ADVERSE SELECTION AND FINANCIAL CRISIS WHAT RELATIONS ?

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Abstract:

One of the informational difficulties that hamper the well functioning of the financial markets is the adverse selection. The latter occurs when the potential borrower who is most likely to produce undesirable outcome is the one who seek out the loan and most likely to be selected (Mishkin). This situation gives rise to instability in the supply and demand forces in terms of performance and efficient capital allocation. Therefore, this market position leads to an ever increasing of low quality products (which is developed to exotic products) and a disruption in terms of confidence between borrowers and lenders. Several attempts have to be made to decrease the harsh effect of this disequilibrium either through limiting the supply of loan and set up a corrective regulation (Stiglitz & Weiss) or to establish collateral for loan (Mishkin). The disruption in the structure of the market agents leads gradually to a harsh systemic crisis.

This paper seeks to highlight the gradual developmental stages from the adverse selection to the emergence of a financial crisis.

Keywords: Adverse   selection,   Market frictions, Agency theory

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Introduction:

The cyclical occurrence of crises is the most prominent feature of the capitalist system. This fact finds its roots in the controversial imbalance between the major forces conducting any economy over the world: supply and demand. As far as each one of them deviates from its equilibrium path, a systemic phenomenon would automatically happen. For example in cases where people demand more than produce, the economy suffers a lack of the social prosperity and this leads to high price of inequality among individuals. The counterpart fact is also true when the economic capability exceeds the consumption power of the inhabitants, the economy reveals symptoms taking at earlier stages the shape of a real crisis as credit lending incentives, lowering interest rate as part to enhance randomly the consumption and fill the gap between the two sides constituting the economy: production and consumption. The adverse selection is considered as a spurious case involves in financial markets asymmetries. The latter means the lack of one part of the dealers more than the other in terms of information provision and certainty degree. It is therefore a situation in which the bad credit risks dealers are more likely to be selected as beneficiaries of loans. Consequently, this problem will shed gradually its distorted impacts on supply and demand behaviors and leads to a crisis either in its economic or financial form.

This paper focuses on the impact of the gross return:

$$R = f(k)$$

Through a adverse selection problem on the imbalance between the suppliers and demanders and the emergence of the crisis.

The market virus and the emergence of the crisis:

The heart of discussion that underpins the effects of adverse selection as one kind of the financial markets inefficiency on the economy in general and the good transaction operations in particular refers to the paradigm of the agency theory and specific investment process by a technical function. The model suggests no internal resources at the initial period and all the gross product would be obtained absolutely from the use of the capital borrowed. In the presence of adverse selection or moral hazard, the cost of the funds is represented by the following function:

$$C = rK + \theta C(K)$$

capital market imperfections. In this In which $C(K)$

is increasing and convex context, something goes wrong in channeling funds between people (surplus versus deficit) and lead to a lack of the investment opportunities enjoyment. For instance, rather than conduct money to more profitable and productive occasions (the good investment ideas), these sums

would be misplaced in loosely projects. This financial literature notes these behaviors as constraints undermining the efficient functioning of the markets because financiers cannot distinguish rationally between the good borrowers and bad ones. Accordingly, a dilemma issued to find out if the capital supply curve is sloping upward (the non ability of the in K. The parameter θ is a measure of adverse selection or moral hazard and r is the marginal cost of capital.

In case when there is no moral hazard or adverse selection $(\theta = 0)$, the cost will be:

$C = rK$. This means that the cost of funds invested is related to the internal ability of the capital to generate the wealth (dropping out the exogenous factor and the firm is not financially constrained).

At the other hand, if the firm suffers a financial constraint i.e. $\theta > 0$, the firm now raises funds at the marginal cost of financier to distinguish between good firm capital found at K_0 (the initial period and bad one because of the multitude of the economic agents dealing in the market supposed). This can be represented as: and therefore imposing a high compensate
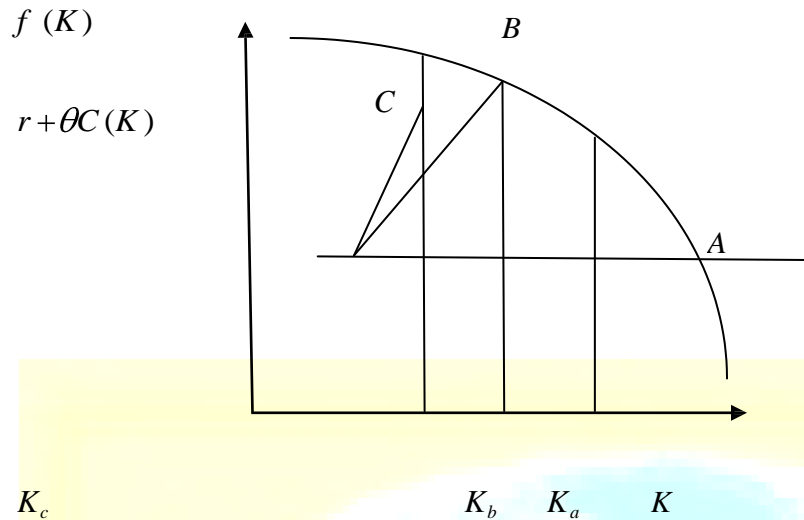
$$f(K_0) > r + \theta C(K_0)$$

(constraint without rate to pay off the potential credit damage) or vertical rationing (high rates of compensation weaken the firm pooling and then amplifies the optimality of the rationing process).

There are several models that analyzed the effects of the financial markets constraints as adverse selection, moral hazard on the economy. Among these models is that undertaken by Banerjee and Duflo (2002). They suggested at first that if the firm invests K it gains at the end a friction)

If the firm wants to raise money at the initial marginal cost of the capital, it suffers a financial friction and the equation would be:

$$f(K_0) = r + \theta C(K_0)$$

The scenario can be represented by the following curve:

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$f(K)$

$r + \theta C(K)$

K_c K_b K_a K

The stage $A \rightarrow C$ represents the gradual increasing process of the funds cost according to both financial constraint and financial friction (as far as the financial The value analysis:

A high value of the cost leads to restrict the gap between the gross product of   the imperfection exist, the firm faces a hard financial friction and it will be financially constrained)

capital   invested   (r_i cost function:

n n n

$= f_i(K)$) and   the

In presence of several firms, the cost of the

$\sum C_i$

$= \sum r_i K_i + \theta \sum C_i(K_i)$

takes the

$i = 1$
$i = 1$
$i = 1$

funds borrowed would be equal to:

form of an integral as follow:

n n n

$\sum C_i$

$= \sum r_i K_i + \theta \sum C_i(K_i) /$

$i = 1$

$i = 1$

$i = 1$

K_t

$i = 1, 2, 3, ..., n$

$C_i(K_i)$: The cost function of the funds

$\int r\theta(K)dK$

K_0

$= \left[\varphi(K)\right]^{K_t}_0$

K

$- \left[C(K)\right]^{K_t}_0$

K

borrowed by firm i

r_i: The marginal cost of the capital borrowed by firm i

K_i : The capital invested by firm i

θ : is a measure of adverse selection or moral hazard

If a firm faces a high imperfection situation in the market n which they borrow funds, a high degree of θ will be mentioned.

Suppose that all things being unchanged, the increasing of θ leads to a high cost of the funds borrowed through the following way of analysis:

$\varphi(K)$: represents the wealth process of

capitals borrowed from an imperfect market

K_0 : the capital invested at the initial period

K_t : the capital invested at the last period

t

The above integral is represented schematically by the surface covered between the investment function and the cost function in the presence of the imperfection degree as follow:

$r(K)$

$r\varphi(K_t)$

$\varphi(K_t)$

θ' θ''

$r(K_0)$

$\varphi(K_0)$

θ'''
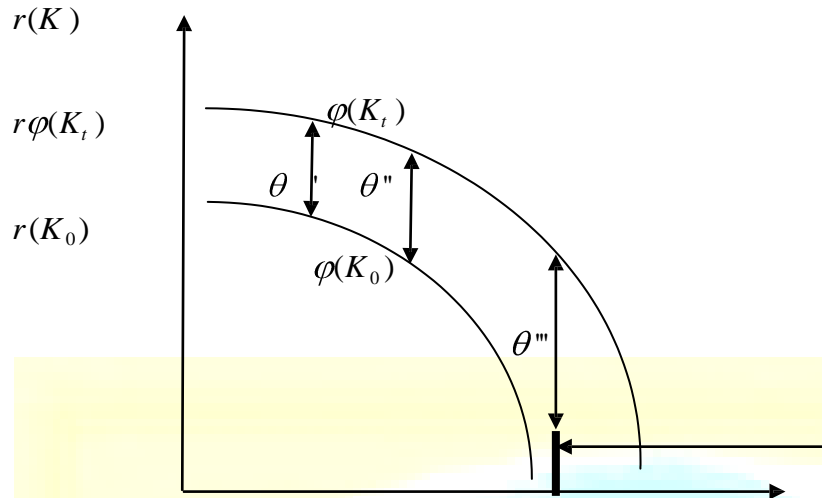
Signs of a crisis

$C(K_0)$ $C(K_t)$

$\theta' < \theta'' < \theta'''$: the deeper the market and then, the crisis emerges as an imperfection is, the lower the value of the capital invested is and the weaker the pooling capacity of the firm will be. This situation means the high and advanced stages of adverse selection lead to a big gap of uncontrolled and unrestrained information about the investors. In this case, the market suffers a hard distortion in terms of:

- The decline of the compensatory value perceived by the financiers due to the decline of the value generated by the capital investment.
- The decline of the numbers of good investors. This leads to the loss of the good opportunities of high returns that could be realized by those dealers.

Conclusion:

In sum, financial markets participate largely in the emergence and the spread of the crises both in the economic and financial forms. The dysfunction of these vital institutions leads to behavior inefficiencies which take the characteristic of the financial constraints and frictions advanced and well developed stage of the complicated and uncontrolled dysfunction of these markets.

References:

Abhijit V. Banerjee, Esther Duflo, Kaivan Munshi., 2003, The misallocation of capital, 1, Journal of the

European Economic Association, 484-494.

Alberto Martin, Filippo Taddei., 2012. International capital flows and credit market imperfections: a tale of two frictions, Journal of International Economics 89, 441-452.

April Knill, Kristina Minnick, and Ali Nejadmalayeri., 2006. Selective Hedging, Information Asymmetry, and Future Prices, The Journal of Business 79, 1475-1501.

Christopher L. House., 2006. Adverse selection and the financial accelerator, Journal of Monetary Economics 53, 1117-1134.

Franklin Allen, Douglas Gale., 2000, Bubbles and crises, The Economic Journal 110, 236-255.

Frederick S Mishkin., 1999, Global financial instability: framework, events, issues, The Journal of Economic Perspectives 13, 3-20.

Frederick S Mishkin., 1992, The anatomy of financial crises 2, Journal of Evolutionary Economics, 115-130.

Joseph E. Stiglitz, Andrew Weiss., 1981. Credit rationing in market with imperfect information., 1981. The American Economic Review 71, 393-410.

Joseph E. Stigiltz., 1985, Credit markets and the control of capital, Journal of Money, Credit and Banking 17, 133-152.

Mark J. Flannery, Simon H. Kwan, Mahendrarajah Nimalendran., 2013. The 2007-2009 financial crisis and bank opaqueness, J. Finan. Intermediation 22, 55-84

Miguel A Duran, Ana Lozano Vivas., 2013. Off-balance sheet activity under adverse selection: the European experience, Journal of Economic Behavior & Organization 85, 176-190.

Sumit Agarwal, Yan Chang, Abdullah Yavas., 2012. Adverse selection and mortgage securitization, Journal of Financial Economics 105, 640-660.

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