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Abstract

This paper examines relationships between theory of financial risk and size. Based on the work of Makridakis / Taleb [2009] and Taleb / Tapiero [2009], presents the problems of excessive risk and imbalances caused by the size of firms. Markets mixed on firm growth traps externalities can influence risk, high-cost for the *commons*. A policy of regulation and control in markets, while necessary, are still insufficient in economies with little institutional support. Externalities of risk and firm size categories are fundamental to understanding the present financial crisis since the economies of scale.

Key words: Financial Markets, Economic Crisis, Size, Risk, Economies of Scale.

The problem

The conditions proposed by the financial crisis and international markets have ended up affecting the practice of economies and shared frames of reference on the nature of the problems. A minor phenomenon in Bangladesh can have substantial impacts in New York or London. The scale and size categories have become central to the analysis of what is happening. Institutional sizes are related to risk externalities [Makridakis / Taleb, 2009]. The work produced [Haug, 2007; May, 2008] offer an explanation of the consequences to take extreme risks in economies (**extreme risk**). Even considering the risk corresponds to the capital (original) external losses can become outrageous[1].

Background

Studies reveal a context in which larger firms may fail [Bounchaud, 2003; DeMiguel, 2007]. Even estimating the expected losses for the risk and available capital externalities are not fully insured. Under these conditions, the problems arising outperform the markets and stock exchanges. It is rapidly advancing issues affecting the stability of many countries and the quality of life of their populations. What is experienced is a financial uncertainty that compromises the overall governance. Witnessing phenomena whose nature is causal [Popper, 1935] in extended networks with large faults [Taleb, 2009] that depend on the sizes of markets and types of risk.

These failures in financial markets do not come from small firms and medium-sized industrial estate. Size is important to study the risk because the market relationships will expose a greater volume of interest may be affected. The size of financial language reflects economies of scale. Something likes the dangers of investment in trade during the time of Adam Smith.

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[1] This paper is part of a larger review to [Makridakis / Taleb, 2009] and [Taleb / Tapiero 2009]. The conditions that created the current financial crisis have also been appropriate to demonstrate the need for the financial world and the conventional economic theories recognize errors of principle. Based on solid empirical evidence the authors re-discover an empirical tradition / mathematics that emerges from Hume, Popper, Kahneman and Mandelbrot, to suggest an epistemology with remarkable trajectory of future applications and consistent.

Size and risk externalities

However, the analogies in economic history have their own limits. In the economies of scale we find a considerable growth of trade and finance industry. The sizes can overwhelm the ability of firms to cover the risks. Cases such as General Motors **GM** contended complex and diversified growth with high risk externalities can now be compared with the portfolios of pension funds (**Mutual fund portfolio**). They have grown in size with risks that exceed their ability to repay any financial turmoil [Dubofsky, 2009].

Unlike the industrial and commercial banks have severe regulatory restrictions; the confidence of its depositors is to obtain optimal yields. The bank failures for this tend to produce greater impact in the context of society, because undermine public confidence. In a majority of cases the banks do not take the externalities of risk (**risk externalities**). However, for those who manage banks (often the case) the growth in size of the data does not correspond to the estimate of potential losses. Moreover, short-sighted measures, those lead to most banks to exercise powers in illegal financial markets. The rules of "punishment" may have a variable nature regarding the quantity and quality of expenditures reported "formal" firms.

The size (size) is important because it can lead firms to take risks that over time become unsustainable. Is the case where bank shares offer short-term yields at the expense of the possibility of quantifying externalities risk depositors. We know in theory that express externalities market failure. When banks get too big, the risk factors become superior. For example, Frank Rich (The New York Times, Goldman Can You Spare a Dime, October 18, 2009) has drawn attention to the fact that "Wall Street manages the rules in Washington." Similarly R. Winkler (Reuter) indicated that "Wall Street has almost all the benefits".

A recent study by the National Academy of Sciences in the United States has denounced excessive risks and hidden costs of the energy industry: costs not borne by the industry but the general public. But it is governments that receive public trust and not the banks. Banks have created with the aim of providing better conditions for successful transactions and manage credit lines. All this requires the functioning of financial markets. A deterioration of this trust has depended on the expansion of financial proposals with unforeseeable risks on their public impact. The crisis resulting from the excessive size of the banking sector has also contributed to increased externality (negative) with costs experienced by most people.

In this regard Taleb / Tapiero [2009] consider that it is inefficient markets with negative externalities to a considerable extent, even though they have ideal conditions of competition (perfect financial markets). In any firm if negative externalities are not offset by positive externalities, or adequately regulated, the risk of losses can become outrageous. In a New York Times (Sunday Business section, October 4, 2009), Gretchen Morgension referring to research by Dean Baker and Travis McArthur, described the effects of selective failures that allowed some privileged banks (large) were "subsidized" with costs above $ 34 million.

Size is not the medicine when firms fail. For example, Fujian [2004], using a list of broken Japanese companies in 1997 ([Bouchaud, 2003]) has drawn the failure of some firms regardless of size. When business growth is supported by debt to risk exposed is superior because it threatens both the creditor losses as the lender. Size growth combined with rising debt can lead to colossal failures. It's like traveling with suicide pilots that guide aircraft dynamited. By taking unsustainable growth strategies with negative externalities, people end up paying higher costs.

Networks and supply chains

When the size is based on the consistency of the networks (networks) (as large supply chains), risks in the chain (See [Tapiero, 2007], and [Konstantin / Tapiero, 2007]) may contribute to higher costs maintenance of industrial and financial organizations. Saito [2007] examines corporate networks and shows how, unlike small firms-tend to have large inter-corporate relationships. Therefore are exposed to increasing risks. A case in point was the Toyota with the purchase of products and raw materials to a large number of signatures that led the company to maintain close relationships with numerous investment banks trade. So it required a similar organization with a considerable number of affiliates.

When the networks increased dependence on supply chain risks are also increasing gradually. But this interdependence is difficult when the provider can control a critical part in the network and necessary for the proper functioning of firms. For example, a small plant in Normandy (France), not more than 100 employees could put in check the complex of the Renault company. Similarly, a small group of Spanish merchants may decide to "significant market failures" which ultimately affect economic policies throughout the state. These growths in the network are both the result and the conditions for growth in large scale enterprises (see also [Bouchaud / Potters, 2003]).

Alexsiejuk and Holystar [2001] performed experiments simulated by constructing a simple model of bank failures using network filtering mechanisms for cooperative banks (see, theory of filtration [Goldenberg / Solomon / Jan / Stauffer, 2000]. The simulation has shown that bank withdrawals "sporadic" may have dramatic effects on the stability of the system and lead to bankruptcy if the bank does not receive the aid. But the bank failure may trigger a systemic crisis contagious process that eventually destroys financial structure. Moral support: not only in theory but in practice, major economic decisions and the moral costs of externalities are associated with risk. All of this means that despite the current focus of financial policy to the protection industrial conglomerates (also benefiting from the subsidies) affect the risk dimensions universal range of public goods.

Who pays?

So the firm size matters, as they provide a safety net and a guarantee to the authorities and governments, whatever their politics, their survival is secured at the expense of public funding. The strategic practice, economies of scale often leads to costly mistakes. It should be noted with the fallacies of composition while disclosing the new prophets of growth: that size does not matter, that no matter the extension of business. The truth is that both the moral cost externalities are significant in monetary terms. Measures to prevent risks when the size of firms has grown can hardly be quantified.

The question is whether economies of scale may offset the risk to savers' deposits. A similar issue has been recognized implicitly in the proposals of the Obama administration, congressional committees requesting the banks have more capital than one who can assume the losses. The larger the bank should be more regulations on their capitals (New York Times, July 27, 2009, Editorial). However, the laws do not fully protect public money from the externalities of risk created by the banks. In a majority of cases, bank failures, terms assume the people who pay their taxes.

In assessing the effects of size and risk factors, Taleb / Tapiero [2009] choose a significant example of firms that can get to the disappearance of their capitals. Not that these firms can exhibit reasonable limits on their losses, and have warned that risks to people exposed. The case addressed by these authors can be seen that extreme risk exposures (short-sighted profit-motivated) may trigger losses are directly related to the size of the banks.

Limits of regulation

These considerations may provide a (partial) of the severe difficulties and imbalances caused by problems of size and externality in the financial and economic crisis. A way back to the paths opened by Coase and Pareto. Economic globalization has deceptive traps, one of them is the growth and firm size. The current crisis in financial markets is a good illustration. When major pollutants are wrong conditions conducive to their partner networks become death traps. Because of its size a firm may be tempted to bet on "big" due to its speculative position in the markets. The speculative position is preferred for the appearance of the black swan (in the fortunate epistemology Taleb [2008] and [2009]).

Insurance companies can act to protect its customers against risk of loss (limited). But when the sizes of such losses exceed the standards and laws set these controls are inefficient. Precisely because of its exaggerated characteristics, markets require greater controls on the sizes of firms and greater controls by governments. These aspects are investing successful narrative of globalization, because the social costs of the risks go way too high. Social costs in turn are related to moral hazard (moral hazard). The largest case loads in all reside in people.

The regulation, however, is a chimera when markets are speculative. This is most evident when markets earn with money from dubious sources (capital of drug trafficking, for example). Under these conditions the externalities of risk to investors end up affecting obeying the laws. Relying on efficient market regulation may have contradictory effects. The control systems can end up shaking the financial innovation and reducing incentives for efficient movement of capital in the markets. Are the effects of negative externalities in the so-called economies of scale? In his line of argument [Coase] would say that the problems are not a bank or any particular fund, but combined and simultaneous actions.

Among Coase and Pareto

Then things work as follows. In the financial sector have at least three key components: the stock exchange, banks and governments. Banks and stock exchanges were set up for maximum

profits that are distributed among its clients. Governments should protect people and establish control systems that give confidence. In cases (which are few) when governments can demonstrate financial iniquities of the banks against their customers, or speculation that damage public confidence, have an obligation to punish those responsible exemplary.

Ideally the risks of negative externalities condition the economies of Pareto efficient solutions [quoted by Taleb, 2008], the rights of investors are protected by governments and the obligations of the banks are so transparent. However, as stressed by [Ferguson, 2007] illegal profits and salaries of financial executives are not things that happen in *a la* Leibniz world. In our polluted world domains are *a la* Hobbes choice. It means that any speculator to advantage in the markets may expose ruin a majority of gullible customers. Well look at these authors [Taleb / Tapiero, 2009] that when the banking risks have a probability distribution of extreme, shared losses also come to be extreme. And when the risks outweigh reasonable measures, the Pareto distribution is only a false comfort.

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