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Equality and Responsibility in Financial Crisis: an ethical approach to the regulation of bail-outs, moral hazards and accountability

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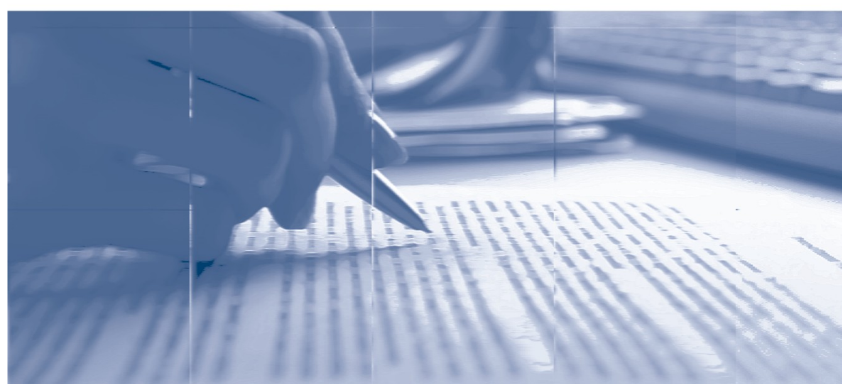

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Non-technical Summary

To contain the global financial crisis of 2008, governments and central banks adopted unprecedented measures to rescue their economies and financial systems; in US alone, the *bail-out* would have cost around $ 700 billion, infusing liquidity into some of the most important companies in the country, in exchange for assets of uncertain value. Several debates followed, on the basis that using tax-payer money to help banks and investors supposedly affects political values such as equality and responsibility: it implies transferring resources from the public (for instance, poor people) to specific economic agents who have chosen to incur certain risks. On the other hand, it is arguable that it would not be up to the regulators to protect investors' interests, and that there would be more efficient and less burdensome instruments associated with prudential regulation.

Our goal is to provide, through a Financial Ethics approach, a philosophical justification for the bail-out and for holding bankers accountable; besides political philosophy and applied ethics theorists, this subject is relevant for central banks – which, in addition to monetary policy, usually function as regulatory authorities and lenders of last resort, providing liquidity to the financial system in times of economic stress.

First, we present an egalitarian justification for the bail-out based on Rawls's difference principle (i.e., wealth and income inequalities must be arranged in order to benefit those who are worst-off) in conjunction with the corresponding incentives argument – i.e., it is justified to favor those who are better-off (talented or rich people) so as to encourage them to innovate, invest or assume risks. Second, we investigate objections to this argument based on applied ethics and on the moral hazard it generates – i.e., that rescuing too-big-to-fail institutions would amount to an implicit guarantee and encourage their investors and managers to incur more risks. We also study how regulators try to cope with these problems: by imposing insurance and prudential requirements to internalize externalities associated with failure, and by the threat of sanctions – which we dub the prudential and the coercive approach, respectively. Despite highlighting their disadvantages, we conclude, since the former cannot completely dispense with the implicit guarantee, the latter (and the supervisory structure necessary to enforce it) remains necessary.

Sumário Não Técnico

Para conter a crise financeira global de 2008, governos e bancos centrais adotaram medidas sem precedentes para resgatar suas economias e sistemas financeiros; somente nos EUA, o resgate teria custado cerca de US$ 700 bilhões, injetando liquidez em algumas das empresas mais importantes do país – em troca de ativos de valor incerto. Vários debates se seguiram, com base no fato de que o uso de dinheiro dos contribuintes para ajudar bancos e investidores afetaria valores políticos como igualdade e responsabilidade: implica transferir recursos do público para pessoas que optaram por incorrer em certos riscos, em vez de para os pobres. Por outro lado, pode-se discutir que não caberia aos reguladores proteger os interesses dos investidores e que haveria instrumentos mais eficientes e menos onerosos associados à regulamentação prudencial.

Nosso objetivo é fornecer, através de uma abordagem de Ética em Finanças, uma justificativa filosófica para o resgate e para a responsabilização de banqueiros; além de teóricos de filosofia política e de ética aplicada, esse assunto é relevante para bancos centrais – os quais, além da política monetária, costumam funcionar como autoridades reguladoras e prestamistas de última instância, fornecendo liquidez ao sistema financeiro em momentos de estresse econômico.

Primeiro, apresentamos uma justificativa igualitarista para o resgate, com base no princípio da diferença de Rawls (i.e., as desigualdades de riqueza e renda devem ser organizadas para beneficiar os mais pobres) em conjunto com o correspondente argumento dos incentivos – pelo qual é justificado favorecer aqueles que estão em melhor situação (pessoas talentosas ou ricas), de modo a incentivá-los a inovar, investir ou assumir riscos. Em segundo lugar, investigamos objeções a esse argumento com base em ética aplicada e no risco moral que ele gera – resgatar instituições grandes demais para falir resultaria numa garantia implícita e encorajaria seus investidores e gerentes a correrem mais riscos. Também estudamos como os reguladores tentam lidar com esses problemas: impondo requisitos prudenciais e de seguro para internalizar externalidades associadas a falências, e pela ameaça de sanções – apelidadas abordagens prudencial e coercitiva, respectivamente. Apesar de destacar suas desvantagens, concluímos que, uma vez que a primeira não pode prescindir completamente da garantia implícita, a segunda (e a estrutura de supervisão necessária para aplicá-la) permanece necessária.

Equality and Responsibility in Financial Crisis: an ethical approach to the regulation of bail-outs, moral hazards and accountability

Ramiro de Ávila Peres**

Abstract

After the 2008 crisis, there were several debates on the bail-out and the lack of accountability of financial institutions; this supposedly affects political values such as equality and responsibility: it implies transferring resources from the public (for instance, poor people) to specific economic agents who have chosen to incur certain risks. On the other hand, it is arguable that it would not be up to the regulators to protect investors' interests, and that there would be more efficient and less burdensome instruments associated with prudential regulation. Our goal is to provide a justification for the bail-out and for holding bankers accountable. In section 2, we present a brief description of the problem in the context of the crisis, followed by a justification for the bail-out through the incentives argument, based on Rawls's difference principle. In section 3, we provide an ethical discussion over the corresponding moral hazards, and investigate how to mitigate it through coercive measures.

Keywords: Financial Ethics, Supervision, Equality, Responsibility

JEL Classification ou Classificação JEL: G38, D63, K29

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1. Introduction

During the 2008 crisis, the US government directly intervened to help (or to finance the acquisition of) institutions with liquidity problems – the so-called bail-out; this was controversial "on both sides of the ideological aisle: on the right, because it meant a *de facto* admission of market failure, and on the left, because the bailout privileged the needs of Wall Street over Main Street" (Murray, Manrai & Manrai, 2017, p. 186).

Similar concerns have been on the agenda for reforming banking legislation: under the influence of the crisis, the US passed the Dodd-Frank Act in 2010, adopting more stringent financial regulations - notably innovations in consumer protection, market regulation and bank resolution regime (Hanson, Kashyap & Stein, 2011, p. 24); in 2018, however, the legislation was substantially amended on the grounds that it had become a burden on economic activity (Borak, 2017). At the international level, in addition to the changes in Basel III capital requirements, there is a tendency to emphasize norms on governance and social responsibility, in order to align the incentives of managers and shareholders with the long-term interests of financial institutions (or society), and reforms in banking resolution legislation aim at using resources from the institution's own shareholders and creditors in the event of liquidity problems, in order to dispense with the use of insurance funds or public resources (Parker, 2011).

This main approach to the problem is *prudential*[1]; it contrasts with another, with a *coercive* bias, which emphasizes the need to *hold liable* (through administrative, civil, or even criminal sanctions) institutions and managers that violate norms. At the extreme of this second approach, the 'best risk-management rule' ever written would be the Hamurabi Code stating that the builder shall be sentenced to death in the event of a fatality caused by the fall of a house (Taleb & Martin, 2012, p. 50). The rhetoric of accountability, however, is considered suspicious in other contexts, such as social security: responsibility for one's own poverty or disability should not exclude someone from the scope of assistance (Mounk, 2015, p. iv). Similarly, in the context of criminal punishment: purely

[1] "A microprudential approach is one in which regulation is partial equilibrium in its conception and aimed at preventing the costly failure of individual financial institutions. By contrast, the 'macroprudential' approach recognizes the importance of general equilibrium effects, and seeks to safeguard the financial system as a whole. In the aftermath of the crisis, there seems to be agreement among both academics and policymakers that financial regulation needs to move in a macroprudential direction." (Hanson, Kashyap & Stein, 2011, p. 3).The paradigm of the coercive approach would be compliance regulation, focused on the evaluation of the submission of the institution and its managers to the corresponding norms. Of course, although we contrast the prudential approach with the coercive approach, they do not exclude each other.

retributivist justification would violate liberal neutrality, as it would imply harming others only to express disapproval (Tadros, 2013, p. 79-83). It is an echo of the *Erynies*, the Avenger Furies: Greek goddesses who mercilessly pursued murderers.

Therefore, the justification for punitive liability (and the regulatory and supervisory framework required to apply it) should appeal to socially beneficial effects, such as the deterrent effect of the sanction in order to be justifiable at all. But this faces two objections: a) it would be up to the investors themselves to exercise 'market discipline', and it would not be up to the authorities to protect them – since this is a kind of *paternalism*; (b) there would be other more efficient (and less drastic) instruments than imposing sanctions - the *prudential* approach above – i.e., sanctions are *inefficient*.

According to those objectors, the role of financial regulators and supervisors should be limited to prescribing minimal prudential and accounting standards (such as capital and liquidity requirements for an institution to operate), necessary for the stable and coordinated functioning of the market, and preventing these norms from being circumvented (i.e., compliance supervision). Reality contrasts with this conclusion: the financial market is one of the most regulated sectors of the economy, and supervisors often have power to enforce drastic (e.g., to refuse a manager or suspend the activities of an institution) or punitive (e.g., banishing a professional from the market) measures.

In the following section, we will review some of the facts pertaining to the 2008 crisis; after that, based on Rawls's difference principle, we will argue in favor of socially sharing the risks of financial activities – so that public authorities should act to avoid systemic risks. This would remove the paternalist objection above: since the financial system implies a potential externality, we should be concerned with more than investors' interests.

In the last section, we argue legal systems should establish effective sanctions applicable to agents of the financial system in order to mitigate the *moral hazard* created by such a guarantee. The idea is that the regulation and supervision based on public authorities, as opposed to a structure of private institutions, not only has the advantage of establishing a compulsory insurance system, but also mitigates social risks through regulation, inspection and punishment (Hansson & Skogh, 1987, p. 144).

1.1 Methodological remarks

In this text, we deploy a critical literature review and conceptual analyses, in order to philosophically investigate if a *bail-out* is ethically justifiable, and what measures must be used to mitigate its corresponding hazards. Since this research does not aim to be exhaustive, nor to investigate causal relationships or assess methods effectiveness, but to engage in a philosophical debate over financial ethics, our selection of material was unsystematic: our sources regarding the financial crisis include accounts from major economists (such as Greenspan and Stiglitz), or works specifically targeting this subject (such as Posner, 2010; Reinhart & Rogoff, 2011; Bernanke, Geithner & Paulson Jr., 2018); our discussion on the difference principle and the incentives argument focuses on Rawls's exposition and Cohen's main remarks. Our final section, concerning moral hazards and the ethics of responsibility, draws from many different sources, including papers on theoretical economics and articles on applied ethics.

2 Equality and bail-out: distributing risks according to the difference principle

2.1 The bail-out

In 2007, defaults on subprime mortgages rose to a seven-year high and the cracks in the real estate market showed up, so affecting financial firms' stock prices; even so, Lehman Brothers, the fourth-largest U.S. investment bank, with 25,000 employees, continued to report record revenues and profit until the eruption of the credit crisis in August 2007. During the crisis, its market and assets value plummeted; yet, it hid $ 50 billion in losses using accounting techniques, omitted in its quarterly disclosures to the Securities and Exchanges Commission (SEC), such as the *Repo 105*: a "repurchase agreement, valued at $ 1.05 for every dollar, that was designed to look like a sale. Lehman Brothers paid more than five cents on the dollar to temporarily pay down the liabilities on its balance sheet before repurchased the asset." (Lo, 2015, 30) On September 15th, 2008, the Federal Reserve (FED) refused to save it, under the alleged reason that it then lacked the legal power to do so: Lehman didn't have a buyer to guarantee its obligations (unlike Bear Sterns, acquired by JP Morgan with funding from FED six months earlier), nor legal authorization to be taken over by the government (as it happened a week earlier to "Fannie Mae" – FNMA and to "Freddie Mac" – FHLMC), nor acceptable collateral to guarantee a loan from FED – as it happened, two days later, to insurance agency AIG (Bernanke, Geithner & Paulson, 2019, p. 42). So Lehman Brothers filed the then largest

bankruptcy in history – precipitating panic and a systemic crisis, which soon took over the world (Posner, 2010, p. 6).

The global financial crisis was the most serious one since the Great Depression, with political and economic consequences that will likely extend over a generation (Reinhart & Rogoff, 2011, 208). Both in the United States and in the European Union, the crisis began to calm down only after central banks and governments made *credible commitments* to proceed as necessary to reverse it, and massively bought assets – so injecting liquidity into the system and relieving banks from uncertain securities; notably the euro crisis cooled down after Mario Draghi's famous "whatever it takes" speech (Heijden, Beetsma & Romp, 2017). In the US alone, the *bail-out* would have cost the government around $ 700 billion, infusing cash into some of the most important companies in country (Stiglitz, 2010, p. 122)[2].

The crisis brought back to the fray the relationship between financial markets and uncertainty, the design of resilient institutions, and the role of authorities as guarantors of social and economic stability. At the international level, it has led to the third Basel agreement and to more restrictive banking regulations - including the reformulation of accounting, supervision and resolution standards for financial institutions. It even elicited proposals to end banking activity as we know it, by adopting measures that would drastically reduce (or even impede) the creation of scriptural money by private institutions (see, e.g., Kotlikoff, 2013).

Similarly, it led to contemporary discussions on autonomy or independence of central banks; these institutions stand out for their peculiar economic powers: they do not create wealth, but redistribute it (and it is permissible to inquire whether the resulting distribution is justified), by means of financial operations (Piketty, 2014, p. 669), with (*prima facie*) infinite potential for monetary creation (Piketty, 2014, p. 673-74). These institutions are often insulated from political power, in order to limit the central government's ability to issue currency and, by producing inflation, to reduce its liabilities in national currency. However, it is not enough to limit public issuance to guarantee stability, since, at least in fractional reserve systems and similar ones, banks function as *private* issuers of money. Thus, central banks also play a special role in regulating and

[2] This is only what was approved for the Troubled-Asset Relief Program, and does not represent the impact on economic growth; the average annual growth of the Gross Domestic Product (GDP) was 2.99% between 1998 and 2007, but only 0.73% in the following five years (2008: -0.31%, 2009: -3.1%). Global GDP growth was 4.3% in 2006 and 4.2% in 2007, falling to 1.7% in 2009. Data from the World Bank, available at: <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>.

overseeing the financial system, and operate as 'banks of banks', as *lenders of last resort* to provide liquidity to the system. These three functions (monetary authority, liquidity provider, and financial system regulator) have grown in response to the Crisis (de Bruin et al., 2018); as we mentioned supra, legal constraints on FED's powers were the alleged reason why it could not save Lehman. On the other hand, this increased concentration of power is sometimes viewed with suspicion, attracting to central banks the label of *overmighty citizens* (Tucker, 2018, p. 391)[3].

A persisting debate is about the use of public resources to protect banks and investors from what is perceived as their own "recklessness" (Herzog, 2017)[4]. Even a pragmatist like Richard Posner (2010, p. 111 and ff.) acknowledges that popular outrage over the *bail-out* was in part justified (at least in relation to institutions that distributed profits after the financial bailout, such as Goldman Sachs). Linked to those claims is the recognition that there was no punishment that one cannot benefit from one's own wrongs: "in the long run, society cannot function well if people do not take responsibility for the consequences of their actions, i.e., if we have 'individualism without individual responsibility" (Stiglitz, 2010, p. 120). In the following sections, we'll distinguish and approach the two values at stake: equality and responsibility.

2.2 The difference principle: from political philosophy to applied ethics

First, we must define a conception of equality to work with. We can start with the thought experiment of the *original position*, in which, under a *veil of ignorance*, mutually disinterested subjects, unaware of their particular characteristics and interests (but knowing general facts about human nature), have to choose normative principles to guide basic structure of the distribution of the 'benefits and burdens of cooperation' of a stable society (Rawls, 1971, p. 65). In the face of such an uncertain scenario, an agent would choose principles tending to *optimize* the position of each individual in a well-ordered society, so leading to a liberal and egalitarian framework, to avoid the risk of being in the (individually) worst possible scenarios; among its principles of justice, those

[3] Under this rationale, in 1997, by granting independence to the Bank of England as a monetary authority, the United Kingdom withdrew its role as financial supervisor (Tucker, 2018, p. ix).
[4] We must remark that managers' pay were often correlated to the market value of their institutions (by performance bonuses, or simply stocks or call options), so they lost money when those companies lost market value (Lo, 2012, 1); however, this only implies an alignment of interests in the short run - it would still be advantageous to risk insolvency in order to earn sufficiently large gains, especially if the bonus is limitedly affected by losses (Stiglitz, 2010, p. 119-20).

subjects would include the *difference principle*, whereby wealth and income inequalities are arranged in view of the benefit of those who are worst-off (Rawls, 1971, p. 72).

One of the consequences of this principle is that, in a permissive interpretation, it implies the so-called incentives argument, according to which it is justified to favor those who are already better off (rich and talented) even without any consideration of desert, in order to encourage them to produce, consume or take risks:

> Supposedly, [...] the greater expectations allowed to entrepreneurs encourages them to do things which raise the prospects of laboring class. Their better prospects act as incentives so that the economic process is more efficient, innovation proceeds at a faster pace, and so on (Rawls, 1971, p. 68).

Since they do not know yet what positions each one will occupy after the veil lifting, the incentives argument would tend to be accepted for being *ex ante* Pareto-efficient (Rawls, 1971, p. 59): it benefits both the rich and the poor (because he does not know he is poor, yet). From an empirical point of view, it is debatable to what extent incentives to the better-off (those with talent and capital) do result in a considerable advantage for those who are worse-off - which would be at the heart of the *trickle-down economics* argument (Quiggin, 2010, p. 136- 37). It might be argued that, historically, economic growth has not shown a stable correlation with income or wealth equality, especially if the rate of return on capital is greater than economic growth (Piketty, 2014, p. 555). But we can see how this argument would justify a public *bail-out*: if we do not support failing banks, an economic crisis will affect everyone, especially the poor.

An illustration of this argument is the comic short-film *The Last Laugh* (2008), where a banker (John Bird) tells an interviewer (John Fortune) that financial collapse could be avoided if *governments returned banks the money* they *lost on their own speculations*; to which the interviewer asks, intrigued, what would happen if the government did not do it. So the following reply: "... I would tell you what people like me always say – that we will not be suffering from this, but your pension fund." The statement *shows*, rather than explains, what is wrong with some sort of reasoning: on the one hand, what the banker says (and its implications) seems unacceptable from a moral point of view – a redistribution of income in favor of an economic elite, to compensate them for their own mistakes. On the other hand, it is empirically true that without governments and central banks (or institutions under their *aegis*) acting as insurers or

lenders of last resort, the financial system may collapse, with serious consequences for the whole economy (and particularly for the poorest).

This evokes the so-called *interpersonal test* objection: let us imagine that the worst-off person (henceforth the 'poor') would hear from the best-off person (whom we shall call 'rich') in society the following argument (Cohen, 2008, p. 59):

i. Public policies should optimize the situation of those who are worse-off.

ii. If taxes rise, the rich tend to invest and produce less, so that the position of the poor tends to worsen.

iii. Therefore, taxes should not be increased.

The problem with premise (ii) is that while it may be a reason for the poor to accept tax cuts (after all, like the reply of John Bird's banker, it is analogous to a threat), it cannot be a reason for the rich to defend it. Although the former may see it as a mere fact (as a movement within the bargain underlying public policy decisions), this alternative would not be open to the latter: it is the rich themselves who *make* the premise (ii) true (Cohen, 2008, 60). Moreover, accepting this may encourage them to demand even more, and translates into public distrust (see Cohen, 2011, p. 217).

However, since Cohen's main point is about the "concept of justice", it doesn't imply we should get rid of incentive-based inequality (Cohen, 2001, p. 121). One can accept Rawls's difference principle as a compromise of fairness with efficiency, and so evade the objection. On the other hand, Rawls's theory of justice wouldn't be affected if we admitted that *political discussion* about the tax system, the financial system, social security, etc., may appeal to other principles such as some shared notion of responsibility, or desert, or necessity, provided the limits of public reason are respected – i.e., that arguments come from "reasons or premises that we reasonably think others might accept for conclusions that they also could reasonably accept." (Freeman, 2004, p. 2001-2) Therefore, in the following section, we discuss how applied ethics is linked to discussions over the moral hazard in helping institutions that are too big (or too connected) to fail.

3 Responsibility: prudential and coercive approaches

We have seen above the possibility defending the *bail-out* with the incentives argument: since systemic crises are even more damaging to the worst-off population, it is justified to use resources to avoid them, even if this means favoring those who are better-off. On the other hand, knowing this, managers of financial institutions are discouraged

to be concerned about risks, since their losses will be capped by government's help; that's the underlying issue in the *Last Laugh*.

The issue refers to the *trade-off* between the problem of *adverse selection* and that of *moral hazard* in economic theory of mechanism design (Myerson, 2008). These are two kinds of *informational restriction*. In the case of moral hazard (related to activities where part of the risk is borne by individuals who do not make the decision – such as insured enterprises or state companies), managers with little to lose (no "skin in the game") have no incentive to minimize costs or increase the production. In adverse selection (as in contexts where serious risks fall on decision-makers - so that risk-averse agents withdraw from it), managers have *too much* incentive to manipulate or omit information in order to minimize their losses and maximize their personal earnings. Similarly, corporate cultures sometimes encourage the concealment of risks, flaws or irregularities even from colleagues "because of the risk that wider knowledge of these issues might undermine the firm's position." (Lo, 2015, p. 30)

In our example, the absence of a guarantee against credits from insolvent institutions would imply adverse selection: either prudent investors would reduce their exposures, or institutions would have to offer higher risk-premiums. Indeed, even this situation is unlikely, for it is not credible that, given the threat of a systemic crisis, the government would refrain from intervening should a systemically relevant institution be at risk - which implies an *implicit guarantee* for institutions 'too big to fail'. But this leads to the *moral hazard*, which poses a potential threat to the stability and justice of our financial system. Could we 'internalize' such externality without drastic changes?

One alternative to tackle this is the *prudential* approach to regulation, recommending:

> Banks finance themselves with government-insured deposits. While deposit insurance has the valuable effect of preventing runs [...], it creates an incentive for bank managers to take excessive risks, knowing that losses will be covered by the taxpayer. The goal of capital regulation is to force banks to internalize losses, thereby protecting the deposit insurance fund and mitigating moral hazard. Thus, if the probability of the deposit insurer bearing losses is reduced to a low enough level, microprudential regulation is doing its job (Hanson, Kashyap & Stein, 2011, 4).

It is analogous, then, to the *polluter pays principle*, which recommends pricing the cost (individual or social) caused by pollution and establishing means for the polluter to compensate for damages (as suggested even by Nozick, 1990, 79-80) or even by tariffs or markets for tradable emission permits (Tirole, 2016, 38). In this line, financial institutions would be required to increase their corresponding capital to assets ratio, according to a function that weighs the risk of a bank's assets – i.e., regulation makes an asset more 'expensive' for the shareholder, in terms of equity, according to the probability of *default*. Also, they should contribute to insurance funds in proportion to the risk they expose them – something like a *pigouvian tax*; in this way, the corresponding social risk would be duly priced.

Take as example the case of the Brazilian Credit Guarantee Fund (FGC): on the one hand, it is a private association that insures deposits of limited value and finances operations aiming to avoid banks failures (such as merges of institutions with liquidity problems); thus it prevents criticisms about using the Central Bank and public funds to rescue private banks – which is prohibited by the Article 28 of the Fiscal Responsibility Law (see Ferreira, 2012). But this is not a paradigmatic "private" arrangement[5]: FGC service is a public good, governed by rules issued by public authorities, and is funded by compulsory contributions levied over clients' transactions (currently, the amount of deposits) – instead of tax-payer resources. However, deposit insurance funds operate in a restricted way, too, and they couldn't bail out all financial institutions (and certainly not non-financial ones)[6].

Solutions aiming to 'internalize externalities' may be associated with *Coase's theorem*: in the absence of *transaction costs,* and in the presence of a free market with well-defined property rights in relation to externalities, bargaining would lead to an efficient outcome (Coase, 1991, 436). Thus, if we could establish a system of tradable ownership rights between rational individuals in a market without such costs, then we

[5] This solution evokes central banks' past: they were often private institutions until the first half of the 20th century (Piketty, 2014, p. 542 and p. 613).
[6] Despite the attractiveness of this argument, it's debatable if similar insurance funds are, in fact, more egalitarian: since, in modern economies, tax-payers usually have bank accounts, the sets of contributors in both arrangements (public or private funding|) mostly overlap. Moreover, taxes are expected to be progressive: taxpayers with higher income or wealth should contribute at a higher rate; but, since the contribution of a bank to an insurance fund is embedded in its administrative costs, and since wealthier clients have more bargaining power to negotiate better conditions (such as higher remuneration for deposits and fees exemptions), the cost of this contribution may end up being transferred to the customers in a regressive way. However, this is not a conclusive argument – it would require an empirical investigation to define how much insurance funds affect commercial banks depositors vis-à-vis other sources and possible arrangements (such as a tax on financial transactions).

would not need to worry about prohibitions. But economists are the first to recognize the conditions for the application of the theorem are rarely present in the real world, as emphasized by Coase himself (1960, p. 43-44; 1991, p. 436). *Informational constraints* (such as adverse selection, moral hazard, and natural cognitive limits of real individuals) amount to transaction costs that cannot be completely averted (Myerson, 2008, p. 131); in such a scenario, a compensation system may be inferior to a system that mixes them with bans and regulation: "Transaction costs typically imply that the private system does not eliminate all externalities and risks. The resulting second-best outcome may be improved by an alternative system of public insurance, regulation and punishment of offenders." (Hansson & Skogh, 1987, p. 143)

This is not a slight difference between reality and the theory we use; in this case, the omitted aspects (transaction costs) are essential to the very *function of the theory*[7]. Markets are institutions to enable trade – to enable the 'meeting' between supply and demand (Herzog, 2017); restrictions design the lines within which transactions may occur – including the basic ban against 'cheating' (Coase, 1991, p. 437). Hence the problem with models of economic analysis that presuppose the absence of informational constraints: were it not for the serious uncertainty and informational asymmetries of the real markets, the agents would have no incentive to seek new information and possible arbitrage opportunities - thus depleting them and adding new information to the market (Grossman & Stiglitz, 1980); it is the 'paradox of efficient markets' (Lomasky, 2011, p. 150). By drawing an analogy with physics, it may be rational to disregard friction when calculating a short fall; but this variable is fundamental for horizontal displacements such as walking, skating and motoring: a skater who regrets the existence of friction would simply ignore the basic principle that makes his activity possible[8].

3.1 Applied ethics and the coercive approach

[7] "This approach inevitably leads to a looseness of thought since the nature of the alternatives being compared is never clear. In a state of *laissez faire*, is there a monetary, a legal or a political system and if so, what are they? In an ideal world, would there be a monetary, a legal or a political system and if so, what would they be? The answers to all these questions are shrouded in mystery and every man is free to draw whatever conclusions he likes. Actually very little analysis is required to show that an ideal world is better than a state of laissez faire, unless the definitions of a state of laissez faire and an ideal world happen to be the same. But the whole discussion is largely irrelevant for questions of economic policy since whatever we may have in mind as our ideal world, it is clear that we have not yet discovered how to get to it from where we are." (Coase, 1960, p. 43).

[8] A point famously captured in a metaphor by (Wittgenstein, 1953, § 107): "We have got onto slippery ice where there is no friction and so in a certain sense the conditions are ideal, but also, just because of that, we are unable to walk. We want to walk so we need friction. Back to the rough ground!"

Moreover, economists recognize there are social rules relating to other aspects of life in common (e.g., *moral disgust* with regard to some sorts of transactions[9], such as organ sales – see Roth, 2007). This implies other limits to the idea of compensation: treating some social relations as transactions can lead to sub-optimal results *because* they are activities whose value is diminished by the act of transacting (Tirole, 2016, p. 39). Sandel, using an example from Gneezy & Rustichini (2000), thus argues to distinguish *prices* and *fines*:

> A study of some child-care centers in Israel shows how this can happen. The centers faced a familiar problem: parents sometimes came late to pick up their children. A teacher had to stay with the children until the late parents arrived. To solve this problem, the centers imposed a fine for late pickups. What do you suppose happened? Late pickups actually increased.
> [...] Introducing the monetary payment changed the norms. Before, parents who came late felt guilty; they were imposing an inconvenience on the teachers. Now parents considered a late pickup as a service for which they were willing to pay. They treated the fine as if it were a fee. (Sandel, 2012, p. 43)

In the example, the fact that the school is adequately compensated for parents getting late relaxes the social pressure for punctuality; but such an arrangement neglects precisely the interests of children - who should be the most relevant stakeholder in such contexts (Tirole, 2016, p. 38). It is not that social norms, such as disapproval of unpunctuality, escape the notion of rational choice; but they require distinct consideration than the usual economic way of viewing behavior (Becker, 1993)[10]. They encompass deontological notions such as rights, constraints and the peremptory character of social rules and authority orders - in contrast to the optional character of threats and advices (Migotti, 2015, p. 389). At least in most societies we know, the links between the notions of obligation, reproach and sanction run deep, and are often expressed together:

[9] This does not mean that repugnance itself is justified, nor that it's a justification for prohibiting a transaction (quite the contrary, ethics may require political action to mitigate the effects of this repugnance - e.g., if it arises out of prejudice); the point is that *even without considering the moral justification of the transaction*, disgust should be regarded as a transaction cost, affecting the functioning of that market.

[10] However, the usual accusation that economists are unaware of such effects is spurious, as they often make remarks about it; e.g.: "[...] it is, of course, desirable that the choice between different social arrangements for the solution of economic problems should be carried out in broader terms than this and that the total effect of these arrangements in all spheres of life should be taken into account. As Frank H. Knight has so often emphasized, problems of welfare economics must ultimately dissolve into a study of aesthetics and moral." (Coase, 1960, p. 44)

> It is plausible that punishment is needed to trigger concepts of obligation just as exposure to language is needed to trigger understanding of syntax. To be punishment rather than mere training, the punisher must believe that an obligation has been violated, in this case, the obligation not to hit your sister just for fun. If some obligations can only be known after we are punished for violating them, they must have been in force and yet unknowable at the time we violated them. (Sorensen, 1995, p. 264-5)

It is not true that banks, as legal entities , suffered no punishment; besides market and reputational losses, several fines in the following years were imputed to them: the US Justice Department alone collected U$45.7 billion from 2012 to 2014, and the total estimated for US federal and state authorities since the financial crisis amounts to $204 billion by 2014 – not including substantial fines imposed by European regulators (Reiff, 2017, 125). But sanctions for *bankers* were absent: "Absent individual prosecutions for criminal behavior, agents face a moral hazard, with the cost borne by principals (shareholders) and society." (Murray, Manrai & Manrai, 2017, p. 186) This has contributed to public alienation and lack of public confidence in economic and political institutions; its consequences, one might argue, are still present (Lanchester, 2017).

We should not underestimate the psychological appeal of this; its importance can be exemplified by the recurrence of this *leitmotiv* in Greek tragedies that unfold around revenge and atonement, such as in the *Oresteia*, in *Oedipus Rex* and in *Antigone*. Our argument, however, does not appeal to a moralistic or retributivist position: it is not only because the public demands liability, based on moral intuitions, that the legal system must implement it. In fact, the reverse is here suggested: these moral intuitions derive from a form of punitive altruism (the idea that one should punish deviations from a social norm, even if this entails costs), which has evolved along with our cooperative practices in order to mitigate moral hazards and the risk of free-riders (Gintis, 2006, p. 11-12); therefore, the permanence of moral reprobation to the absence of punishment is a sign (but not a demonstration) that there is still a moral hazard problem to be solved.

What the rule of law operates is a transformation of the primitive punitive altruism into a legal system conditioning sanctions to due process and social benefits – something analogous to the transformation of the *Erynies*, the 'Furies', in Aeschylus' (1996) drama; the repulsive deities of revenge pursue Orestes to punish him for the murder of his mother, Clytemnestra, until the goddess Athena persuades them to submit him to a jury of citizens – who end up finding him not guilty. Initially, the goddesses resent the outcome and

threaten to curse the land, but they end up being persuaded into protecting the city as guardians of its justice; this leads to a change in appearance (they cease to be abject) and in character (their anger is contained), thus they come to be called *Eumenides*, the Venerable ones, as emphasized by Nussbaum:

> Aeschylus shows that a democratic legal order cannot just put a cage around retribution, it must fundamentally transform it from something hardly human, obsessive, bloodthirsty, to something human, accepting of reasons, something that protects life rather than threatening it. The Furies are still needed, because this is an imperfect world and there are always crimes to be dealt with. But they are not wanted or needed in their original form. They must become instruments of justice and human welfare. The city is liberated from the scourge of vindictive anger, which produces civil strife. In its place, the city gets forward-looking justice. (Nussbaum, 2017)

Punishment is justified (i.e., the agent has a duty to submit to punishment, and the state has a right to punish) because, if the harm resulting from a violation cannot be fully compensated by the violator, then the violator has a duty to protect the victim against future violations; in a system of justice, the institutional way of doing so is to submit to punishment in order to deter future violations (Tadros, 2013, p. 277-80). Our argument follows a similar line: financial institutions cannot fully compensate us (at least not without transferring the corresponding burden to clients) by the opportunity cost generated by systemic risk - the best we can do instead is to mitigate it through an appropriate regulatory framework with sanctions.

3.2 Coercion and supervision

Punishments are *prima facie* inefficient because, instead of an exchange of resources and utilities (as it happens in compensation for torts), there is only the imposition of costs on the subject (the penalty) – and even on those who are in charge of proving and enforcing them. However, it is one of the strategies suggested to mitigate moral hazard; Greenspan[130], citing Hugh McCullouch, the first US Currency Controller, asserts that there would be no moral hazard if the law were to be

> "so amended that the failure of a national bank be declared prima facie fraudulent, and that the officers and directors, under whose administration such insolvency shall occur, be made personally liable for the debts of the bank, and be punished criminally, unless it shall appear, upon investigation, that its

> affairs were honestly administered." Under such a regime, moral hazard surely would not exist. (Greenspan, 2013, p. 110)[11]

The corresponding Brazilian legal provisions approximate this proposal: Federal Act n. 7992/1986 defines reckless management of financial institutions as a serious felony. Act n. 6024/1974 states that managers and owners are jointly and strictly liable (a partial exception to the principle of limited liability) for a bank's obligations[12]. Also, each bank's resolution happens under an inquiry on the causes of the event, proceeded by a special commission - akin to the independent inquiry commission suggested by Fielding, Lo & Yang (2011). However, even though the Brazilian financial system has been resilient in the face of *several* banking crises (Lundberg, 1999), this has not made it *immune* to moral hazard – otherwise, they would hardly have occurred.

The problem is that McCullough's proposal is restricted to the case of liquidating an institution; as discussed above, authorities have incentives and instruments to *prevent* resolutions of struggling banks – e.g., by financing merges, as in the case of Bear Sterns, acquired by JP Morgan. But this aggravates the concentration of the market, as occurred in the Crisis: "The failing banks were eaten by surviving banks, with the outcome that the surviving banks are now bigger, and the too big to fail problem is worse." (Lanchester, 2017, n. p.) Thus, the moral hazard is maintained, since institutions offering systemic risk will not be allowed to fail[13]; Lehman Brothers was the rule-confirming exception: the

[11] It is worth noting that Greenspan do not advocate for these measures; instead he suggests it would be better for banks to cease to be publicly-held companies and to become once again *partnerships* - as this would bring shareholders closer to the management of the enterprise and make them responsible for it. However, this implies losing the advantages of public companies in aspects such as transparency and sensitivity to market discipline; moreover, if a partner is only liable for equity, there remains the moral hazard associated with the skin-in-the-game problem.

[12] Although the wording is somewhat dubious (including a possible typographical error):
"Art. 40. The administrators of financial institutions are jointly and strictly liable for the obligations assumed by them, during their term of office, until they are fulfilled.
Single paragraph. Joint and strict liability shall be limited to the amount and [*sic*] of the damage caused." (translated from Portuguese)
First, the *caput* suggests an anomalous application of the notion of strict liability; therefore, the precedents consider this to be actually a case of presumption of negligence that inverts the burden of proof (STJ, REsp 819217-RJ, Minami Massami Uyeda, DJe 06/11/2009). Second, the notion of impairment (associated with assets that result in loss) and liabilities (obligations) are completely different; e.g., assume that, during the term of Board A, an institution accepts an amount of deposits, and that in the subsequent term of Board B it uses those resources to lend recklessly, resulting in failure: Board B caused the losses, but Board A was the one assuming the corresponding obligations.

[13] A related fear is that institutions 'too big to fail' have also become too big to punish / prosecute, escaping sanctions. For example, Article 11 of Law 13506 / 2017 grants the BCB the right to cease, to initiate or suspend, at any stage prior to the decision of the first instance, the administrative proceeding for the determination of infraction - provided the infraction is not typified as serious, and that the institution oaths

bank-run following its collapse led US authorities to unprecedented efforts to avert further bankruptcies.

Restricting punishment only to insolvent institutions would also encourage banks to adopt dubious accounting principles and to undergo questionable investments (and, ultimately, it could lead to fraud) as well as *pro-cyclical* actions (such as *fire sales* of assets with declining value); this tends to increase systemic risks. After all, in recognizing the possibility of bankruptcy, managers will have another incentive to keep a bank operating at any cost – even if it involves adopting special accounting criteria or making transactions only to *hide* losses (such as Lehman's *Repo 105*), or contaminating the market and exacerbating the likelihood of a systemic crisis – as in the case of the *Margin Call* (2011) movie, where an investment bank sells all of its derivatives associated with mortgages, leading to a crisis in the corresponding market.

Therefore, to ensure the expectation of punishment serves as an effective deterrent, there must be the possibility of liability even *before* a bank resolution or a crisis[14]. This requires maintaining a robust regulatory and supervisory structure; in particular, it demands norms allowing the assignment of responsibilities not only to juridical persons, but also to individuals. This aspect was emphasized by the *Financial Stability Board*, which suggests institutions should have an individual 'mapping of responsibilities': "Increasing individual accountability and responsibility to facilitate both *ex ante* prevention and remediation and more effective enforcement actions on individuals as well as firms." (FSB, 2017, p. 7)

3.3 A note on drawbacks

However, this conclusion raises serious issues. First, it is a burden on the economy (Haldane & Madouros, 2013): compliance costs not only imply decreasing the system's

to cease the practice under investigation or its harming effects. The problem is that the corresponding settlement agreement will not imply admission of guilt or unlawfulness.
This institute is inspired by the settlement agreements without admission of unlawfulness firmed by the *Security and Exchange Commission* (SEC), and by similar settlements (applicable to the protection of competition) introduced in the national legislation with Article 53 of Law 8884 / 1994. In both cases, however, such practice became criticized, as it would not be a sufficient deterrent: first, the SEC has, as a rule, included clauses of admission of guilt in its agreements (Schwab, 2014); second, Article 85 of Act 12529 / 2011 (which replaced Law 8884 / 1994) does not expressly allows for non-admission of guilt anymore.

[14] In the limit, this would require the definition, by law, of cases of strict liability and of "formal" crimes (for which it is sufficient to prove the prohibited action happened, being unnecessary that the agent realizes the risk the law aims to prevent); in fact, Brazilian precedents tend to consider reckless management a formal crime in this sense (STF, HC 87. 440 / GO, Rel. Min. Carlos Britto, DJ 02.03.2007).

efficiency (after all, it is a significant transaction cost), but they also act as a barrier to the entry of new agents, leading to concentration in the regulated sector and, indirectly, *encourages* its replacement by non-regulated services (such as *shadow banking*), as argued by Goodhart (2008). This has been mitigated by segmenting financial systems according to the systemic importance and complexity of the corresponding institutions and fitting regulatory requirements of each segment – so avoiding that, for example, small credit unions have to comply with the same standards applicable to systemically relevant banks.

On the other hand, this structure implies granting powers to regulatory and supervisory authorities – which, as remarked previously (section 2.1), raises concerns over concentration of powers, regulatory capture, control, and political legitimacy. Again this can be exemplified by the Central Bank of Brazil: in additional to its classic roles (monetary authority, lender of last resort and financial regulator), it is responsible for supervising banking system (according to Act n. 4595/1964), intervening in financial institutions and suspending their activities in the case of insolvency or repeated malfeasances (Act n. 6024/1974), and for imposing administrative sanctions to banks and their managers – such as fining, cancelling license to operate or forbidding individuals to occupy management posts (Act n. 13506/2017). In addition, although it has no attribution to judge or offer criminal complaints, it has a duty of reporting financial felonies to the Public Prosecutor's Office and the power to act as assistant to the prosecution (articles 26 and 28 of Act n. 7492/1986).

Our scope in the present text, however, does not contemplate such objections – in particular, because the prudential approach of regulation produces similar effects (i.e., regulatory costs and granting powers to regulators insulated from politics). Here we confine this study to the need to 'save' institutions in order to avoid systemic crises (based on the incentives argument) and to the need to establish coercive instruments to mitigate the consequent moral hazard. In order to address the above objections, it would be necessary to investigate whether (i) they are not fully offset by the greater economic stability (in theory) offered by an adequate supervisory structure, and (ii) if there is no way to mitigate them – e.g., by acting directly on market concentration or by adopting more favorable regulation to the entry of new agents and institutions that do not offer systemic risk (which already occurs), or establishing controls and distributing the regulator's powers between several agencies.

Conclusion

As we saw, the 2008 crisis raised debates on the lack of accountability of financial institutions and the bail-out; this supposedly affects political values such as equality and responsibility, because it implies using resources from the public (or from users of the financial system) for the benefit of better-off people who have chosen to incur certain risks. On the other hand, it is arguable that it would not be up to the regulators to protect investors' interests (objection from paternalism), and that there would be more efficient and less burdensome instruments associated with prudential regulation (from inefficiency). Our goal, in this text, was to provide a justification for the bail-out and for holding bankers accountable.

We argued, first, financial institutions' bankruptcies often entail a negative externality: financial crises are so damaging to the economy that governments, deposit insurance funds, and regulators are obliged to intervene to prevent or mitigate them – which corresponds to a guarantee to creditors. We provided a justification for this arrangement from the 'incentives argument' derived from the Rawls difference principle. After that, we argue we cannot completely dispense with coercive instruments – mainly because insuring financial assets poses a moral hazard by making it unlikely to resolve institutions. Therefore, in our current financial systems, accountability must lead to punitive and preventive measures related to non-compliance with norms on risks even before generating failures.

Finally, we can return to the banker's comment in *The Last Laugh*: the public in general suffer in financial crises, so justifying the use of tax-payer money; and precisely because of this, banks' managers should be aware of their special responsibility to the public. It would be up to law and to regulatory institutions to remind us of that.

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