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## **Beyond Traditional Financial Market Thinking: How Would An Ideal Structure of Financial Markets Look Like If We Think Outside the Box?**

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## **Abstract**

When the financial market crashed in 2008 pressures on governments and academics to find out what happened and what to do led the activities of the day. It was generally accepted that it was the lack of regulation and market overseeing what led to market abuse and failure. And the inside the box solution given by inside the box thinkers to deal with the crisis was two folds: a) to bail out too big to fail traditional lenders; and b) to adopt a policy of monetary easing to lead the economy towards a sustainable recovery.

Now, imagine that the original financial model as stated and accepted in 2008 was incomplete; and that this incompleteness allowed it to behave as a lending monopoly eager to grow bigger and bigger to maximize profits in an unregulated environment until it crashed. Then, the outside the box solution to the 2008 financial crisis would have been to correct the model to end the lending monopoly power and bring lending competition and borrowing choices into the market; and therefore, ensure once and for all financial market sustainability.

The general objective of this paper is to share an outside the box idea that allows us to contemplate an ideal financial system where the monopoly of lending ends; and where active lenders and active borrowers take control and lead the financial market to run at the lowest cost possible.

**Key words:**

Traditional financial markets, market failures, too big to fail lending institutions, unregulated lending monopoly, market failures, regulated lending monopoly, monetary easing policy, incomplete markets, lending choices, borrowing choices, nontraditional lenders, active lenders, active borrowers, the ideal financial market, market sustainability.

## **Introduction**

### **a) Thinking inside the box**

It refers to the tendency academics have to look at models only from the point of view of the endogenous factors assumed to be driving them; and therefore, when they fail they only look for inside the box solutions. Below is the thinking inside the box as it relates to the working of the traditional financial market model.

#### ***i) The original financial market model***

It can be said that the original financial market model summarizes the free interaction of lenders and borrowers in the market place. It brings together those who have money to lend and those who need money to borrow in an environment without friction and ruled by rationality(Merton and Bodie 2005).

This market assumes free competition and market clearance as lenders can always meet the demands of borrowers; and therefore, it assumes that market failures cannot happen as markets are expected to be able to discipline themselves. In other words, the original financial model is supported by well-known perfect market conditions such as the law of one price, rational individuals, and equal market access(FFD 2012).

#### ***ii) The 2008 financial crisis***

But now we know as a fact that market failures do happen as in 2008, a crash so severe that for some signaled that the neo-liberal model of the day had an extreme heart attack(Mathiason 2008) and for others it was an example of the high cost of regulatory failures(OECD 2009).

So it can be said the 2008 financial crisis showed the worst the market can be under liberalization as: a) it behaved as an out of control lending monopoly; b) with a desired to get as big as quick as possible to maximize profits regardless of the risk it was facing in terms of types of financial instruments and borrowers chosen. Underestimating risk and no transparency were the drivers associated with the 2008 crisis(Rohde 2011).

#### ***iii) The inside the box question***

Hence, it was generally accepted in 2008 that it was the lack of regulation, market overseeing, and excessive risk taking what led to market abuse and failure of the traditional financial model. However, when the market failed the inside the box question asked was how to save the market as nothing was then thought to be wrong with or missing in the traditional model itself as stated when looking from inside the box. For example, attention was placed on highlighting the need to save the market and its liquidity(Yap and Tse Min 2008); on identifying winners and losers(Mayerowitz 2008); and on stressing the need to have a plan to save the market from moral hazards in the future as there was no such a plan in 2008(Schaefer 2014).

#### ***iv) The inside the box solution***

And consistent with the traditional financial market model as originally stated there were the following points of intervention when the financial market fully failed in 2008: to bail out only lenders; to bail out only borrowers; and to bail out both of them. However, the inside the box solution chosen by governments to the 2008 financial crisis was two folds: a) to bail out too big to fail traditional lenders; and b) to adopt a policy of monetary easing to lead the economy towards a sustainable recovery.

It is known that this too big to fail threat to market stability has been around for decades, but it was highlighted even more by the 2008 crisis(Shull 2010) as governments suddenly had to take bail out action to calm the financial waters of the moment and prevent the crisis from getting worse(Moseley 2009); and to make it easier, interest rates needed to be kept low. After the bail outs, interest in better monitoring, and more accountability and on preparing market saving mechanism increased.

For example, attention was then placed on better supervision approaches(Di Giorgio et al 2000); on defining markets(BIS 2012a) for consistent action,; on having better plans for market interventions(BIS 2012b) in case of new market failures; and on learning how to get out of new crises(OECD 2010), all in an effort to sustain the bailed out market. And therefore, after the bail outs and the establishment of the monetary easing policy as the economic recovery policy we went from an unregulated lending monopoly in 2008 to a regulated one today. Originally, the monetary easing policy was thought to be a low interest keeping mechanism, but it has evolved into a more complex tool used to deal with debt crisis, economy stimulation, and inflation programs(Fawley and Neely 2013).

#### **b) Thinking outside the box**

It refers to looking at a model with an outsider point of view to find out if we are able to see what those looking inside the box may not be able to see. It can be said that no outside the box questions were considered or asked when dealing with the 2008 financial crisis challenging the completeness of the traditional financial model as stated or questioning the desirability of monopoly behavior in a market that is assumed to be ruled by free competition. No wonder, efforts were directed at understanding the 2008 market failure in terms of internal model weaknesses such as excesses in monetary, risk taking, and liquidity terms that were made worse by inappropriate government actions and responses(Taylor 2008). But not much is said about

the possibility that the model was incompletely stated in the first place; and therefore, that model incompleteness made it difficult to see from inside what really went wrong.

For example, the following outside the box questions were relevant in 2008 and are still relevant today: Did we miss something when stating the original financial market model?; If yes, was the model then set to fail anyway especially without regulation?; Can the traditional financial model still be corrected?; If yes, how it would then look like and work? One of the goals of this paper is provide an answer to the questions above.

### **Specific objectives**

- To provide a general overview of the structure of the traditional financial market model both graphically and analytically;
- To highlight the different sources of lending supporting the traditional financial market model. both graphically and analytically;
- To indicate the missing lending and borrowing rights within the traditional financial market model, both graphically and analytically;
- To show how the structure of the ideal financial market would look like after correcting the traditional market model to reflect full lending and borrowing rights and ending the traditional lending monopoly, both graphically and analytically.

### **General objective**

To share an outside the box idea that allow us to contemplate an ideal financial system where the monopoly of lending ends; and active lenders and active borrowers lead the financial market to run at the lowest cost possible.

### **Methodology**

First, the terminology used in this paper to support its ideas is listed; Second, some important operational concepts are provided; Third, the general structure of the traditional financial market is presented and its assumptions, and implications are highlighted;

Fourth, the structure of the traditional financial market is expanded to reflect all sources of lending and the assumptions, and implications behind it are stressed; Fifth, it is indicated graphically and analytically that the main weakness of the traditional financial market model since the beginning and even in the current monetary easing based regulated model is that it does

not provide lending rights to savers and borrowing choices to borrowers allowing that way for lending monopoly behavior.

Sixth, it is shown that if we correct the traditional market model to reflect lending and borrowing choices, then an ideal model can be created where there is no lending monopoly and where there are borrowing choices; and the free interaction of all these forces is expected to lead to markets operating at the lowest cost possible; Seventh, some food for thoughts are shared; and Eight, some general conclusions and references are provided.

## Terminology

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L = Active lending	l = Passive lending
B = Active borrower	b = Passive borrower
C = Active corporate savings	c = Passive corporate savings
P = Active private savings	p = Passive private savings
E = Active external savings	e = Passive external savings
I = Active internal savings	i = Passive internal savings
S = Sustainable lending	s = Unsustainable lending
M = Sustainable financial market	m = Unsustainable financial market
MDSI = Market driven self-interest	CS = Captive savings
NMDSI = Non-market driven self-interest	AS = Active savings
TL = Traditional lending	NTL = Non-traditional lending
AB = Active borrowings	CB = Captive borrowings
TDM = Traditional demand management	NTDM = Non-traditional demand management
TMS = Traditional supply management	NTSM = Non-traditional supply management
SM = Sustainability markets	UM = Unsustainable markets

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## **Operational concepts**

*a) Lending*, refers to the supply of money available to borrowers.

*b) Active lending*, refers to when individuals have a lending choice.

*c) Passive lending*, refers to when individuals do not have a lending choice.

*d) Lender (L)*, refers to the supply side of the financial market.

*e) Borrowing*, refers to the demand of money facing lenders.

*f) Active borrowing*, refers to when individuals have a borrowing choice.

*g) Passive borrowing*, refers to when individuals do not have a borrowing choice.

*h) Borrower (B)*, refers to the demand side of the financial market.

*i) Individual deposits (P)*, refers to the saving of individuals as part of the external sources of lending(E) available to lenders (L).

*j) Corporation deposits(C)*, refers to the saving of corporations as part of the external sources of lending(E) available to lenders (L).

*k) External sources of lending (E)*, refers to the savings of individuals (P) and corporations(C) as part of the money supply available to lenders (L).

### **1) $E = PC$**

In formula 1 above as the savings from individuals(P) and/or corporations(C) increase, the external lending capacity of the market(E) is expected to increase. Notice that since individuals(P) and corporations(C) are interacting in active form, external sources of lending(E) are sustainable.

*l) Internal sources of lending (I)*, refers to the portion of the money supply made up by the lender's own savings/resources. See that as banks merge and get bigger their internal lending capacity(I) is expected to increase.

*m) Sources of lending(S)*, refers to the internal (I) and external (E) components of the supply of money or savings available to lenders (L). In other words, all sources of lending(S) equal total savings.

### **2) $S = IE$**

In formula 2 above as the savings from internal sources(I) and/or external sources(E) increase, the lending capacity of the market(S) is expected to increase. Notice that since internal

sources(I) and external sources(E) are interacting in active forms, then sources of lending(S) are sustainable.

As  $E = PC$ , then formula 2 above can be restated as follows:

$$3) \quad \mathbf{S = I(PC) = IPC}$$

And we can see in formula 3 above that as the sources of lending increase, internal(I) or external(E) through individual savings(P) and corporate savings(C), the lending capacity of the economy increases. See that in formula 3 if for example, individual savings are in passive form(p), then the overall sources of lending would not be sustainable; and then  $s = IpC$ .

*n) Total lending (L)*, refers to the total sources of lending(S).

$$4) \quad \mathbf{L = S = I(PC) = IPC}$$

As indicated in formula 4 above, total lending(L) equals total savings(S) from internal(I) and external sources(P and C). Notice that in formula 4 for example if corporate savings are in passive form(c), then total lending would not be sustainable; and so  $l = s = IPc$ .

*o) The financial market (M)*, refers to the market where lenders (L) and borrowers (B) meet, which can be stated as follows:

$$5) \quad \mathbf{M = LB}$$

Formula 5 says that financial markets(M) exist when total lending(L) is cleared by total borrowing(B). Notice that if for example lenders(l) were in passive form, the market would not be sustainable; and so  $m = lB$

And since  $L = S = IE$ , formula 5 can be restated as indicated below:

$$6) \quad \mathbf{M = (IE)B = IEB}$$

Hence, according to formula 6, financial markets(M) are affected by the level of internal sources of lending(I) and external sources of lending(E) as they affect the market ability to meet borrowing levels B. See that if for example, external sources of lending(e) are in passive form, the market again would not be sustainable; and so  $m = IeB$ .

Again since  $E = PC$ , formula 6 above can be restated as shown below:

$$7) \quad \mathbf{M = I(PC)B = IPCB}$$

Therefore, formula 7 indicates that financial markets(M) are affected by the level of internal sources of lending(I) as well as the saving levels of individuals(P) and corporations(C) as they affect the market ability to meet borrowing levels B. And hence, all four components of this market M have to be in active form at the same time for the market to be sustainable.

**p) Market driven self-interest(MDSI)**, refers to when free market conditions drive the behavior of each financial stakeholder. For example, as lending rates increase lenders would be willing to increase the amount of lending available to borrowers; and when that is the case, they would be happy to increase the rate they pay to savers to attract more external sources of lending.

**q) Non-market driven self-interest(NMDSI)**, refers to when set market conditions constrain the behavior of one or more financial stakeholder. For example, lenders setting the rate they pay on external sources of lending, not market forces.

**r) Captive savings(CS)**, refers to when savings are not responsive to market conditions as they are driven by non-market based self-interest. Captive savings are the assets of individuals that do not have a lending choice, such as individuals(P) and corporations(C).

**s) Active savings(AS)**, refers to when savings are responsive to market conditions as they are driven by market based self-interest. Active savings are the assets of individuals who do have a lending choice such as traditional lenders' own savings(I).

**t) Captive borrowing(CB)**, refers to when borrowers do not have borrowing choices.

**u) Active borrowing(AB)**, refers to when borrowers have borrowing choices.

**v) Traditional lending(TL)**, refers to lending from traditional stakeholders, those who have a lending choice. For example, banks lending to borrowers.

**w) Non-traditional lending(NTL)**, refers to lending from non-traditional financial stakeholders coming to borrowers directly from savers such as individuals and corporations.

**x) Traditional demand management(TDM)**, refers to the focus on supporting the ability to pay.

**y) Non-traditional demand management(NTDM)**, refers to the need to provide borrowing choices and support the ability to pay at the same time.

**z) Traditional supply management(TSM)**, refers to the focus on supporting the lending ability of traditional lenders.

**z<sub>1</sub>) Non-traditional supply management(NTSM)**, refers to the need to provide lending choices and support the lending ability of all lenders.

**z<sub>2</sub>) Sustainability markets(SM)**, refers to when all components of a system are in active form at the same time. It is fully sustainable.

**z<sub>3</sub>) Unsustainable markets(UM)**, refers to when not all components of the system are in active form, it can be fully or partially unsustainable.

## The traditional financial market

Below there is a general overview of traditional financial market thinking:

### a) Graphically

As mentioned in the introduction, the structure of the financial market it is thought to be made up of lenders(L) and borrowers(B), who exchange financial services for a price. This situation is summarized in Figure 1 below:

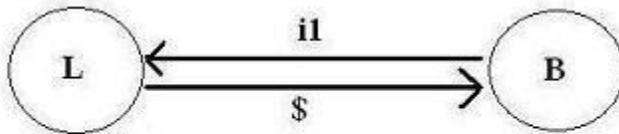


Figure 1 The traditional financial market structure

Figure 1 assumes perfect market conditions: a) the markets are cleared all the time at the price  $i_1$ ; b) lenders(L) and borrowers(B) are active participants in the market and therefore, direct lending rights and borrowing rights are implicit; c) no market failures are possible as supply always meets demand; d) and therefore, only general market regulation is needed for the efficient working of the market as indicated by the solid line circles around lenders(L) and borrowers(B).

Figure 1 above says that lenders(L) would happily lend borrowers(B) as much money “\$” as they want for a price “ $i_1$ ”; and if borrowers need to borrow more, giving the limited lending supply L they may have to pay a higher price than “ $i_1$ ”; and as long as borrowers can pay they can borrow as much as they want. And hence, in good times, the lending will grow as the borrowing grows. In other words, market prices in Figure 1 above are determined by market conditions as the market is ruled by market based self-interest behavior.

### b) Analytically

Figure 1 above says that the traditional financial market(M) reflects the free interaction of lenders(L) and borrowers(B) in active form, as indicated in the formula below:

$$8) M = LB$$

In formula 8 above, since lenders(L) and borrowers(B) are interacting in active form at the same time, the traditional financial market(M) is assumed to be a sustainability market as the necessary and sufficient condition for a sustainability market to exist is the presence of all components in active form at the same time..

### c) Tracing the impact of market failure

Noticed that the structure of the market in Figure 1 and formula 8 above does not allow us to see the different sources of funding making up the traditional lending structure, which makes it difficult to see what would happen internally in the lending side of the financial model in the face of market failures. For example, in the 2008 financial crisis when borrowers were no longer able to pay back the model totally failed, which can be expressed as below:

**9)  $m = lb$**

Formula 9 above summarizes the general structure of the total 2008 market crash. Formula 9 above says the market failed totally( $m$ ) as both the lending side( $l$ ) and the borrowing side( $b$ ) failed. Hence, under total failure both sides of the financial market needed bailed out, but only the traditional part of the lending side of the market benefited from bail outs, especially those deemed to be too big to fail and who probably had lost or bet more money. See that borrowers( $b$ ) and other components of the lending side of the financial market such as corporate and individual savers needed help too when the market crashed, but they were left out of bail out programs as they were not considered to be neither as a group too big to fail.

***d) In summary:***

As long as borrowers( $B$ ) can afford to pay  $i_1$  in Figure 1 above lenders( $L$ ) would be happy to lend them as much as they want; and any stakeholders or traditional lender should be expected to maximize the risk to maximize profits in good times, but if the market fails the responsibility of failure is not clear under total market failure; and then governments have to make decisions on who we should bail out and who we should leave on his/her own.

***e) The author thinks:***

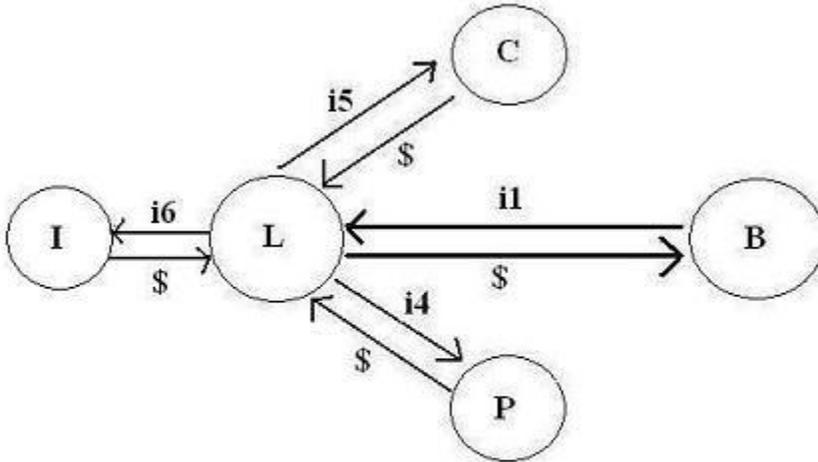
Figure 1 and Formula 8 can be seen in general terms as summarizing the structure of the traditional lending monopoly( $L$ ); and that this traditional lending monopoly( $L$ ) when facing passive borrowers( $b$ ) and passive savers should be expected to lead to maximizing risk behavior that can only stop when markets totally fail. In other words, if  $m = Lb$  ----  $\rightarrow$   $m = lb$  as the lending monopoly( $L$ ) cannot stop on its own taking risk unless the market totally fails. So the market as indicated above was set to fail anyway in the long run as it did in 2008 especially without regulation as the traditional lending monopoly behavior can only be stopped by total market failure.

**The traditional financial market structure reflecting all sources of funding**

Below the traditional financial market thinking is expanded on the lending side of the market:

***a) Graphically***

As indicated in the operational concepts, there are three sources of lending(L) making up the lending side of the financial market, internal sources(I) and external sources(E) such as individual savings(P) and corporate savings(C), a situation summarized in Figure 2 below:



**Figure 2** The traditional financial market structure reflecting all sources of lending(L)

Hence, Figure 2 above highlights the expanded lending side showing that traditional lending is more than just internal savings, it also includes external savings from individuals(P) and corporations(C).

Figure 2 again assumes perfect market conditions: a) the markets are cleared all the time at the price  $i_1$ ; b) lenders(L) and borrowers(B) are active participants in the market indicating explicit lending and borrowing choices respectively; c) the sources of lending(L), internal(I), corporate savers(C), and individual savers(P) are assumed to be active components of the lending side; however individuals(P) and corporations(C) act as indirect lenders or depositors; c) no market failures are possible as the supply of lending always meets the demands of borrowers and any risky behavior is assumed to be cancelled out by pure market forces; d) and therefore, only general market regulation is needed for the efficient working of the market as indicated by the solid line circles around lenders(L), internal savings(I), corporate savings(C), individual savers(P) and borrowers(B).

Figure 2 above says that lenders(L) would happily lend borrowers(B) as much money “\$” as they want for a price “ $i_1$ ”; and if borrowers need to borrow more, giving the limited lending supply “\$” they may have to pay a higher price than “ $i_1$ ”; and as long as borrowers can pay they can borrow as much as they want. Figure 2 also shows that if lenders are willing to pay prices higher than  $i_4$  and  $i_5$  they can induced savers to deposit more money and increase that way the lending supply. In other words, market prices in Figure 2 above are determined by market conditions as the market is ruled by market based self-interest behavior.

The following implications can be extracted from Figure 2 above:

- a) If  $i_1 = i_5 = i_4 = i_6$ , then traditional lenders(L) are indifferent on whose savings to lend first;
- b) If  $i_1 > i_5 > i_4$ , then traditional lenders(L) would encourage more deposits from individual saver(P);
- c) If  $i_1 > i_4 > i_5$ , then traditional lenders(L) would encourage deposits from corporations(C);
- d) If  $i_1 > i_5 = i_4$ , then traditional lenders(L) would be indifferent to whose deposits they attract as they would provide the same encouragement to both individuals and corporations
- e) If  $i_6 = i_1$  or  $i_6 \rightarrow i_1 > i_5 = i_4$ , then traditional lenders(L) would tend to lend their own savings first before attracting external sources of lending.

***b) Analytically***

Since Figure 2 above says that the traditional financial market(M) reflects the free interaction of lenders(L) and borrowers(B) and since  $L = IPC$ , the following is true:

$$10) M = LB = (IPC)(B) = IPCB$$

In formula 10 above we can see that lenders(L) and borrowers(B) as well as internal savings(I), individual savings(P) and corporate savings(C) all are interacting in active form at the same time. This means that the traditional financial market(M) is assumed to be a sustainability market as a sustainability market is said to exist when all component are interacting in active form at the same time.

***c) Tracing the impact of market failure***

Noticed that the structure of the market(M) in formula 10 and in Figure 2 above allows us to see the different sources of funding making up the traditional lending structure(L) so that if markets fail not only traditional lenders are affected, individual savers(P) and corporate savers(C) are also affected. For example, in the 2008 financial crises when borrowers were no longer able to pay back the model totally failed, which can be stated as below:

$$11) m = lb = ipcb$$

Formula 11 above summarizes the detailed structure of the total 2008 financial crash.

We can see that formula 11 above shows that four components needed help in the crisis, traditional lenders, individuals, corporations, and borrowers, yet only traditional lenders, those deemed too big to fail were bailed out leaving individual, corporations and borrowers on their own.

***d) In summary:***

As long as borrowers(B) can afford to pay  $i_1$  in Figure 2 lenders(L) would be happy to lend them as much as they want; and as long as  $i_1 > i_5 > i_4$  or  $i_1 > i_4 > i_5$  or  $i_1 > i_4 = i_5$  it will pay more to attract higher levels of external savings from individuals and/or corporations, but again if the market fails there is not clear responsibility of failure under total market failure; and again governments will have to make the decisions on who should be bailed out and who should be left out.

***e) The author thinks:***

Figure 2 and Formula 10 can be seen in general terms as a detailed summary the structure of the traditional lending monopoly trying to maximize its own resources/savings(I); and that the behavior of this traditional lending monopoly when facing passive borrowers(b) and passive external sources of lending should be expected to lead to maximizing risk behavior that can only stop when markets totally fail. In other words, if  $m = I_{pcb} \rightarrow m = i_{pcb}$  as the lending monopoly(L) cannot stop on its own taking risk unless the market totally fails. Again the market as indicated above was set to fail anyway in the long run as it did in 2008 especially without regulation as the traditional lending monopoly behavior can only be stopped by total market failure.

### **The missing lending and borrowing choices in the traditional market structure**

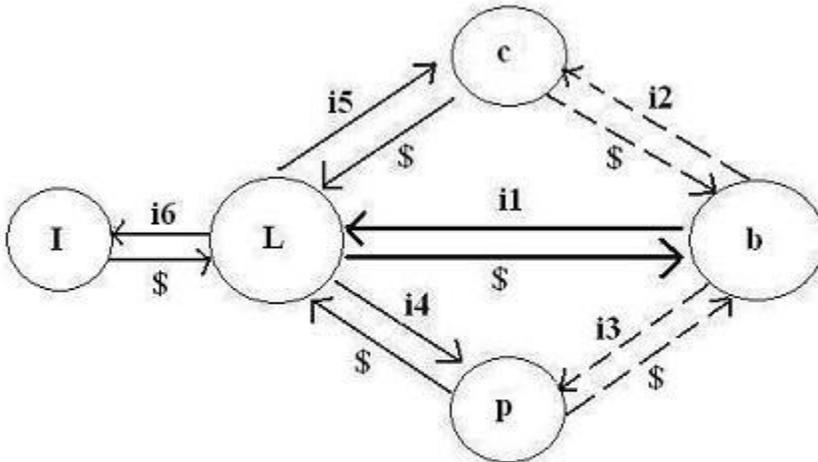
In the traditional financial model stated as total lending as in figure 1 or as presented by different sources of lending as in Figure 2 we can point out that: a) the model does not provide lending rights to individual savers(P) and to corporate savers(C), it only provides lending rights to traditional lenders(L); and b) it does not really provide borrowing choices to borrowers as they can only borrow from traditional lenders.

And these two aspects allow the model to act as a powerful lending monopoly in the hands of traditional lenders, who will maximize risks and profits as they get bigger and bigger in the presence of passive components, an institutional behavior that can only be stopped when a market totally crashes. This situation is discussed below in detail.

***a) Graphically***

If we think outside the box we can see that the traditional financial market model has 3 main weaknesses as shown in Figure 3 below by broken arrows: i) There are no lending choices to individual savers(p) and to corporate saver(c)s rendering them passive components of the lending side of the financial market; ii) there are no borrowing choices to borrowers(b) rendering the demand side of the financial market passive; and iii) these two aspects together with general regulations and weak oversight sustain a traditional lending monopoly eager to grow as much and as fast as possible, a tendency that can only be stopped by total market crashes.

Figure 3 below highlight these missing choices by displaying broken arrows:



**Figure 3** The missing lending and borrowing choices in the expanded traditional market structure.

Notice that Figure 3 above supports the following: i) no lending choice transforms individual savers into captive savers(p) and therefore, into a passive component of the lending side as shown by broken arrow  $i_3$ ; ii) no lending choice transforms corporate savers into captive savers(c) too; and therefore into a passive component of the lending side as shown by broken arrow  $i_2$ ; iii) no borrowing choice transforms borrowers into captive borrowers(b); and therefore, into a passive borrowing side as shown by broken arrows  $i_2$  and  $i_3$ ; and iv) traditional lenders(L) facing passive components in the lending and borrowing side of the financial market will maximize their lending monopoly power to a point that its maximizing risk taking behavior can only be stopped by total market crashes.

And notice that in Figure 3 above it does not matter if lending and borrowing rates are determined by market forces as it was the case in the market that crash in 2008 or by non-market forces as it is the case under the monetary easing policy set in place after the market crash and active today, it still summarizes the structure of a traditional and powerful lending monopoly.

***b) Analytically***

If we look at Figure 3 in general in terms of total lending we can see that it says that lenders(L) are interacting with passive borrowers(b) and therefore, the structure of the market is not sustainable as not all components of the market are interacting in active form, which can be expressed as below:

12)  $m = Lb$

Hence, formula 12 above gives the general total lending structure of the traditional lending monopoly within a market that does not provide lending choices and borrowing choices. As not all components are in active form Formula 12 above summarizes an unsustainable financial market.

If we look at Figure 3 in terms of sources of lending, we can see that it says that active internal resources(I) are interacting with passive individual savers(p), with passive corporate savers(c) and passive borrowers(b) at the same time; and therefore, the structure of the market is not sustainable as not all components are interacting in active form, which can be indicated as follows:

$$13) m = Ipcb$$

Therefore, formula 13 above gives the lending source structure of the traditional lending monopoly within a market that does not provide lending choices and borrowing choices. Again as not all components are in active form Formula 13 above summarizes an unsustainable financial market.

***c) Traditional financial markets are then set to fail***

The missing lending rights and borrowing rights highlighted in Figure 3 above indicate that the traditional financial model is bound to fail in the long run as it creates a formal monopoly model that it is expected to respond to sustainability rules and markets checks when facing passive components. As it happened in 2008 when the market totally crashed and consistent with the structure in Figure 3 in the absence of lending and borrowing rights, whether lending and borrowing rates as market set or non-market set the following expectations hold in the long run:

- i) If  $m = Lb$  as in Formula 12 above, in the long run  $m = Lb \rightarrow m = lb$ , total market crash
- ii) If  $m = Ipcb$  as in Formula 13 above, in the long run  $m = Ipcb \rightarrow m = ipc b$ , total market crash

***d) In summary***

Without lending and borrowing choices traditional markets are unsustainable markets as they are led by a powerful traditional lending monopoly, who will try to exploit the market for their own benefits for as long as the markets do not totally crash. And this explains why traditional lenders tend to maximize institutional risk or be heavily involved in excessive risk taking or risk underestimating.

***e) The author thinks:***

- i) Without the lending rights and borrowing choices the traditional structures shown in Figure 1 and Figure 2 in reality are bound to fail in the long run as when facing passive lending

and borrowing components as indicated in Figure 3 the traditional lending monopoly will take over and clean the market until such a time when it totally fails as it was the case in the 2008 financial crash when borrowers were no longer able to payback as required;

ii) If borrowers would have been able to borrow from individuals and corporations too, not all the borrowing side of the market would have failed at the same time in 2008 as this would discourage too big to fail tendencies, reduce cost of borrowing, diversified credit access and avoid credit crunches;

iii) If savers would have been able to lend to borrowers, not all the lending side of the market would have failed at the same time in 2008 as it would have discouraged too big to fail tendencies, promote lending competition, and avoid or ease liquidity problems;.

iv) If the incomplete nature of traditional financial markets would have been recognized in 2008, then the outside the box solution to the financial crisis should have first included the incorporation of lending and borrowing rights into the traditional financial model to end the traditional lending monopoly and to discourage the creation of too big to fail situations together with the monetary easing policy fixing lending rates for all lenders to stimulate market activity with some preferential treatment at least initially for non-traditional lenders;

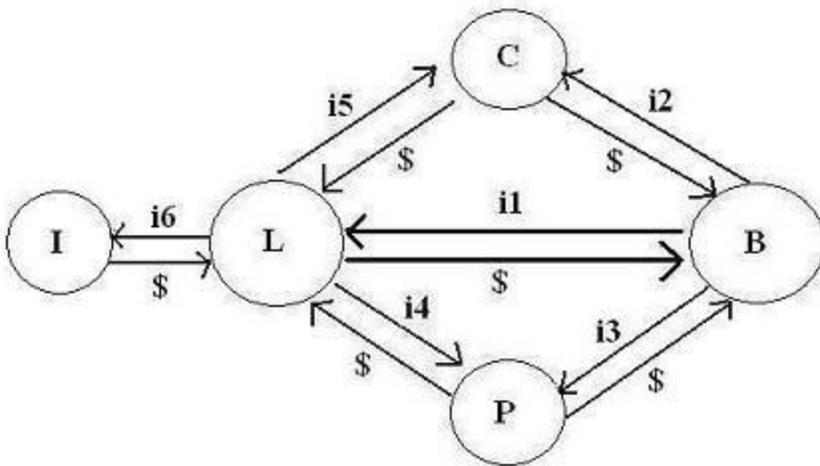
v) It should be a priority today to add lending and borrowing rights to the current regulated traditional financial monopoly based on monetary easing to create sustainability markets.

### **The ideal financial market structure**

Therefore, when thinking outside the box we can envision an ideal financial market structure as it is indicated below in detail:

#### ***a) Graphically***

If we assume L, C, P have equal lending rights and we assume that borrowers have borrowing choices, then the ideal structure of the financial market would look like shown below:



**Figure 4** The ideal traditional financial market structure reflecting all lending and borrowing choices.

In other words, Figure 4 above can be seen as Figure 2 corrected to reflect the lending rights of individuals(P) and corporations(C) and the borrowing choices of borrowers(B). And therefore, Figure 4 above highlights the structure of the end of the traditional lending monopoly as now not only traditional lenders have a lending choice, non-traditional lenders such as individuals(P) and corporations(C) can lend too; and now not just traditional lenders can provide funds to borrowers, non-traditional lenders can do it too. In other words, the lending side of the financial market now has active traditional and non-traditional lenders; and borrowers have the right to choose the lender of their choice.

Moreover, Figure 4 above helps us to highlight that introducing competition in lending and borrowing choices would discourage excessive institutional lending risk taking and would minimize liquidity problems as those who take excessive risks would be punished by the market; and those who have savings, others that those already deposited in banks would not hoard it, but either deposit it in traditional lending institutions or lend it directly to borrowers depending on which choice is more profitable for them.

From Figure 4 above the following borrowing choices to borrowers(B) can be stressed:

- If  $i_1 = i_2 = i_3$ , then borrowers would be indifferent to from who to borrow.
- If  $i_1 > i_2 > i_3$ , then borrowers would prefer to go to private individuals(P).
- If  $i_1 > i_3 > i_2$ , then borrowers would prefer to go to corporations(C).
- If  $i_2 > i_3 > i_1$  or if  $i_3 > i_2 > i_1$ , then borrowers would continue to go to traditional lenders(L).

From Figure 4 above the following lending choices to individuals(P) can be indicated:

- a) If  $i_3 = i_4$ , then individuals(P) would be indifferent to give their savings to traditional lenders(L) or borrowers(B)
- b) If  $i_3 > i_4$ , individuals(P) would prefer to lend to borrowers(B)
- c) If  $i_4 > i_3$ , individuals(P) would pass their savings to traditional lenders(L)

From Figure 4 above the lending choices to corporations are the following:

- a) If  $i_2 = i_5$ , then corporations would be indifferent to give their savings to traditional lenders(L) or borrowers(B)
- b) If  $i_2 > i_5$ , corporations(C) would prefer to lend to borrowers(B)
- c) If  $i_5 > i_2$ , corporations(C) would pass their savings to traditional lenders(L)

### ***b) Analytically***

From the total lending point of view the ideal market in Figure 4 above can be summarized as follows:

#### **14) $M = LB$**

Formula 14 above shows both the lending side(L) and the borrowing side(B) of the market(M) are interacting in active form; and therefore, the ideal financial market is a fully sustainable market.

From the sources of lending point of view the ideal market in Figure 4 above can be stated as below:

#### **15) $M = IPCB$**

Formula 15 above shows both all the components of the lending side, I, P, C and the borrowing side(B) of the market(M) are interacting in active form; and therefore, the ideal financial market even by source of lending is a fully sustainable market.

### ***c) The impossibility of market failure***

As the ideal financial model described in Figure 4 above is a sustainability market, the market itself will get rid of components or agents making irresponsible financial decisions in the lending side or borrowing side of the market. For example, if  $M = IPCB$  and then traditional lenders gamble all their internal savings(I) to the point that they are wiped out of the market so

that  $I = 1$ . Then the market will take the form  $M = (1)(PC)B = PCB$  having individuals(P) and corporations(C) now serving all borrowers and sustaining the whole financial market.

***d) In summary:***

Risky borrowers and risky lenders would be cancelled out by market forces as too big to fail tendencies both in the lending and borrowing side would not be able to materialize as in the ideal financial model good financial behavior is promoted and rewarded, whether the market is ruled by market driven or non-market driven self-interest. In other words, the ideal financial market discourages excessive risk taking as well as the hoarding of savings.

***e) The author thinks:***

i) If the structure of the financial market would have been from the beginning as described in Figure 4 above the 2008 financial crash would not had happened as competition in lending would have discouraged too big to fail tendencies and excessive risk taking in lending and borrowing; and those trying to abuse the market would have been wiped out by the sustainability rules of the market eliminating the need for government bail outs.

ii) As the current monetary easing policy based financial market has no lending and borrowing rights in its structure it is bound to crash in the long run by the same monopoly behavior that led the unregulated traditional lending monopoly to crash.

iii) If lending and borrowing rights are not incorporated into the monetary easing based financial model of today, then this regulated monopoly should be expected it to crash in the long run just as the 2008 unregulated lending monopoly did as only total financial crashes can stop risky monopoly behavior under an incomplete financial model.

**Some food for thoughts**

Would not you agree that a financial system with the structure highlighted in Figure 4 above solves:

- a) the need to eliminate the traditional monopoly of lending;
- b) the need to reduce the risk of creating too big to fail financial institutions; and therefore, discouraging excessive risk taking;
- c) the need to encourage more market competition in lending and borrowing;
- d) the need to create a lending culture away from moral hazards and risk under-estimation;
- e) the need to provide choice to borrowers, as individuals or groups, leading to lower cost of borrowing;
- f) the need to create a financial culture supported by local responsibilities;

- g) the need to provide choice to savers, who can deposit money at banks or lend it as individual savers or as a group of savers to borrowers providing another way to affect liquidity or prevent credit crunches;
- h) the need to induce market activity that runs at the lowest cost possible without market interventions;
- i) the need to have markets operating under sustainability rules;
- j) the need to avoid expensive bail outs as the market itself would swallow risky losers and reward responsible winners;
- k) the need to free governments from constant overseeing of financial markets and let them focus their attention on other social or environmental or economic issues.

### **Specific conclusions**

Traditional models are simplified so much that it is difficult to see its weakness and anticipate solutions in case of market failures. Had saver lending choices and borrower borrowing choices been available when traditional financial models were developed, then perhaps the pressures to create too big to fail institutions and risky behavior would not have been there and the 2008 financial crises would not had happened as markets themselves would had been able to prevent those situations.

So correcting the traditional financial model to reflect lending and borrowing choices leads to an ideal financial model where truly the market can police itself as now traditional lenders have to compete for both to attract savings and borrowers; savers have the chance to be active lenders and serve both traditional lenders and borrowers; and borrowers would have now the chance to choose if to borrow from traditional lenders or savers or both.

### **General conclusions**

Correcting the traditional financial market to reflect lending and borrowing choices removes most issues requiring government intervention and would allow the market to correct itself in case of market abuse and failures as it would end the current traditional lending monopoly and promote lending competition and borrowing choice.

In simple terms, the ideal model shared in Figure 4 shows that the free interaction of traditional lenders, non-traditional lenders, and borrowers would lead to the lowest operating cost possible in the economy as pure market forces would force the optimal financial market price.

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