

Financial capitalism to the rescue of the most vulnerable nations? The World Bank's Pandemic Bonds

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Abstract

Created to provide funding if needed to the most impoverished nations so they can contain future outbreaks, the World Bank launched the Pandemic Bonds in 2017. After an overview of catastrophe bonds, this paper describes the genesis, basic features, and investors' profile of those Bonds. I argue that those bonds were designed with a very peculiar financial structure. Looking at the inner circle of private organizations behind the architecture, promotion, and arbitration of that "project," the decisional process's opacity and the various roles played by some actors raise many questions. I will demonstrate that pandemic bonds are not designed to pay out in the event of global disease outbreaks but to ensure returns for investors.

Résumé

Créées pour fournir si nécessaire un financement aux pays les plus pauvres afin qu'ils puissent prévenir de futures épidémies, les obligations pandémiques ont été lancées par la Banque mondiale en 2017. Après un bref survol des obligations catastrophes, cette note de recherche décrira la genèse des obligations pandémiques, leurs principales caractéristiques et le profil de ses investisseurs. Je soutiens que ces obligations ont été conçues avec une structure financière inhabituelle. En regardant le cercle restreint d'organisations privées derrière l'architecture, la promotion et l'arbitrage de ce «projet», l'opacité du processus décisionnel et la multitude de rôles joués par quelques acteurs laissent perplexes. Je ferai la démonstration que ces obligations ont été constituées non pas afin d'aider à contenir des épidémies dans les pays les moins favorisés, mais plutôt afin d'assurer un profit à ses investisseurs.

Summary

Introduction	2
Catastrophe bonds.....	2
The genesis of the Pandemic Bonds.....	4
Pandemic Bonds under Scrutiny	8
Current situation	10
Conclusion.....	10
References.....	13

Introduction

On March 3rd, 2020, the World Bank launched a USD\$12 billion response package to help developing nations and the private sector deal with the COVID-19 "epidemic." By announcing an additional USD\$ 2 billion in extra help two weeks later, the discourse has changed, and the word "pandemic"¹ was then used (World Bank, 2020b). Defining the COVID-19 outbreak as an "epidemic" rather than a pandemic for so long (until mid-March) was not coincidental and had dire consequences outside the semantics debate. The financial sector was hoping to use loopholes to avoid, among other things, triggering the pay-out of the 'pandemic bonds' to the World Bank, which has subsequently led to hundreds of millions of dollars in aid being withheld to low-income countries. At first glance, those pandemic bonds seem like the perfect illustration of investors profiting from social ills.

This paper explores the creation of those World Bank's pandemic bonds as a form of catastrophe bond and delves into its investors as well as architects, who constitute major actors in a wider process of financialization. Introduced by the World Bank in 2017, pandemic bonds were created to bring funds rapidly to countries in need to prevent and contain a pandemic. This paper will show how the bonds represent a distinctively neoliberal and financialized way of responding to crises, seeking to generate market-based forms of support in the context of crisis rather than drawing on state funding. I will delineate the financial structure, conditions for the payout, and practical implications of the bonds, demonstrating how this process is faulty by looking at the current pandemic. I argue that catastrophe bonds in general and pandemic bonds more specifically might be considered "innovative", but represent mostly defective and deceptive attempts by (re)insurers to spread as much as possible some of the "news" risks (like climate change, terrorism, pandemics), and for investors to diversify their capital accumulation surplus in uncorrelated financial vehicles. I will demonstrate that pandemic bonds are not designed to pay out in the event of global disease outbreaks but to ensure returns for investors.

Catastrophe bonds

The World Bank's pandemic bonds are part of a family of financial products known as catastrophe bonds (also called "cat bonds"), themselves part of the broader category of insurance-linked securities (ILS)². Developed by insurance and reinsurance corporations³, cat bonds can be defined as "a financial mechanism meant to insure against possible natural disasters" (Keucheyan, 2018, p. 486) with "high mortality" (Ibid., p. 491). However, protection against natural disasters is not a new phenomenon per se, but new risks are getting

¹ Simply defined as an epidemic in two or more regions worldwide, the decision to declare a pandemic "has nothing to do with changes to the characteristics of a disease but is instead associated with concerns over its geographic spread. According to the World Health Organization, a pandemic is declared when a new disease for which people do not have immunity spreads around the world beyond expectations." "Ultimately, the WHO gets the final say. There is no threshold, such as a certain number of deaths or infections, or number of countries affected, that needs to be met." (Davey, 2020)

² ILS are also known as alternative risk transfer and cover other types of risks like "credit, biotech, civil liability and so on" (Keucheyan, 2018, p. 491).

³ The reinsurance industry was one of the first to get global: the two most prominent players right now, Munich Re and Swiss Re, were founded respectively in 1880 and 1863 (Keucheyan, 2018, p. 487). Both reinsurers are deeply implicated in the design and development of the pandemic bonds, which will be discussed later in this paper. A good overview of the reinsurance history and ecosystem is provided in the book *Making a Market for Acts of God: The Practice of Risk Trading in the Global Reinsurance Industry* (Jarzabkowski, Bednarek and Spee, 2015).

much coverage, like global terrorism, climate change, pandemics⁴, etc. What makes cat bonds unique is what it links together: "phenomena as diverse as earthquakes, hurricanes and influenza pandemics are epistemologically constituted as risks forming part of the same asset class, the characteristics of which trouble typical conceptual dichotomies between assets and liabilities, and in between geophysical nature and human life". (Johnson, 2013, p. 30)

Rapid changes like privatization and financialization have increasingly affected this sector since the mid-1990s⁵. Furthermore, cat bonds have been increasingly perceived as a means of furthering accumulation for investors. Indeed, since their emergence at the end of the last century, they have provided a distinctive way of resolving what Harvey (2010) describes as the "capital surplus absorption problem." As capitalists always create surplus (profit), they compete to find "new profitable outlets" to reinvest in (Harvey, 2010, p. 26). This is the case here. As investors faced limited opportunities to generate returns, especially after the 2008 crisis, they have turned to cat bonds as a place to invest their capital safely. By creating a market to speculate on future catastrophes (from trade on pollution rights, to weather and to even infectious diseases as in the case that interests us here), cat bonds have created a space for investors to "invest in derivatives of asset values and ultimately even in derivatives of insurance contracts on derivatives of asset values." (p. 21). This has provided a means of expanding insurance to include domains that were previously thought to be uninsurable (Jaffee & Russell, 1997). As Doyle and Ericson (2010) note: "Insurance literature states that two of the things that make risks uninsurable are if the risks are too large or there is insufficient actuarial data." (p. 136) Those contradictions perfectly apply to catastrophe bonds.

For those promoting them, cat bonds are seen as solutions to the recurring issues in this sector of the cyclical nature of disasters of all kinds and the real issue of illiquidity. "Insurers need this extra layer of protection for themselves, because catastrophes typically hit a region very abruptly. This means that (...) large amounts of money need to be disbursed suddenly, threatening the insurer with insolvency." (Forgues, Etzion & Kypraios, 2020).

In her article on securitized⁶ catastrophe risk and its implications on climate change, Johnson (2014) gives a comprehensive contextualization of this innovation:

In traditional catastrophe insurance relationships, the vulnerabilities of fixed capital drive a revenue stream from asset owners to the guarantors of financial compensation (typically insurers and reinsurers). The high annual variability and unpredictability of insurers' and reinsurers' profits and losses and the cyclicity of insurance pricing have typically discouraged traditional equity investors from investing in these firms' shares. Yet as the provision of catastrophe insurance has been securitized, these place-bound vulnerabilities are rendered into an exploitable, diversifying asset class for financial capital. (p. 157)

How does it work for investors? They are offered by reinsurers bonds, with a potentially high return on investment if no catastrophic event covered explicitly by the bond and surpassing the predetermined threshold/trigger happened. In that event, they will lose (partially or totally) their investment. If nothing happened,

⁴ Swiss Re was the first to issue a pandemic/extreme mortality event bond (not the one we are analyzing in this paper, but the more general family) back in 2003: since then, almost 30 different cat bonds with a pandemic element have been launched. None have been triggered and forced to pay out until the current Covid-19 pandemic (Forgues, Etzion & Kypraios, 2020).

⁵ "At that time, simultaneous waves of deregulation and market consolidation, coupled with growing financial losses to natural catastrophes, paved the way for an array of new instruments with which to hedge and speculate on the risks posed by weather and other natural hazards." (Johnson, 2014, p. 156)

⁶ Securitization, in general, is a type of financial innovation "spread the risk around and even created the illusion that risk had disappeared." (Harvey, 2010, p. 17)

they could collect the quarterly payments of their interests and their principal, in that case, after the predetermined maturation date of the bond.

The financial crisis of 2008⁷, and the deregulation that followed, only strengthened the interest of many institutional investors in "cat bonds." As Harvey puts it, a financial crisis like that one tends to lead to "reconfigurations, new models of development, new spheres of investment" (2010, p. 12). In the same vein, Johnson argues that "the demand for cat bonds has continued to grow because of the purposive, selective, and scalable relationships that these instruments enable with fixed capital." (2014, p. 173) Investors can pick and choose their investments that have been globalized following multiple financial entanglements and disentanglements, thus allowing the securitization process of those bonds.

It is also important to mention that cat bonds were attractive post-2008 as an investment object that appeared uncorrelated to risks on the stock market. Even if the market crashed, it seemed like cat bonds would retain their value. Diversification was, therefore, one of the main objectives of many investors in using this innovative financial tool for capital accumulation. As Keucheyan (2018) exposes in his article, this is supposedly a defining characteristic of catastrophe bonds: "(...) the chance of a cat bond being triggered is low; it has been estimated at around 1–2 per cent (...). Cat bonds do therefore play a role in investors' strategies of diversifying their portfolios." (p. 490)

Having situated the broader trend of catastrophe bonds from which the World Bank's Pandemic Bonds initiative emerges from, the following section will explain the creation of those bonds.

The genesis of the Pandemic Bonds

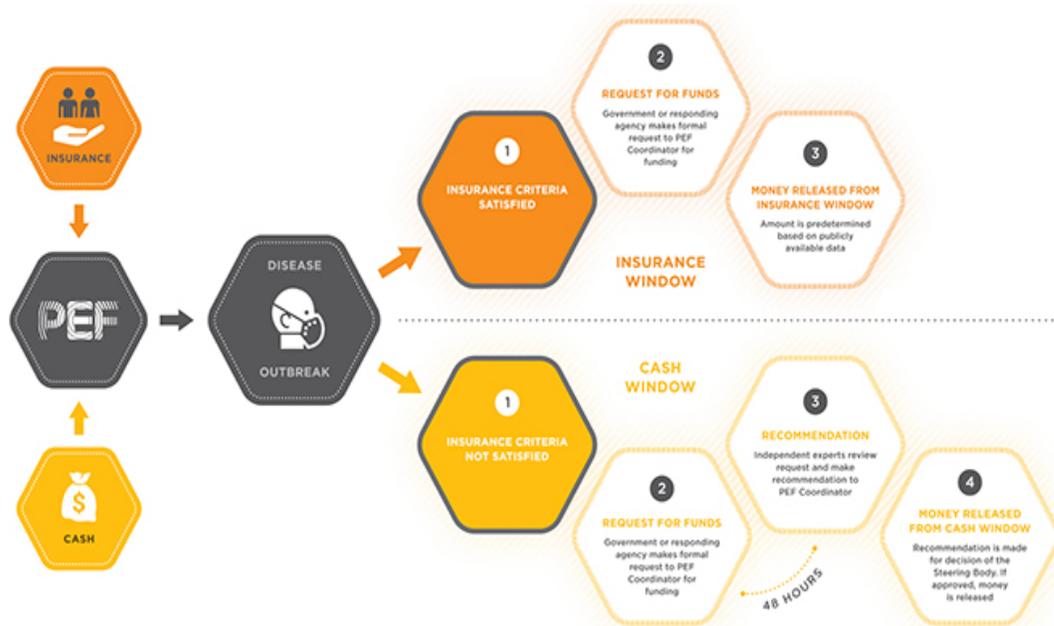
Creation

Drawing from the growing popularity of cat bonds over the past decade, the World Bank launched pandemic bonds in June 2017 as specialized funds to finance the Pandemic Emergency Financing Facility (PEF). This facility was founded the year before, in the event of an official World Health Organization (WHO)-recognized pandemic. Initiated after the 2014-5 Ebola outbreak, the PEF provides financing through two windows: a cash window⁸ and an insurance window. The insurance window "(...) works like any other insurance: it pays a premium to buy protection against a worst-case scenario of a cross-border pandemic. The insurance window has purchased \$425 million aggregate insurance at an annualized premium cost of \$36.2 million (or equivalent to 8.5%)" (World Bank, 2019). Graphic 1 shows how it is supposed to work step by step through both windows, highlighting that the cash window is mobilized only when insurance criteria are not satisfied.

⁷ "The relative success of the catastrophe bond market in comparison to other equities is one of the primary reasons why the ILS market continues to attract interest from "real money" (i.e., unleveraged) funds, such as pension and sovereign wealth funds. Nevertheless, the ILS market also demonstrates the impossibility of an entirely zero beta financial product. Some correlation with the wider market is unavoidable due both to ILS's position as one of many alternative asset classes that share a common infrastructure, and to the market's shifting returns based on interest rates and (re)insurers' cost of capital." (Johnson, 2014, p. 174) This strengthens the argument of hypercorrelation developed by Keucheyan (2018) and others that we will discuss thoroughly later in this paper.

⁸ Funding from this window is coming from a more conventional donor-funded trust fund and is operational since 2018. Until now, only this cash window has been used to help DRC fight Ebola for a total of US\$ 61.4 million (Cheng, 2020).

Graphic 1: How the Pandemic Emergency Financing Facility (PEF) Works



Source: <https://www.worldbank.org/en/topic/pandemics/brief/pandemic-emergency-facility-frequently-asked-questions>

Their oversubscription to a level of 200 % proves the pandemics bonds' popularity among investors. The high return on investment could be an explanatory factor (see the following section). As stated earlier, a combination of \$425 million of bonds and derivatives represented the risk transferred to the market in the process: Class A, less risky, raised \$225 million at an annualized interest rate of 6.5 %. Class B, a riskier bond, raised \$95 million at an annualized interest rate of 11.1 %, and an additional \$105 million in swap derivatives were added to the process⁹. The scheduled maturity date to pay for the bonds alongside those generous interest and premium payments was set to July 15th, 2020, if no pandemic would happen between July 7th, 2017 and this date. If not, investors would lose "part or all of their investment in the bond if an epidemic event triggers pay-out to eligible countries covered under the PEF" (World Bank, 2017)¹⁰. For Class A, to be more precise, they can lose as much as 16.7 %. For Class B, it is everything that they invested (Gross, 2020a; Vossos, 2020).

Another exciting bit of information regarding this initiative's inception is about who paid to back up those bonds. The top donor countries were Germany, Japan, and Australia, which initially gave around USD\$ 181 million (Cheng, 2020; Tan, 2020; Gross, 2020a). Together with the World Bank, Tokyo and Berlin pay coupons (the annual interest payment) to the investors (Brim & Wenham, 2019). The next section will delve into the investment side of this project.

⁹ Many newspaper articles on this topic don't include the derivatives and focus on the bonds, but they should be given more considerable attention as it was the most innovative element of this new initiative of the World Bank. A hypothesis for this silence could be that those financial products' extremely opaque and complex nature made it harder to do any follow-up.

¹⁰ Table 1 (see annex 1), part of the World Bank press release to promote the launch, gives an acute overview.

Investors

Looking at the distribution of investors by type and location, we denote a high level of homogeneity among them. For the latter, the vast majority of the bonds belong to European investors (72 % of Class A and 83% of Class B), with investors from the United States owning most of the remaining bonds in both categories (28 % of Class A and 15 % of Class B). Regarding the types of investors, the composition presents a more significant variation depending on the class¹¹: In the case of the less risky bonds, around 62 % belong to dedicated catastrophe bond investors, 21 % to asset managers, and 14 % to pension funds. Regarding the riskier bonds, pension funds are the primary type of investors¹² (42 %), followed by dedicated catastrophe bond investors (35 %) and asset managers (16 %) (World Bank, 2017). Among those investors, names that have been confirmed are Baillie Gifford (UK-based investment management firm), Amundi (France-based asset management company, the largest in Europe), Oppenheimer (US-based investment bank and financial services company), and Plenum Investments (Swiss-based asset management boutique dedicated only to insurance-linked securities (ILS)) (Cheng, 2020; Tan, 2020).

Regarding which motivations lie behind those investments, high profits might be one of them. "The annual returns for an investor can range from 5 to 15 per cent" (Keucheyan, 2018, p. 491). Brin and Wenham published last year a paper highlighting that the pandemic bonds had already yielded \$115 million in return to investors while granting only a bit over \$60 million via the "cash window" mechanism. The objective of portfolio's diversification was furthermore directly mentioned in a quote from one of the architects of those bonds, Peter Hearn, President and CEO of GC Securities, as reported in the press release celebrating the launch. "This facility will enhance funding for emergency response and give ILS investors and (re)insurers greater access to a non-correlating class of risk" (World Bank, 2017). Thus, they should be attractive because they should act fundamentally differently than the financial markets. Now that we have described the genesis of bonds as well as their investors, we will analyze what is out of the ordinary with this initiative.

An unusual financial structure

We should stress that the World Bank, claiming the need to attract a broader range of investors, decided to proceed with an unusual structure for the bonds. This structure is deeply rooted in the current financialization process, including the over-the-counter derivatives previously mentioned.

PEF created a market for pandemic risk insurance that draws on funds from the private sector through (catastrophe) bonds and swaps (a temporary agreement between two parties to exchange cash flows or liabilities from other financial instruments, often used to reduce financial risk) in return for highly lucrative interest rates. It was heralded as an innovative financial instrument to revolutionize the challenge of raising capital. (Brim & Wenham, 2019)

The "innovative" aspect, if we look at the field of global health security funding, is that rather than relying only on voluntary contributions, this initiative is also engaging directly with capital markets (Brim & Wen-

¹¹ The balance was issued to endowment, around 3 % for class A and 6 % for class B (World Bank, 2017).

¹² Pension funds have been proved to be one of the leading intermediaries and actors in financialization, along with asset managers, banks, and mutual funds (van der Zwan, 2014, p. 111-2). Johnson discussed their dual roles meticulously specifically concerning ILS investments in her 2013 article on cat bonds and financial risk: "The demographic bulge of retirees has motivated pension fund managers on the perpetual "search for yield" to seek out the higher returns promised by catastrophe bonds. Pension funds with publicly disclosed ILS investments represent quite significant pools of capital with large memberships. (...) Two larger global trends within pension management provide the backdrop for funds' move into ILS. First, pension funds' asset allocations continue to shift away from government bonds and towards alternative assets such as hedge funds, private equity, real estate, and asset-backed securities and derivatives. This pattern is motivated by a search for excess returns as funds expand, more members reach retirement age, and pensioners live longer lives." (p. 37)

ham, 2019), thus furthering neoliberalism. The Ebola outbreak proved to the World Bank how raising funds quickly to circumvent a pandemic can be a daunting task, and this was supposed to complement donors' voluntary contributions (Garcia & Vanek Smith, 2020). The World Bank Group President at the time, Jim Yong Kim, proudly stated at the launch of the bonds: "We are leveraging our capital market expertise, our deep understanding of the health sector, our experience overcoming development challenges, and our strong relationships with donors and the insurance industry to serve the world's poorest people" (World Bank, 2017).

This is part of a broader strategy by the World Bank to include financial actors into developmental efforts. For example, Arunma Oteh, Vice President and Treasurer of the World Bank, stated in an address back in 2018 that the World Bank "need innovative finance to accelerate the mobilization of the private sector for development." In the same discourse, she also makes clear the objective pursued by the pandemic bonds more specifically:

It was designed to prevent another Ebola crisis, and was the first time that pandemic risk in low income countries was transferred to the financial markets. Such a facility will enable the world to respond more promptly than it did when the 2013-2014 Ebola crisis happened, thereby minimizing the death toll and the negative impact on the economy. (World Bank, 2018)

Taking it at face value, this appears to be an attempt to transfer the pandemic risk of low-income nations to global financial markets, at least in part. Indeed, these bonds' main official intent is to give developing countries access to funds in times of crisis. That is what these bonds are ultimately designed to do; they are leveraging investments in the private market to generate funds for crises. However, things are not running as smoothly as planned (as we will detail later).

Even if it is widely labeled as innovative, we could argue that catastrophe bonds, in general, are "technically" somewhat of a novelty, splitting and reconfiguring "peak perils to create hybrid multiperil, multiregion securities" and doing so underscoring "that financialization¹³ is a selective process that ties specific, often far-flung, places and geophysical events into circuits through which finance capital can move, rather than "rolling out" evenly across economies and physical landscapes." (Johnson, 2014, p. 173) This also gave us a relevant definition of financialization in this specific context. From the perspective of donor countries and eligible countries to that aid, cat bonds (and pandemic bonds) are attractive as a means of providing added market-based support in crisis (even if it still the World Bank and donor countries that pay for the coupon to bondholders). Rather than relying only on foreign government funding, funding is generated through the market, anchoring it into neoliberalism.

To conclude this section, another unusual aspect of this initiative also lies in the people and organizations behind them. It is interesting indeed to look at who were those behind the design, development, promotion, sell, implementation, and arbitration of this "innovative" and "unique" insurance window: expertise in the development stage was initially provided by leading reinsurance companies Swiss Re and Munich Re.

AIR Worldwide was the sole modeler, using the AIR Pandemic Model to provide expert risk analysis. Swiss Re Capital Markets is the sole book runner for the transaction. Swiss Re Capital Markets and Munich Re are the joint structuring agents. Munich Re and GC Securities, a division of MMC Securities LLC are co-managers. Swiss Re Capital Markets Limited, Munich Re and GC Securities were also joint arrangers on the derivatives transactions. (World Bank, 2017)

¹³ Krippner's definition of financialization goes in the same direction, stating that it is the "growing importance of financial activities as a source of profits in the economy" (2011, p. 27).

Furthermore, AIR Worldwide is supposed to be the "independent agency" to decide whether the conditions of the pay-out have been met. Their decisions are final and binding on the bondholders as well as on the World Bank itself. This US-based firm, a pioneer of the catastrophe modeling industry¹⁴, was also the external modeling agent of those bonds (Vossos, 2020). All this gives much authority to one private entity deeply involved from the early stages of the creation of those bonds and shows the concentration of power in a few corporate hands.

Now that we have described the genesis of the Pandemic Bonds, as well as its inscription in the broader cat bonds family, its investors, and its somewhat unusual (and questionable) financial structure, the next section will detail the main criticisms this initiative have attracted so far.

Pandemic Bonds under Scrutiny

Some critics from the get-go

Why did pandemic bonds almost end up, as we will see, working for investors but not for governments of the least developed countries and their populations? Before trying to answer this critical question, I argue that even before the current crisis, many people¹⁵ were highly critical of those bonds, seeing it as the worst (or the best) illustration of casino capitalism as theorized by Susan Strange (1986), and the shock therapy linked to the rise of disaster capitalism as developed by Naomi Klein (2007), and that she rebranded recently as pandemic capitalism. This was the consecration and formalization of pandemic gambling and the epitome of the "capitalization of almost everything" (Leyshon and Thrift 2007). Brim and Wenham (2019) argue that the PEF, of which pandemic bonds are part of, serves its investors' financial interests at the expense of global health security. "Much of the critique is centered on fundamental flaws of using catastrophe bonds to finance international responses to pandemics and the challenges of private sector involvement in financing disease outbreaks" (Brim and Wenham, 2019). Aschoff, writing a piece in the Jacobin Magazine, also raises awareness about the hypocrisy of the whole narrative of capitalism coming to the rescue of the most vulnerable (hence the title of this research paper) and saving the world:

"Sustainable investing" is all the rage these days. Pandemic bonds are just one item on a growing menu of environmental, social, and governance (ESG) investment products. (...) [A]sset managers and investment banks insist that the best way to fight poverty, disease, and environmental destruction is to put markets to work. If we give investors a chance to both do good and do well — to transform projects that tackle poverty, disease, and environmental destruction into a profit-making opportunity — ESG enthusiasts say we'll see a rush of private capital into efforts that genuinely make the world better. It's just a matter of getting the incentives right. (Aschoff, 2020)

¹⁴ Verisk Analytics, a US-based firm specialized in data analytics and risk assessment, acquired Air Worldwide back in 2002.

¹⁵ Among those highly critical people was a previous insider, and not the least renown: Lawrence Summers. He was the World Bank chief economist from 1991 to 1993, former president of the University of Harvard, and official in Clinton and Obama's administrations. At an event last year organized by the Center for Global Development, he made sharp criticism against what he considered "an embarrassing mistake" as well as a consequence of the "financial goofiness" of the World Bank. Among the main causes of this disaster, Summers mentioned: "World Bank officials who didn't understand the first thing about finance but... loved the word 'private sector involvement'" and "bureaucrats at the bank who were looking to make their careers by having had a major innovation" (Igoe, 2019). Another high-profile critic is Olga Jonas, who is a senior fellow at Harvard's Global Health Institution and who worked at the World Bank for more than 30 years. She considers that the pandemic bonds are a "gimmick" (Gross, 2020a) and a "photo-op" (Garcia & Vanek Smith, 2020)

Now that we face a real pandemic, those bonds should have been released urgently to help the poorest countries in the world to deal with the current crisis. Unfortunately, many obstacles can be observed. Furthermore, even now that the payment has been triggered (as we will detail later), many public health experts consider it is already too late to prevent the pandemic from affecting developing countries.

382 pages of conditions

Indeed, the whole process to release a pay-out and the conditions to proceed are highly problematic. First, there is a 12-weeks waiting period between the first signs of a pandemic and the analysis. With a start date of the outbreak set on December 31st of last year, in this case, it led us to March 24th, which was followed by two more weeks to calculate if conditions of a pandemic have been met. It is important to recall that the decision taken by Air Worldwide is final and binding; they reevaluate the situation every two weeks after that date to see if conditions had been met, but no organizations nor state could argue with the decisions made by that private entity playing the dual role of modeler and arbitrator of those bonds.

Another point of contention is the terms of the payout, which are convoluted, to say the least. The contract detailing all the conditions for a pandemic to qualify is 386 pages long. Conditions are exceedingly restrictive (some experts and former employees like Lawrence Summer and Olga Jonas have called them "convoluted," "stringent," "ghoulish," and even worse), making the payout even more difficult and slow. To summarize the main conditions, a certain "amount" of deaths must occur (at least 250 for Class A, 2500 for Class B), during a specific time, in certain countries (at least two, and other conditions identified the least developed countries¹⁶), at a particular pace: thresholds have been set high and are only focused on countries eligible to receive this help. This is understandable in the design of the conditions. Still, in reality, it puts too much of the burden to prove the pandemic on countries lacking a proper public health system or the testing capacities to get the statistics needed to proceed to the pay-out, which raised questions of measurement (Garcia & Vanek Smith, 2020; Baker, 2020).

There is way too much red tape between the funds and the countries urgently needing it to prepare for the pandemic and help their population urgently in need. For instance, even if it were created right after the Ebola pandemic to make sure to have a safety net for future outbreaks, the second outbreak of Ebola in Africa, which happened in RDC in 2018-2019, did not qualified for those bonds because of the insufficient number of death in another country (Jonas, 2019).

Those bonds also have another problematic element common to all catastrophe bonds: being highly secretive (Johnson, 2014, p. 162). Some experts noted that catastrophe modeling tends to be tricky "in that it harnesses tacit knowledge shared within closed, opaque communities" (Forgues, Etzion & Kypraios, 2020). In their research, Forgues and his colleagues found that it is not functioning "any better than guesswork" (2020). It would not be the first time that a model widely used in the financial sector proved to have a fragile empirical basis (MacKenzie, 2006). A lot of the information that would be needed for a thorough analysis is not available. Consequently, we have to rely on reported data from the financial actors themselves, which could lack reliability as well as being partial. The opacity is total for the \$USD 105 million in over-the-counter derivatives launched alongside the two classes of bonds. No additional information has been available by the World Bank to detail the kind of financial products covered nor elements to help characterized their investors.

¹⁶ There are 76 countries eligible at the moment to receive this help: countries "meeting" the criteria of the International Development Association (IDA) of the World Bank Group, with a USD\$ 1175 annual income per capita, as well as some small island countries. Around 40 of those countries are in Africa, around 20 in Asia and the remainder in Europe, Latin America and the Caribbean and Middle East. The whole list is available here: <https://ida.worldbank.org/about/borrowing-countries>

An hypercorrelation of risks, not a diversification

Last critique worth mentioning here, and maybe the more central to our analysis, is about questioning the main argument from financial investors to justify the use of these types of financial vehicles: portfolio diversification. I argue that the concept of hypercorrelation, associated with new risks (like pandemics), raised serious doubts about the argument that those types of bonds by distributing the risks in different classes of assets achieve the diversification of a financial portfolio. Keucheyan gives the following account:

New risks involve many lines of insurance simultaneously: life insurance, disability annuities, the interruption of economic activities and damage to both assets and people. Systemic financial risk of the sort brought about by structured finance (Coval et al., 2009) reinforces hypercorrelation (...). More fundamentally, hypercorrelation is an ontological feature of large-scale catastrophes, which disrupt human activity on whole territories. (2018, p. 488)

Indeed, the rating agency DBRS Morningstar maintains that this type of bonds attract investors because of its reputation of being uncorrelated to financial markets: "however, the current coronavirus outbreak is showing that the valuation of pandemic bonds is highly correlated with the performance of global financial markets when it matters most." (Tan, 2020)

Current situation

Awaiting a decision on the payout for many weeks, the financial markets and investors seemed pessimistic: prices plunged, awaiting the decision¹⁷. Air Worldwide, the corporation in charge of deciding if the funds should be disbursed (briefly described above), has taken its first decision on April 9th¹⁸. It seems like at this first possible pay-out date, the last criteria required to trigger the pay-out, an exponential growth rate in middle and low-income countries (among which China), has not been met. However, in a spectacular turnaround, the bonds finally paid out at their next report, on April 17th. Indeed, Air Worldwide reassessed the situation and saw that it met the last criteria necessary to be triggered: that the pandemic grows exponentially in the 76 countries that can benefit from this money (Gross, 2020b). USD\$ 195.84 million has been released, which corresponds to 16.5 % of class A and class B pandemic bonds' totality. It is the steering body of the World Bank Pandemic Emergency Financing Facility (PEF) that allocated on April 27th this amount to 64 out of the 76 countries eligible for help as defined by the International Development Association (IDA) of the World Bank. As of this fall, all funds from this insurance pay-out has been transferred. (World Bank, 2020c). Nevertheless, for many, the process has already demonstrated its flaws, among which its deadly slowness.

Conclusion

World Bank's pandemic bonds (and cat bonds in general) are the epitome of capitalism not rescuing those who desperately need it, but instead benefiting from societal afflictions. This is quite ironic if we consider that

¹⁷ DBRS Morningstar, a rating agency, said the price for the riskiest bonds (Class B) "should have dropped more than 80%", and for the less risky bonds (Class A) have "probably fallen less than 50%" (Tan, 2020). That is not a surprise, as investors are trying to secure their investments. The trend is to go back to safer avenues like government bonds.

¹⁸ From March 23rd to April 8th, they had to determine if the 386-pages of conditions have been met. Among other things, they compared "the two-week average of cases with the previous two-week average to determine whether the growth rate is positive, one of the preconditions for the payout" (Vossos, 2020).

pandemic bonds were advertised as an innovative solution to "tackle social ills through private investments" (World Bank, 2017). Aschoff summarizes the general feeling quite well: "Instead, the bonds are yet another example of how hollow most so-called ESG investment is. They demonstrate how private investors have an uncanny ability to profit from social ills — and how, even in times when global solidarity is desperately needed, global capital cannot seem to look past the bottom line." (Aschoff, 2020) If the least developed countries could have access to those funds before the spreading of the outbreak, in order to prepare adequately to address this global public health crisis, the situation would have been different. However, as explained in this paper, it is not the case.

As demonstrated in this paper, catastrophe bonds are a financial innovation developed by the insurance industry to spread and "re-entangle" the risk and became popular with institutional investors, as it was supposed to help them diversify their investments' portfolios. This trend of "insuring the insurable" got even more prominent after the 2008 financial crisis, and I argue that the Pandemic Bonds are the paramount illustration of this process.

This paper also detailed how pandemic bonds have been under scrutiny since their launch. Their faulty design, immoral capitalization of other people's sufferings, the clear priority given to financial interests, their opacity and secrecy, the overly restrictive conditions were emphasized by many experts from the moment of their launch. If the bonds' aim is really to prevent pandemics, if that was supposed to be a concrete illustration of capitalism coming to the rescue of the poorest countries in dire situations, then the bonds should have an easier and faster trigger for payout. Speediness is critical here, and funds should be disbursed immediately before any disease outbreak becomes a pandemic, not after. Indeed, it should be linked to the World Health Organization declaration of a pandemic or even earlier, when it declares a global health emergency like it did in January. It should not follow an excruciating waiting period and an obscure calculation done by one corporation. A logical alternative would be to forget the idea of pandemic bonds altogether, and along with Brim and Whinam (2019), to go beyond a reform and whether channeling money to current underfinanced established mechanisms like the UN's Central Emergency Relief Fund (CERF) and the World Health Organization's Contingency Fund for Emergencies (CFE).

To conclude, those types of bonds need to pay once in a while to keep their credibility. Johnson (2014) said that this is even a popular opinion if the inner circle of cat bonds' investors. "the orderly default of bonds and fulfillment of obligations to the original cedants would demonstrate the reliability of cat bond protection to both risk cedants and insurance regulators" (p. 176). If what we are facing now does not qualify to trigger pandemic bonds, what would?

Annex 1: IBRD Pandemic Bonds Summary Terms and Conditions

Type of Note	Class A	Class B
Issuer:	International Bank for Reconstruction and Development	International Bank for Reconstruction and Development
Trade Date:	June 28, 2017	June 28, 2017
Final Size (Bond only)**	USD 225 million	USD 95 million
Settlement Date:	July 7, 2017	July 7, 2017
Scheduled Maturity Date:	July 15, 2020 extendable monthly in whole or in part, up to a maximum of 12 months following the Scheduled Maturity Date	July 15, 2020 extendable monthly in whole or in part, up to a maximum of 12 months following the Scheduled Maturity Date
Issue Price:	100%	100%
Bond Coupon:	6m USD LIBOR +6.50%	6m USD LIBOR +11.10%
Covered Perils:	Flu, Coronavirus	Filovirus, Coronavirus, Lassa Fever, Rift Valley Fever and Crimean Congo Hemorrhagic Fever
Redemption Amount:	The Notes will not be fully repaid if an event occurs	The Notes will not be fully repaid if an event occurs

Source: <https://www.worldbank.org/en/news/press-release/2017/06/28/world-bank-launches-first-ever-pandemic-bonds-to-support-500-million-pandemic-emergency-financing-facility>

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