern socio-economical systems. This approach is generally referred to as complex systems theory (CST) (Mason, 2008) which originated from Edward Lorenz's famous article on the butterfly effect (Lorenz, 1963) which served as the basis for the development of an entire field of study in the next decades (Lewin, 1992). Complexity theory (other terms used are dynamic systems theory, emergence theory, or sometimes referred to in relation to chaos theory) concentrates

1 Greece, the hardest hit Eurozone country, went between 2009 from 2017 from a 125% debt to GDP ratio to roughly 180% (this including the debt restructuring that took place in 2012). Ireland, Italy, Spain and Portugal were also hard hit by the crisis, which in turn prompted strong political changes both at national level but also at EU level, with strong economic voices calling the euro an experiment that failed (Feldstein, 2012).

2 The IMF named China as the biggest economy of the world starting from 2015 by using GDP based on PPP/ share of world economy (IMF, 2020).

on comprehending and explaining pattern formations of behaviors from interactions in self-organizing and adaptive systems to give understanding to change and growth leading to a better understanding of social systems (Mason, 2008). In this context, resilience is used interchangeably with other terms (referring to a system is property) like system's robustness – a feature that is held to be a fundamental characteristic of a wide range of systems, from biological organisms to social systems to sophisticated engineering systems (Jen, 2003; Kitano, 2004).

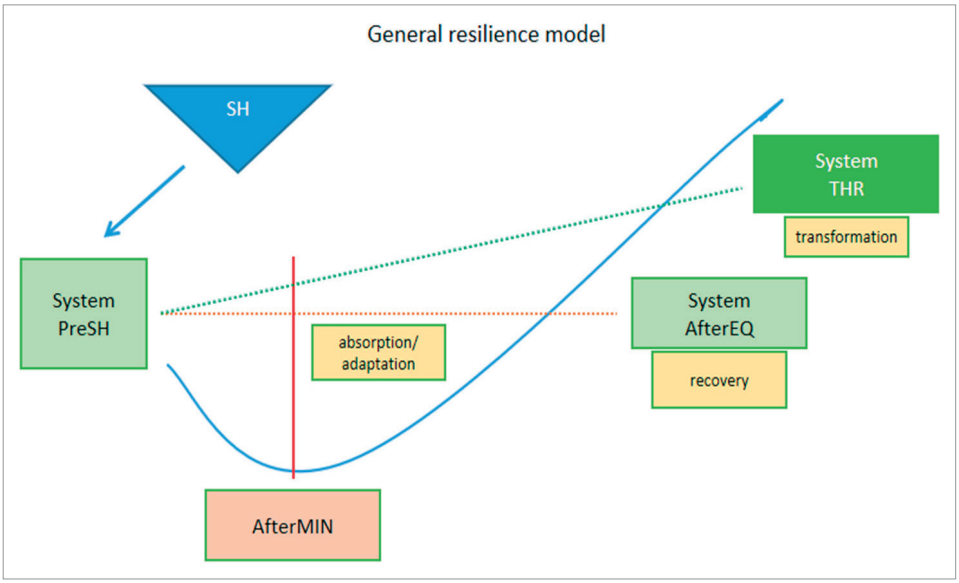
Resilience research is an integral part of sustainability studies (Kates *et al.*, 2001) and has a systemic (holistic) approach by nature – it treats social and ecological systems as a fully integrated whole (Harrison, 2003). This means resilience, as a concept, can be used in understanding social systems 'to bridge social and biophysical sciences' as 'linked systems of people and nature (…) behave as complex adaptive systems' (Folke *et al.*, 2002, pp. 12–15).

Looking at social systems in relation to their resilience capacity or property we can say that a system is resilient as far as it has to both cope with disturbances and respond or reorganize in such a way as to maintain its essential structure, function, and identity, whilst also maintaining the capacity for adaptation, learning and transformation (Holling 1973; Gunderson and Holling 2002; Walker *et al.*, 2004; Folke, 2006). Other representative studies in the socio-economic field (Shaw and Maythorne, 2013; Martin and Sunley, 2015) explain that resilience can reflect the capacity of a socio-economic system (city, region, country) to be placed on a long-term development path, incorporating a large set of internal and external factors that influence the nature and development of the system while outlining the vulnerabilities within it in relation to various types of shocks, which may further explain its capacity to resist, recover and transform by adopting a new growth and development pattern. Given the comprehensive nature of the concept (since it includes system properties along with the capacity to adapt and transform), resilience tends to become a replacement for 'sustainability' as the ultimate goal of development (Folke *et al.*, 2002) as it implies it.

The essence of resilience can be synthesized as a positive adaptation in the face of risk or adversity (Wright, Masten and Narayan, 2013) which implies that resilience becomes relevant if the system is facing an adversity or shock and it has to develop a response described through a process of adaptation (change of the system integrates the necessary elements to surpass the shock, see Figure 1 below).

Essential to the concept of resilience is the *adaptive response* which is triggered (in resilient systems) by exposure to adversity or shock (Christman and McClellan, 2008; Garcia-Dia *et al.*, 2013; Norman, Luthans and Luthans, 2005). This adaptive response can be described as thriving – or a positive transformation of the system, because of its exposure to adversity or shock which results in growth (adapted from Ledesma, 2014)

In short, resilience is a critical concept for modern social systems analysis if such systems are functioning in highly dynamic environments, which involve high prob-



S = system (individual/organization/community);
SH = shock;
AfterMin = minimum levels of system indicators after shock (set of relevant indicators depending on the level of analysis – economic, social, demographic, etc.);
PreSH = pre-shock levels of system indicators (set of relevant indicators depending on the level of analysis – economic, social, demographic, etc.);
AfterEQ = equilibrium – a state of things when the system reaches same level as pre-shock situation (based on the same relevant indicators used in AfterMin, PreSH, THR);
THR = thriving, a condition of the system when it reaches a level beyond the initial state while having integrated the necessary elements so that it will be able to cope with similar shocks or adversities in the future with better efficacy.

Figure 1: A graphic representation of a resilient system
Source: Authors' own compilation

ability of adversity or shock[3]. The next section describes two sub-concepts of governance, that (we argue) are a reaction to this characteristic of the current state of things and are basically an adaptation of the concept (governance) that integrates or provides resilience to governance systems.

3. Governance models that foster systemic resilience: adaptive governance and turbulent governance

Governance has gained great usage in contemporary public administration and is an organizing concept that guides administrators as administrative practices shift from the bureaucratic state to a modern, comprehensive understanding of the state

3 We use the term 'adversity' or 'shock' following the specific literature in the field of resilience but we include here unpredictable events as well, unpredictability being a proxy for adversity or shock.

that includes very diverse actors (public, private, hybrid) into what is called the 'hollow State' (UN Secretariat, 2006, p. 2).

'Governance refers to the lateral and inter-institutional relations in administration in the context of the decline of sovereignty, the decreasing importance of jurisdictional borders and a general institutional fragmentation' and this leads to a modern administrative state that is 'less bureaucratic, less hierarchical and less reliant on central authority to mandate action' (Frederickson and Smith, 2003). Governance provides the social context that allows collective action, rulemaking, and institutions for social coordination (Dietz, Ostrom and Stern, 2003) referring to the interactions among structures, processes, rules, and traditions that determine how people in societies make decisions and share power, exercise responsibility, and ensure accountability, and how stakeholders have a say in the management of natural resources (Cundil and Fabricius, 2010; Lebel, Garden and Imamura, 2005; Raik and Decker, 2007).

Resilience is an important topic in governance research especially given the increase rate of change that governments face and deal with, whether it is social change (changing demographics, migration, social mobility, cultural shifts in specific communities), economic change (globalization, influence of technology in economic activity, dealing with crisis, sustainable economic development) or climate change. Questions in this line of study focus on 'what' and 'how' can governmental authorities adequately respond to these types of changes (or disturbances) and to what extent and under which circumstances are communities able to bounce back, adapt to a new reality and develop instruments or mechanisms to deal with future changes of this nature.

These types of researches aim to bring knowledge and understanding on how resilience can be developed and what is the contribution or influence of the governance process – by asking questions like: What type of decisional frameworks governments use before and after an adverse event? What strategies should governments employ to prepare and recover faster from disruptions? How are stakeholders involved throughout the process? What's the impact of regulations on resilience development? Do traditional public sector values like transparency, equity, social justice, accountability fit into new resilient governance frameworks?

In this context, the concept of adaptive governance (AG) emerged, referring to modes of managing uncertainty and complexity in socio-ecological systems (Dietz, Ostrom and Stern, 2003; Walker *et al.*, 2004; Folke, 2006). As the traditional top down, command and control style of governance (specific for most western states throughout the most part of the 20th century) fall short in dealing adequately with these new challenges, AG is increasingly recognized as a way to address this need (Dietz, Ostrom and Stern, 2003; Folke *et al.*, 2005; Lebel, Garden and Imamura, 2005), the concept being applied in a variety of arenas – international trade (Cooney and Lang, 2007), health research (Andrew and Kendra, 2012), political science (Heilmann and Perry, 2011), disaster research (Djalante, 2012), law (Ebbesson and Hey, 2013) and so on.

AG is defined as managing diverse human environmental interactions in the face of extreme uncertainty (Dietz, Ostrom and Stern, 2003) or the process of creating adaptability and transformability in socio-ecological systems and the evolution of rules that influence resilience during self-organization (Walker *et al.*, 2004). AG can be thought of simply as the social conditions that enable ecosystem management through the implementation of adaptive management (Folke *et al.*, 2005; Gunderson and Light, 2006). With that in mind, the AG of social-ecological systems can be broadly defined as a range of interactions between actors, networks, organizations, and institutions emerging in pursuit of a desired state for social-ecological systems (Chaffin, Gosnell and Cosens, 2014).

In trying to describe and explain AG, the literature identifies three major elements of AG worthy of consideration (Chaffin, Gosnell and Cosens, 2014, pp. 56–57):

- Adaptive management – refers to the actual internal management process used by governments in their activities. As the traditional, scientific management approach, maximizing efficiency has bad results in dynamic and uncertain socio-ecological systems, adaptive management, where experiments become policy and results are continuously monitored to further inform that policy, becomes the preferred approach (Gunderson and Light, 2006). The main challenges in shifting from traditional to adaptive management inside institutions are that (1) AG seems to be a pre-requirement of adaptive management, as AG is seen as the social context that facilitates adaptive management (Dietz, Ostrom and Stern, 2003) and (2) the need for AG to be successful, since adaptive management is difficult to implement given the complex political nature of modern governance processes (small time horizon, need for quick, visible results, political influence over the policy process). In spite of these challenges, implementation of adaptive management without the inclusion of governance principles will lack legitimacy and ultimately fail (Cosens, 2013; Cosens *et al.*, 2014).
- Scaling or the correct fit between governance process and the social-ecological system (SES**)** – the challenge is to find an AG framework that best fits the components of the SES. Such a fit will vary from problem to problem and may change over time because of the variable political, economic, and cultural drivers that often determine jurisdictional boundaries of institutions (Cosens, 2010; Ruhl and Salzman, 2010; Rijke *et al.*, 2012). Thus, institutions are often mismatched with ecosystem dynamics, with AG relying upon moral, legal, and financial support from networks to connect governance with a specific scale of ecosystem dynamics to produce 'adaptive governance that enables ecosystem management' (Olsson *et al.*, 2007).
- Management of diversity/polycentricity – as our modern societies are organized in multilevel structures of institutional authority and power creating multiple centers of power that partially overlap and/or often are redundant across a given scale, creating complex networks – polycentricity or polycentric is used to

describe such power networks (Ostrom, Tiebout and Warren, 1961; McGinnis, 1999). Polycentricity is inherently related to the concept of redundancy in power relations, thus an AG system will require to embed the same level of diversity, overlap and redundancy in its internal structure, or in other words – a structure of nested institutions (complex, redundant, and layered) and institutional diversity (a mixture of market, state, and community organizations) at the local, regional, and state levels, connected by formal and informal social networks (Dietz, Ostrom and Stern, 2003; Chaffin, Gosnell and Cosens, 2014).

Another approach in understanding and addressing challenges of present and future governance is turbulent governance (Ansell, Trondal and Øgård, 2017) or dealing with turbulence. Turbulent governance, they argue, requires public organizations to face governance challenges of certain kinds – situations where events, demands, and support interact and change in highly variable, inconsistent, unexpected or unpredictable ways (Ansell and Trondal, 2018, p. 43). Turbulence is the new normality (Ansell and Trondal, 2018, p. 43), and governance (as a concept) needs to adapt to this new normality. There are several reasons why this change in the concept needs to happen (adapted from Ansell, Trondal and Øgård, 2017, pp. 4–5):

- Multifaceted change – changes at multiple, interdependent levels (economy, society, politics) expressed through 'globalization, rapid technological change, the end of the Cold War, the rise of terrorism, the creation of the internet and new forms of social media, or the explosion of advocacy organizations and the twenty-four-hour news cycle' (Ibid., p. 4).
- Dynamics of the governance concept – although new, the concept is constantly evolving due to the changing nature of the challenges society (and governments) face, 'the well-ordered rule of nation-states firmly in control of their sovereign territory and governed by responsible political parties, balanced fiscal conditions, and clearly demarcated bureaucratic turf, governance has become more pluricentric, fiscally volatile, and institutionally diffuse, with States, political parties, government agencies, and corporations becoming, in various ways, 'decentered'' (Ibid., p. 4). In other words, governance now means dealing with increased levels of complexity (characterized by unpredictable and interdependent problems).
- Nature of public problems – current problems or challenges are 'wicked' or 'superwicked' (as the authors name them) – 'these problems are complex, multidimensional, and rife with value conflict (…) programs produce unintended consequences (…) negative externalities and create a 'risk society' prone to 'moral panic'' (Ansell, Trondal and Øgård, 2017, p. 4).

From a system-wide perspective the (need for) integration of turbulence in the broader concept of governance, is basically a function of three factors (adapted from Ansell, Trondal and Øgård, 2017, pp. 5–6): (1) SPEED – the fast paced nature of the modern world (instantaneous communication, short but multiple feedback loops

(both negative and positive) create an exponential increase rather than a linear one; (2) COMPLEXITY – which is characterized by interdependence and unpredictability – 'organizations and institutions have become intricately nested and overlapping, supply chains are longer, policy books thicker, and public agencies must deal with a dizzying array of stakeholder concerns (...) with an increased demand for multitasking and a need to appreciate wider systems' (Ibid., p. 5); (3) CONFLICT – the continuous movement towards more pluralistic, inclusive forms of governance that focus on participation, collaborative solutions with ever increasing networks of stakeholders means that 'the stakes of market and political competition grow, public affairs become more conflictual and polarized; science, religion, social identity, sexuality, gender, and even food become politicized' (Ibid., p. 5) with the main effect being higher levels of uncertainty at all levels (strategies, processes, outputs, outcomes).

While turbulence is not necessarily a new concept (Drucker, 1993), it has evolved along with 'the world', moving from being seen as rapid change towards the more realistic conceptualization of unpredictable change of the present reality.

> '*While Drucker associated turbulence with the social, economic, and political changes that began in the 1970s, contemporary observers might associate it with globalization, the fall of the Berlin Wall, the financial crisis of 2008, or the development of seemingly intractable global problems such as climate change or terrorism*' (Ansell, Trondal and Øgård, 2017, p. 6).

It is hard to argue against the above mentioned quote concerning the nature of modern turbulence, as unpredictability and disruptive change seems to be more present than ever compared to the rapid but rather predictable change of the first two postwar decades. As mentioned earlier, the notion of complexity or complex environments (see Lorenz, 1963; Emery and Trist, 1965) is not necessarily new, with several focusing mostly on the organizational perspective – mechanisms and adaptive strategies that organizations need to develop in order to survive and thrive in this new environment, governed by interdependencies and unpredictability. The concept of turbulence does not have any essential difference from that initial organizational perspective, but is now extended to encompass both intra and outer organizational elements, as:

> '*turbulence occurs where the interaction of events and demands is experienced as highly variable, inconsistent, unexpected, and/or unpredictable; (...) (turbulence) is not merely an environmental property but also a key attribute of organizations and organized systems. In organization theory, the traditional image is one of organizations adapting to turbulent environments. But the reverse is possible as well: turbulence within organizations or institutions may project that turbulence onto the broader environment in which they operate*' (Ansell, Trondal and Øgård, 2017, p. 8).

In simple terms the concept of turbulence includes (now) bi-directional influences between organizations and the environment to which scale is also a complexity-increasing variable, leading to three levels at which turbulence can occur: organizational level, environmental level and scale level[4].

The silver lining is quite clear: the modern world is a highly unpredictable beast, traditional ways of solving problems will not do. Any kind of solution should rest on a correct, objective analysis of the causes – this means that a correct diagnosis of the current environment is fundamental for finding workable solutions – integration of complexity and exponential change means that (1) the concept of governance needs to evolve along with the 'world in which it resides', and (2) resilience becomes a sine qua non condition for success of any (good) governance process.

4. Discussion: the COVID-19 pandemic as an example of turbulence

The final part of our argument is focused on highlighting the turbulent nature of the current COVID-19 pandemic and how most of the conceptual elements that describe turbulence are present in this case. Furthermore, despite the best efforts made by governments across the globe – from the high-speed race to develop a viable vaccine (which in itself is a positive sign of mobilization and flexibility in finding solutions) to the highly diverse approach in dealing with the 'shock' – proves that there is much to be done to develop a robust response to future adversities such as this. It is not our purpose to dig into the specific country or even international response to the pandemic but rather to highlight that this is a real world example of turbulence that governments need to be able to deal with, using the three characteristics that are specific to any turbulence (see Table 1).

The above description of the effects of the COVID-19 pandemic (seen through the lens of turbulence) is by no means exhaustive – such an effort would definitively need (and is already producing) separate extensive research in each of the areas that are impacted – social life, economic, political, health, education, and the list could go on – but the mere fact that the effects are so extensive and profound is an argument in itself of the nature of the world we are currently operating – highly complex, interdependent and overlapping, which in itself is a challenge in finding the adequate solutions. If anything is certain, it is this: that there are no silver bullets and the areas in which we have ready-made solutions are shrinking too fast. Ansell, Sorensen and Torfing (2020) express this eloquently:

> *'The COVID-19 crisis is a game changer for public administration and leadership, as it reveals the demand for robust governance strategies to deal with*

4 While the dual influence between organizations and the environment is straightforward, scale refers to the relation between systems and the subsequent subsystems they include: e.g. legislative instability at national level might create a freeze in service delivery and subsequently create a dissatisfaction at the level of service beneficiaries which, in turn, might lead to a decrease of trust in public institutions. The three levels are a synthesis of the conceptualization of Ansell, Trondal and Øgård, 2017.

Table 1: COVID-19 as a case of turbulence

Modern World Characteristics	COVID-19 Pandemic
SPEED	**31 December 2019**[*] First cases reported in Wuhan (considered pneumonia); **13 January 2020** First case reported outside China, in Thailand; **30 January 2020** (1 month after initial data entry point) – WHO's situation report for 30 January reported 7,818 total confirmed cases worldwide, with the majority of these in China, and 82 cases reported in 18 countries outside China. WHO gave a risk assessment of 'very high' for China, and 'high' at the global level; **11 March 2020** (less than 3 months) Deeply concerned both by the alarming levels of spread and severity, and by the alarming levels of inaction, WHO made the assessment that COVID-19 can be characterized as a pandemic; Over 149k cases worldwide in more than 20 countries; **June 2020** In just 6 short months, most European countries have been or are under partial or total lockdown; At the end of June, the global death toll had reached 511,251, with 25% (127,251) from the United States alone. The number of global cases reached 10,475,817, and again, the United States accounted for 25% (2,627,584) of the total global number (AJMC, 2020).
COMPLEXITY	In the first six months of 2020, COVID-19 has affected almost all countries and eight million people around the world. COVID-19 has governments operating in a context of radical uncertainty, and faced with difficult trade-offs given the health, economic and social challenges it raises. More than half of the world's population has experienced a lockdown with strong containment measures. Beyond the health and human tragedy of the coronavirus, it is now widely recognized that the pandemic triggered the most serious economic crisis in a century. The OECD predicts global economic activity to fall between 6% and 7.6% in 2020. The second wave of infection is in full swing at present (October 2020) with European countries again under partial or total lockdown. Europe is the third hardest hit continent after America (21 mil.) and Asia (14 mil.) with 12,358,683 cases; the five countries reporting most cases are France (1,787,324), Russia (1,774,334), Spain (1,328,832), United Kingdom (1,192,013) and Italy (935,104) all of which are under partial or total lockdown. The impact of the pandemic has been substantial at the health, economic and social dimensions with governments struggling to find comprehensive solutions that work on all levels. Between April and June 2020, the International Labour Organization estimated that an equivalent of 400 million full-time jobs were lost across the world, and income earned by workers globally fell 10% in the first nine months of 2020, equivalent to a loss of over US$3.5 trillion. The world economy entered (in 2020) into its biggest recession since the 2008 crisis, with global stock markets experiencing the biggest crash since 1987. G20 economies fell 3.4% compared to previous year (2019) according to OECD.

CONFLICT	The introduction of social distancing measures, mask wearing and other social and economic restrictions, coupled with two major lock down periods (Spring 2020, Fall 2020) led to increasing unrest and subsequent movements against government measures along with the flourishing of conspiracy theories and the spread of misinformation. General socio-economic impacts of the pandemic, according to a UN report (UN, 2020), are: social distancing and self-isolation, travel restrictions and major disruptions on leisure activities, reduced workforce across all economic sectors and job loss, school closure, disruption of normal life of children concerning both education and social life, decreased demand for commodities and manufactured products, increased need for medical supplies, increased demand in the food sector, panic-buying and stockpiling of food products, domino effect on health, healthcare and nutrition, 'Infodemic' or spread of panic and fear through social media, increase of xenophobia against specific ethnic/geographic groups, 'COVIDIZATION' of academic research (undermining other areas of research and scholarship), increased disparities in effects with poor people, homeless people, refugees, migrants being disproportionately affected by the health and economic impacts of COVID-19. The impact has spread to multiple levels of society: some leaders used this opportunity to strengthen their power position – in Europe, the Parliament of Hungary granted Prime Minister Viktor Orban the power to rule by decree for an indefinite period (March 2020). In Asia unrest broke in Hong Kong, while local (and national protests) have spread across tens of countries mostly against the handling of the crisis by national governments, especially concerning mask wear and social distancing. The coronavirus pandemic has been followed by a concern for a potential spike in antisocial behavior (including suicide) exacerbated by social isolation due to quarantine and social-distancing guidelines, fear, and unemployment and financial factors (Gunnell *et. al.*, 2020). According to WHO (2020a), the economic and social disruption caused by the pandemic is devastating: tens of millions of people are at risk of falling into extreme poverty, while the number of undernourished people, currently estimated at nearly 690 million, could increase by up to 132 million by the end of the year. Religious practice has been impacted as well, with cancellation of the worship services of various faiths, the closure of Sunday Schools, as well as the cancellation of pilgrimages surrounding observances and festivals. Finally, the latest measures taken by governments across Europe (partial or total lockdown to counter the second wave of the disease) have led to increased social unrest with protests all over major cities in Germany, Italy, Spain, UK, France, Belgium (The Guardian, 2020). The pandemic has affected educational systems worldwide, leading to the widespread closures of schools and universities. At present (October 2020) universities and schools moved their activities online with only lower levels schools (primary) functioning normal or on a hybrid form. Less developed (rural) areas have suffered the worst impact due to technological, economic, and social disparities.

* Information from the World Health Organization (WHO), 'Timeline of WHO's Response to COVID-19', 2020b, [Online] available at https://www.who.int/news/item/29-06-2020-covidtimeline, accessed on September 15, 2020.

Source: Authors' own compilation

turbulent problems and demonstrates the need for public sector transformations to support the robust governance of turbulence' (p. 1). *(…) 'The crisis has demonstrated the need to perceive of challenges to the public sector in a new way and is revealing the necessity, willingness, and capacity for changing the modus operandi of the public sector in the pursuit of robust solutions to turbulent problems'* (p. 8).

The silver lining is quite clear: the modern world is a highly unpredictable beast, traditional ways of solving problems will not do. Any kind of solution should rest on a correct, objective analysis of the causes – this means a correct diagnosis of the current environment is fundamental for finding workable solutions – integration of complexity and exponential change means that (1) the concept of governance needs to evolve along with the 'world in which it resides' and (2) resilience becomes a *sine qua non* condition for success of any (good) governance process; (3) one should not forget about the leadership component and the importance of integrating resilience as an essential characteristic of leadership (Țiclău, Hințea and Andrianu, 2019), in order to successfully navigate turbulent events.

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