

Asymmetric resource Allocation in Public Safety and Macroeconomic Risk Evaluation: A Comparative Analysis of Systemic Crisis Responses

An Analytical Review of Public Finance under Non-Linear Societal Alarms

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SELECTED MACRO-STRUCTURAL DATASETS ORIGINALLY ADAPTED FOR WALL STREET ITALY

May 2020

Abstract

This paper examines the mathematical anomalies in public expenditure allocation during systemic crises, contrasting state investments in counter-terrorism with short-run policy responses to global epidemiological events. By evaluating historical mortality vectors against public health budgets, we demonstrate that resource distribution is heavily conditioned by non-linear public panic and political consensus models rather than objective statistical risk.

1 Introduction

In the management of modern public safety frameworks, the optimization of state budgetary resources frequently diverges from objective, data-driven mathematical models. While public finance and risk communication paradigms assert that capital distribution should scale proportionally with empirical mortality vectors, historical data reveals deep structural asymmetries during major national and international systemic crises. Public expenditure is often heavily conditioned by non-linear societal alarms, political consensus models, and the immediate pressures of media-driven public panic, rather than the minimization of long-term statistical risks.

This paper examines the mathematical anomalies embedded within public resource allocation by establishing a rigorous comparative analysis between two distinct operational contexts: long-term state investments in counter-terrorism and short-run policy responses to global epidemiological events. Through an analytical review of public finance, we model how high-dimensional, emotionally charged societal shocks alter the traditional constraints of economic optimization. Furthermore, this research isolates the mechanisms through which political decision-making under uncertainty defaults to economically sub-optimal configurations—such as strict, uncalibrated lockdowns—to manage immediate electoral and consensus-driven thresholds rather than structural societal well-being.

2 Corona Virus and Terrorism: the Price of Fear

If it is true that the aim of contemporary western states is to provide security and happiness to their citizens, achieving such security may vary between cultures and climates. One could say that fears and anxieties of different populations can have their own expressions and urgencies, therefore creating alarms of different intensity, and consequently affecting the actions of governments.

It is normal that a government should concern itself with the worries of their population, and invest a part of its attention and administrative action, or at least a part of its budget, to front these singular fears, or those that generate a widespread fear.

For most human beings, death is the primary fear, that which we all have in common, it does not discriminate with wealth, race or, the climatic conditions under which we live. And the real variable, on contemplating death, is not whether it will happen but when it will happen.

However, if we analyse the data of public spending, or that of health spending, and we compare them to the various causes of death, we discover that not always an objective danger is warded off by public investment. And we get to notice some deep anomalies. Public state organisations accept highly elevated costs to eradicate causes of death that are statistically irrelevant. While others, that factually have bigger statistics, show evidence of higher risk, or simply those that are easily avoidable, do not unleash as much attention.

The entire world has a population of 7.7 billion inhabitants, every year more than 60 million human beings die. A death rate of about 0.8 % which varies massively in the different zones depending on economic, cultural conditions and development, and above all, according to the level of the ageing population. Young countries like India and China die at annual rate of 0.7 %. While in countries where the birth rate is much lower and the population is older like in Italy, France and Germany, the death rate stands at about 1 %.

Of these 60 million, the majority (WHO 2017) die of

Table 1: Comparative Asymmetries in Public Expenditure and Global Mortality Vectors.

Risk Category	Global Annual Deaths	Sample Annual Expenditure	Data Source
Traffic Accidents	~ 1,250,000	Standard Budget	WHO (2017)
! Global Terrorism	~ 26,000	\$175,000,000,000 (USA)	UN / Stimson Inst.
US Domestic Shootings	~ 50	Negligible / Unspecified	Historical Datasets
COVID-19 Pandemic	Global Multi-Wave	10%–15% of National GDP	Sovereign Pledges

some illness or of old age, only 3.5 million (less than 6 %) die of accidental causes or unnatural death, of which 1.25 million die every year of road accidents. On the one hand 800,000 die by suicide, on the other, over 400,000 get murdered. Nearly 300,000 die drowning, only 10,000 die during natural disasters, but at least 72,000 die poisoned. 120,000 in accidents, 130,000 die in the many conflicts and wars, and at least 26,000 seem to be the victims of terrorism.

What do the various governments of the world do to avert this massacre? How much money is spent to avoid this army of victims? It's difficult to identify from public and private budgets investments destined to avoid these tragedies. It is also difficult to account the direct cost of all these deaths, but there are some specific cases where there are indicators that offer a maxim that allows us to make some comparisons.

We have said that among these 60 million deaths, there are 3,5 million deaths which are less natural, or unleashed by man's bad behaviour. All together these deaths occur at a public world health spending of 7.800 billion USD, just over a 1,000 dollars for each earth inhabitant. But it would be wrong to assume that this is the money spent to cure those 60 million human beings that die each year. In fact, this massive health expenditure does not only represent the health costs designated to the dying, but also to guarantee hope to the whole of the world's population, not to become part of the less fortunate 60 million. We could say that the world spends this money, not just to avoid, or delay death, but also to assist the birth rate, improve sanitary conditions, to cure illnesses and wounds.

However, hardly ever is the allocation of these resources directly related to the real danger to the collective. More often than not, the allocation of public resources for collective security is conditioned. These factors sometimes arise from widespread panic, at other times by panic or social pressure incentives designed for speculative economic ends, or other coexisting, unattractive or inappropriate and often unmentionable secret affairs of the state.

For example, amongst the recorded causes of death there was one that was highly significative: death as a result of terrorist acts or events. According to statistics terrorist deaths affect 26,000 of the world's population annually (ONU 2017). It is almost impossible to find data on world spending in this regard, unless we look at the US budget expenditure. Since the 11th of September 2001 during the twin towers attack in New York and simultaneous attacks on other US targets, that recorded casualties totalling three thousand dead and six thousand wounded, US declared war not on a state

but to the Islamic terrorism of Al-Qaeda. A conflict that began in 2001 and is still not resolved, even if the enemy has changed now definition from Al-Qaeda to the Islamic State. For this war on terrorism, according to reliable estimates by the Stimson Institute, between 2002 and 2017 the United States allocated and spent, above the normal defense budget, about 2,800 billion dollars, that is 175 billion dollars a year.

During the 16 years of the US operating as an international police force, American civilians who died by acts of terrorism worldwide, were 25 on average a year, i.e. 400 in 16 years (University of Maryland). In the same time span during various operations in Afghanistan the American Military registered about 2000 military dead and another 1600 deaths within the various civil contractors, averaging out at 125 and 100 fallen yearly, to which we add 20,000 wounded, often left disabled.

Various American governments decided between 2001 and 2017 to legitimise the eradication of the threat of Islamic terrorism by bearing the loss of 250 lives a year at a cost of 175 billion dollars a year. Apparently so as to avoid future terrorist attacks as the Twin Towers which cost 3000 deaths in the US territory. Related damages unleashed demands in indemnities to insurance companies to the tune of at least 40 billion dollars. A sum that represents the direct and indirect costs to which we need to attribute the collapse of the financial markets (that lost 15 % in a week) and other injuries, difficult to quantify, to the US's international prestige.

Apart from the fairly significant material damages, the rationale is that the American government considered to spend 2,800 billion of dollars, to guarantee that American citizens had the right to move freely in the streets of the world, without having to worry about being the victims of a terrorist attack.

Unfortunately, as a strange reflection of reality, in the same period of time, on US soil 803 people became victims of mass shootings, accompanied by another 1,104 wounded. So while American soldiers were fighting terrorism in the distant and desolate lands of Afghanistan and Iraq, at home in the US, a few deranged individuals roamed the streets and, without any comprehensible motives, were responsible for an average of 50 deaths and 70 wounded a year. In order to fight this trickling of absurd loss of life, this average sum double of the declared American civilian victims of terrorism, no actions were taken, or any concrete specific financial steps initiated.

In the last weeks, a dramatic media case is an evident example of the allocation of resources linked to collective insecurity that does not follow a logic that is

proportional to the real social danger that is posed. We are all experiencing the media frenzy that surrounds the global pandemic that is Covid-19. A “new” social problem is created, inclined and conditioned to social consent, feeding fears and short-term kneejerk decision making.

The epidemic revealed itself in the Chinese city of Wuhan (about 11 million inhabitants) at the beginning of 2020 and provoked an official number of 3,300 victims from 100,000 cases of contagion.

In order to stop the epidemic, the Chinese authorities availed themselves to deploy forces and provisions not so easily matched by neurotic western democracies. Their main instrument was isolation and a very rigid quarantine imposed on the entire city from the 23rd January 2020 that will eventually end on the 8th of April 2020, at least 78 days later.

The epidemic manifests itself in Europe, with isolated cases at around mid-February, with a certain amount of clamour and much debate. According to the studies produced, public opinion is informed of its high contagion and low fatality. Differing statistic scenarios are revealed with many contaminated but few deaths. The virus will infect 50-70 % of the population, with serious consequences only for a minority of those infected (about 15-20 %). The trouble being that, a quota of the seriously ill population, would need intensive therapies, for a two to three week period. The beds available for such intensive therapy in Italy are only 5,400, usually occupied by patients who have undergone surgery or similar, as in most of the western world.

Epidemiologists suggest to close down schools and all work-related activities, to slow contagion and distribute over a longer arch of time the casualties that arrive in the intensive therapy units. So that health structures do not collapse and continue to provide health services to regular users. In short, to gain time, slowing down but not reducing the contagion, until a vaccine is found.

The reality that does not emerge straight away in the eyes of public opinion is that, present medical knowledge is aware a small fraction of people will not recover from the intensive therapy, and that no real cure is available. So if the virus gets you in 80 % of cases you hardly realise it, but if it gets you bad there is no available cure, and around 1

To complicate things, the epidemic presents itself like acute pneumonia, very similar to contemporary seasonal flue, that normally does not frighten anyone, but in countries like Italy, France and Germany arrives in silence, without much alarm and kills tens of thousands of the most vulnerable members of the populations of these countries annually. And it is also because of this that the various western countries are cautious to react. All gave attention to those that had contact with Chinese travellers, they keep some people under observation, but no one is talking epidemic, although all notice, reading between the lines, that there have been many cases of a “normal” pneumonia, although very aggressive.

The same procedures are advised by the WHO, that

tests should be done only to patients who exhibit acute symptoms of pneumonia and who have a history of contact in zones that are considered a risk, at that point it was only the Hubei province and its capital Wuhan.

Italy applies the WHO procedures except for contacts with China (first fatal mistake) causing contagion between medics and patients in 2 hospitals, both quite far away from each other, in the Lodi area and near Padua. Suddenly the situation degenerates, provoking the shutting down of the 2 areas where the epidemic has manifested itself. At the beginning, it looks like everything can be contained as a marginal phenomenon. Under pressure from controversy, there begins a tranquillising politics so as to avoid a financial collapse in daily life and the desertification of urban centres (second fatal error) but this ends up spreading the contagion to Brescia and Bergamo.

On the 8th of March, the government decides to increase the quarantined area. Including the city of Milan and the other densely populated areas of Piedmont and Emilia, moving from a few thousand to 12 million isolated in quarantine. A series of errors and bureaucratic delays (third fatal error) result in the getaway of tens of thousands of people from neighbouring zones into infected areas and towards all other Italian regions, presumably distributing the contagion to the rest of the national territory.

In a few days, the legal technicalities degenerate into disputes between local and regional authorities (responsible for health) and national government (responsible for public order). In less than a week central government decides to proclaim a “protected zone” all national territory (which the rest of the world reads “zone at risk”). Thus, not distinguishing anymore between the original infected zones and the rest of the territory (fourth fatal error). Immediately after, there is talk of shutting down all economic activity, precipitating a violent collapse of the Milan’ Stock Exchange, followed in a day by a smaller collapse of the New York Stock Exchange, proof that the problem has become global.

In fact, the Italian event creates clamour in the whole world. The panic spreads on the net and the usual media, raising the demand of the government of the European countries, that up to then had pretended there was no contagion, so as not to alarm their population. Governments then take immediate actions to avoid accusations of having neglected the problem, or to perhaps be accused of having lied to their own populace. In a few days, the situation in France and Spain degenerates as a few hotspots appear (seemingly independent of Italian or Chinese contact) these soon produce thousands of contaminated people. One after the other the various governments announce drastic provisions, shutting down schools, offices, factories and practically all governments realise they are devoid of safety measures for individual protection (fifth fatal error) both for the public and the medical personnel.

Even those governments that seemed to sustain the

so-called herd immunity strategy, like the English and American governments, suddenly opt for complete lockdown, otherwise expected as a foreseen and initial component even within the herd community scenario. Thus consenting, if nothing else, to the Italian government to assert that the Italian conduct has become an example for all. In reality, the Italian situation was uncoordinated, improvised and chaotic.

In a few days Spain surpasses China and catches up with Italy in numbers of death, suddenly contagions are announced all over the world, even amongst the best actors and politicians and even crowned heads: we are in full epidemic, and in a complete crisis of panic, even in the financial sphere.

The announced lockdown of all establishments, of schools, social venues, offices and factories to slow down the transmission of the disease, make it evident that next is a massive slowdown of the world economy. The stock market on the 19th of February 2020 reacts with a few days of panic selling, and within two weeks shares go down 30 %, twice the amount that was registered after the Lehman Brothers financial crisis of 2008.

This choice is taken by western governments on a wave of public fear and panic, not to minimise deaths, but to minimise the daily body count. The lockdown to contain the spread of the virus, or more so to slow down the effects, aims to gain time, so as not to overload the ability of the health services to respond. Fear and panic threat of the collapse of consent and lack of confidence in the ruling political elite: some democratic elections are being postponed. Financial forecasts predict a decrease in the gross domestic product. At the closing of economic activities it is estimated a drop of between 10-15 % of the year before. Thus, making it 2 or 3 times the damage that was the crisis of the Lehman Brothers in 2008.

During this time announcements are made for financial support ranging around 10-15 % of the national GDP from the most well-equipped governments (US, Germany, UK, Spain, France). These interventions have never before been seen in any country or in any crisis. In the meantime, the debate proceeds on how to confront the health crisis. While countries have belatedly been allocated tens of billions of dollars to recover, although we do not know how long the lockdown period will last, and how the world economy will look like at the auspicious end of the pandemic.

A more careful observation makes evident that most of the industrialised countries decided, at least in the beginning, to confront the problem in a “soft” manner, but the Italian Government decided to enlarge the area of risk from the 12 Lombard councils to the whole of the Italian republic territory. Furthermore, the high rates of diffusion and the lethality of the illness, created panic in the public opinion of many countries. The fear of the electorates advised governments to assume a “harder” position. Particularly in the US, where the incumbent electoral presidential campaign of November 2020, would leave the floor free to the democratic candidate, pivoting on the promise of health reform, that

would re-introduce Obama’s healthcare, that Trump had promptly cancelled.

A grave viral epidemic, that could not be addressed by a private insurance system of health care could be fatal for president Trump’s re-election. Who in fact, with great panache, changes position, aligns and allies himself with the general public announcing a lockdown. Promising money, public intervention and an extremely generous programme of economic recovery, a stance that in full electoral mode constitutes a blessing that affords him an argument that he would otherwise not be able to sustain. Turning a crisis into an opportunity.

The majority of the advanced industrial nations, triggered by the Italian state decision, followed like an avalanche and locked down too. Also, those weak governments, dictated by opportunistic electioneering, chose to follow the same path. It results in a massive economic cost by investing in urgent medical systems. In addition, they face an abnormal economic cost by reducing the GDP and by sacrificing in the medium to long-term their own economic dimension, sowing the seeds of permanent unemployment and possible future civil unrest.

This instead of facing their own electoral public and admitting that it would be impossible to avoid the deaths caused by the virus. Deaths, that most international experts quantify as a possible 0.5 % of the population of the rich countries, while no one speaks about the mortality rates that may affect the poor countries.

The epidemic seems to hit the older age group and particularly those who have other serious pathologies. The usual annual mortality rate of industrialised western countries is around 0.9 %, it is most probable that at the end of the pandemic, the victims attributed to it might have easily been attributed within the rates of general mortality.

A few of the developed nations, left outside of the lockdown logic, are the Netherlands, Sweden and Mexico, to which one may add the Brazilian president Bolsonaro, who seems to have changed the line overnight and joined the lockdown too. If these countries maintain their positions until the end of the pandemic, and if the data at the end of the pandemic prove them right, their choice might signify the tombstone under which a long list of the political leaders’ careers will be buried.

Let’s see the problem in terms of political decision making. The absence of certainty over possible results is clear to all. In addition, it is impossible to demonstrate that the choice was not the right one even in hindsight. Therefore, the political choice of “lockdown” is the easiest for most governments. That is visible and evident to the eyes of those who are frightened. The results in terms of deaths are complex without certainty regarding to the cure. Therefore, even slowing down the rate of contagion, total loss could end up being almost the same. The drama surrounding the situation generated by the lockdown, demonstrates that governments made a serious decision in favour of the health of the people. On the other hand, the opposite choice

of inaction is not easy to be explained to the public politically, particularly if the pandemic reveals heavy losses. Therefore, the heaviest economic damage has been chosen to manage an easy public reaction. Unless a vaccine materialises, the system will almost face the same casualties.

However, the world will soon find itself in front of a global economic crisis destined to change many balances. There will be a recession never seen before with a corollary of conflicts that could increase not just the loss of human life, but also enhance social conflicts, job losses and health service reduction, etc.

Like the previously mentioned case of Islamic terrorism, even in this case, we have made a “political” choice, completely anti-economic. It is allowed and justified by the hysterical fears of the electorate, that become bound to a particular weak leadership, who we could say is scared of the fears of its own electorates.

Certainly, to have invested before in tens of thousands of respiratory ventilators for a few thousand euros each, it would have cost the world a lot less. Summing up, for all the western system they would not have cost more than a billion dollars. But this is only the wisdom of hindsight.