

Lance Breitstein and Paolo Dini

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A Social Constructivist Analysis of the 2007 Banking Crisis: Building Trust and Transparency through Community Currencies

Lance Breitstein

is an undergraduate student studying Finance with the Kelley School of Business at Indiana University – Bloomington. Lance completed this paper while interning with Dr Paolo Dini as a Research Assistant at the London School of Economics and Political Science.

Email: lbreitst@indiana.edu

Paolo Dini

is a Senior Research Fellow with the Department of Media and Communications at the London School of Economics and Political Science. Combining an educational background in Engineering with Social Science, Dr Dini is an expert in digital ecosystems and their socio-economic impact.

Email: p.dini@lse.ac.uk

ABSTRACT

This paper examines the 2007 banking crisis from an interdisciplinary and in particular social constructivist perspective to identify its structural and systemic causes. After presenting and explaining a wide meta-theoretical framework that can accommodate different understandings of socio-economic action, it argues that some of the scale-invariant properties of community currency systems could usefully be applied to global finance. On this basis it presents a concrete proposal for strengthening the democratic dimension of the banking system as a vital nexus between the real economy, government, and society.

Keywords: banking reform, risk management, community currencies, voluntary transparency

INTRODUCTION

The Banking Crisis Felt Around the World

In September of 2008, the United States saw a level of panic not previously seen since the Great Depression. During this time, some of the largest and most renowned players in the financial services industry found themselves bankrupt and seeking mergers. Government intervention resulted in a bailout of capital to firms such as Bank of America, JPMorgan, Citigroup, Morgan Stanley, Goldman Sachs, and more [1]. Some large key players like AIG, Lehman Brothers, and Bear Stearns faced bankruptcy – a situation unimaginable even a week earlier [2]. Nobody knew how severe the repercussions would be or how far the problems would spread.

Unfortunately, the international banking system is much like a spider's web. Banks across the world were unknowingly linked together by the same thread, being prey to the dangers of the American housing market. Regardless of where a bank was physically situated, other banks did not know who its counterparties (the institutions a bank has contracted with) were and what risks they also had taken. As liquidity froze, the international banking system collapsed and a severe recession fell across the globe. This paper explicitly addresses the American crisis since that is where the root causes originated; however, the analysis and its implications are relevant to the global banking system, irrespective of nation.

The Social Constructivist Perspective

The banking crisis offers a case study of individual and collective socio-economic action rich in opportunities for analysis. This paper retraces the chain of events that started with bad house loans

and ended with the collapse of Lehman Brothers and other major investment banks. The paper then analyzes the structural flaws of the banking system and proposes a potential solution. The events of the crisis are well documented in Brunnermeier (2009) [3], who provides a clear explanation of the mechanism and dynamics that led to an \$8 trillion loss in value of the US stock market between October 2007 and October 2008. Epstein (2009) [4] examines the role played by the US Federal Reserve Bank and criticizes the principle of bank independence, proposing a policy response. Similarly to Caprio et al. (2010) [5], the purpose of this paper is not to allocate blame, but to look for structural explanations for the crisis. Caprio et al. present a thorough analysis of the merits or demerits of Basel I and Basel II, which have set the regulatory environment for banking since 1987, and calls for an end to the egregious conflicts of interest plaguing credit rating organizations (CROs).

By contrast, this paper does not pretend to perform as in-depth and technical an analysis as these other works. Rather, we are interested in analyzing the events from a more interdisciplinary and specifically social constructivist perspective, which we believe complements nicely other more specialist studies. In spite of its different flavour, our proposed solution is consistent with the articles cited above in calling for greater transparency and accountability on the part of all the stakeholders, but especially the banks. A social constructivist perspective is useful because

- 1- it provides a conceptual vocabulary that is well suited to characterising the main actors in this event because it can describe both individual and collective action,
- 2- it provides a way to rationalize the emergence of structural causes, drivers, and constraints (e.g. Giddens's Structuration), and
- 3- it depicts an open-ended socio-economic environment that is able to renew itself through social processes; i.e. it offers a modicum of hope.

Before we enter the thread of discussion of this paper, which touches on a number of complex and long-standing issues in social theory, it seems opportune to clarify our position with respect to social constructivism. We do this with the help of Boghossian's clear discussion of the concept [6]:

Whence ... the widespread impression that social constructionists are anti-rationalist, anti-realist and anti-objectivist? The answer is that it stems not from the forms of the claims themselves, and not from their application to this or that empirically debatable subject matter. It stems, rather, from the desire of some prominent theorists in this tradition to extend social construction talk to absolutely everything and, in particular, to the facts studied by, and the knowledge claims emanating from, the *natural* sciences. [emphasis in original]

If we can label the theorists Boghossian is referring to (e.g. Pickering, Latour, Woolgar) as 'radical' social constructivists (or constructionists), the point of view of this paper is much more 'moderate'. We believe social constructivism is very useful in illuminating some key aspects of socio-economic action, and in particular of the banking crisis, but do not eschew a more objectivist and causal view of the events. Our analysis and discussion, therefore, will attempt to strike a balance between the extremes of radical subjectivism, relativism, and social constructivism, on the one hand, and of the radical objectivism of physics, on the other.

In particular, a social constructivist perspective enables us to claim that the subjective perception of the nature of money in the individual and collective imagination is at once strongly influenced by the social context the economic transactions are embedded in, and acquires a level of 'objectivity' that makes it a major determinant of human behaviour. Armed with this understanding, we turn to Community Currencies as a positive example that supports some of the claims we make in the analysis of the banking crisis and that can serve as a source of inspiration in the development of strategies aiming to offset its recurrence. In particular, community currencies provide a clear example of bottom-up and incremental, as opposed to top-down and regulatory, intervention to

strengthen socio-economic development through greater trust and transparency. Clearly, the relevance of our argument depends in part on how the dynamics of systems at such extremely different scales as neighbourhood economies based on community currencies and global finance can be related. Furthermore, community currencies by themselves can only highlight some of the issues under discussion, so that we will need to cast the net wider to piece together a plausible story.

THE EVENTS AND CAUSES LEADING TO THE 2007 BANKING CRISIS

A Brief Overview

A banking panic began on August 9th, 2007. Unlike traditional banking panics, this one was invisible to the public. No individuals were running to the banks seeking to withdraw their money but, rather, institutions were panicking and demanding the settlement of huge sums of money [7]. The result was a severe run on the banks that rippled through the financial system over the next year and a half, leaving even some of the oldest and most reputable firms bankrupt. September 2008 marked the climax of the crisis with bankruptcies of major firms such as Lehman Brothers, Washington Mutual, and AIG [8]. Three years later, the repercussions are still being felt, as evidenced by the fact that the frequency of bank failures remains high [9]. This paper will examine what happened and will develop an explanation of why the crisis occurred. Before explaining what appears to have triggered the panic, the event itself needs an appropriate foundation.

Increased Popularity of 'Securitization'

In the middle of the flurry of media attention surrounding the credit crisis, the housing market is often discussed and blamed for causing the recession. However, most of the media and general public are unaware of the role the housing market played in the crisis. Similarly, terms such as 'securitization' and 'mortgage-backed securities' are thrown around without carefully defining or explaining them. Thus, this task serves as an appropriate place to begin since the meanings that have come to be associated with these terms mark the origination of the banking crisis.

Securitization, as defined by Investopedia, is "the process of taking an illiquid asset, or group of assets, and through financial engineering, transforming them into a security" [10]. Organizations like Freddie and Fannie Mac securitized mortgages (which are essentially bonds due to their identical payment structures) and the result was Mortgage Backed Securities (MBS) [11]. Adding an additional layer of complication, a type of MBS is a Collateralized Mortgage Obligation (CMO), which pools various mortgage securities into tranches [12]. Essentially, securitization transformed house mortgages into financial instruments which could be traded, bet upon, or used as collateral. Securitization allows for cheaper costs to home-buyers and increases the liquidity of mortgages for banks. By itself, securitization is not a harmful development.

Makings of the Housing Bubble

While this increase of securitization was occurring in the US, simultaneously a housing bubble was forming. The bubble formed due to low interest rates set by the Federal Reserve, lax lending standards, government subsidization, and guarantees in the secondary housing market [13]. Since there were so many incentives to buy homes, demand increased and prices went up; yet consumer income did not increase proportionally. Put simply, people were buying homes with mortgages that they couldn't afford. The ease with which credit was assigned came to be legitimised by the continued and steady rise in property prices, since with increasing appreciation the level of leverage (ratio of loan to house value) would automatically shrink over time at a much faster rate than it was being repaid. This effect, however, was mainly dependent on market perception. The fact that the market perception of value can diverge very quickly from averages taken over a range of different

possible historical periods signals that the market as a price-determining mechanism may be breaking down, which is precisely what creates a ‘bubble’. A graph of household debt service payments, which are primarily made up of outstanding mortgage debt as a percent of disposable income, shows a steady climb from 2000 through 2007 and then the subsequent correction once the housing bubble burst (Figure 1). Figure 2 further reflects how banks were lending to people who shouldn’t have necessarily received loans by displaying the delinquency rate’s vast increase in 2007 through 2009.

In summary, the last decade saw an increased amount of securitization, which turned mortgages into financial instruments that could be used for various purposes. Coinciding with this movement, the American government and banking system incentivized the purchase of homes through easy credit. Now, the final catalyst and most esoteric cause of the crisis must be brought in – the ‘shadow banking system’. The following explanation is graphically depicted in Figures 3-5.

What is the ‘Shadow Banking System’?

Institutional investors often have large amounts of money being held for short periods of time. While individuals may choose to put their money into a savings account rather than under their mattress, institutions have more profitable options open to them due to the magnitude of their idle money. However, these institutions have a few criteria for their investment: the instrument must be relatively safe, liquid, and it must yield a higher return than more conventional instruments such as savings accounts. The popular choice became the ‘repo market’ (which stands for ‘sale and repurchase market’; Step 5 in Figure 3), which is an overnight market allowing large institutions to loan out their idle cash in exchange for collateral, while making a satisfactory amount of interest on the loaned funds. The repo market, estimated at a size of over \$12 trillion prior to the crisis, provided the return and liquidity institutions were seeking. Since banks like Bear Stearns would earn a higher rate of interest from the money lent to them (Step 10), they would offer bonds as collateral (Step 7). The exchange of collateral for the loan is what is termed the shadow banking system. The loan from the traditional banking system (Step 3) is what links the traditional banking system to the shadow banking system.

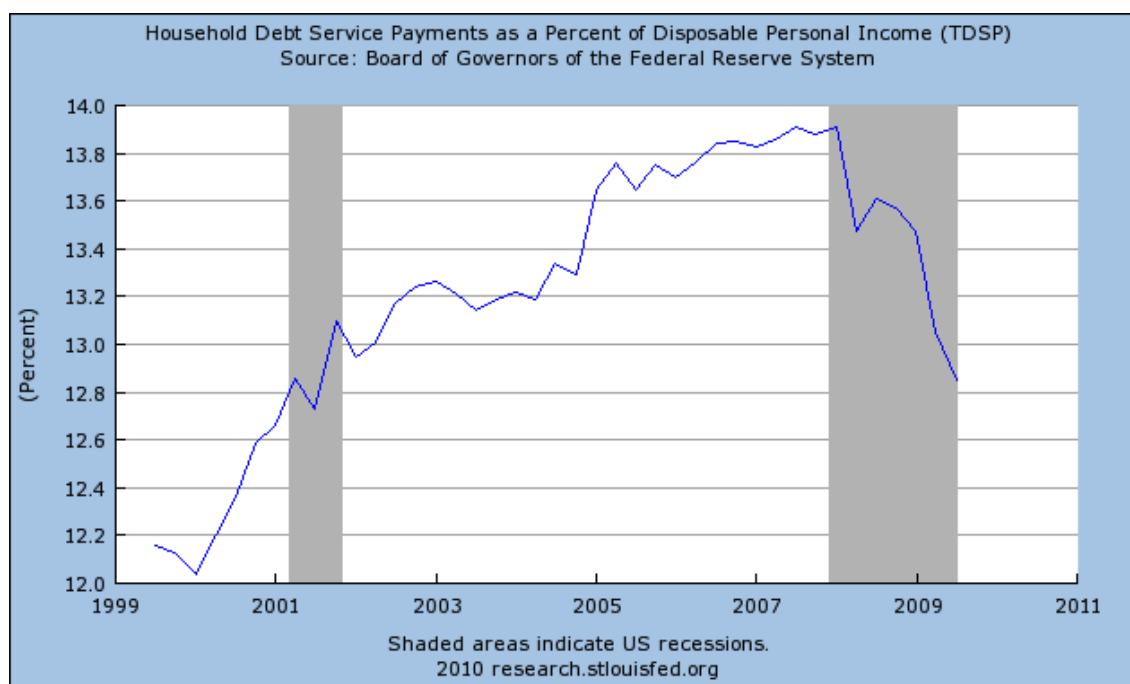


Figure 1: The housing bubble evidenced through household debt service payments

Linking Together Securitization, the Housing Bubble, and the Shadow Banking System

In many cases, the bonds exchanged as collateral were composed of securities from the repo market such as MBSs and CMOs, which securitization made possible. So now banks and the investing institutions were holding large amounts of bonds as collateral, backed by the housing market, which was currently overinvested in. Such interconnectedness throughout the system is not to be preferred, but this still leaves us unsure about what truly triggered the banking crisis.

Most banks in the world, including those in the United States, operate using a fractional-reserve banking system. A fractional-reserve banking system is a system “in which only a fraction of bank deposits are [sic] backed by actual cash-on-hand and are available for withdrawal. This is done to expand the economy by freeing up capital that can be loaned out to other parties” [14]. Such a system collapses if many people try to withdraw their deposits at the same time, since only a fraction of the deposits is available at any given time. In order for this system to operate, banks rely on a balanced flow of cash in and out of their reserves.



Figure 2: Unsound lending practices for U.S. residential mortgages [15]

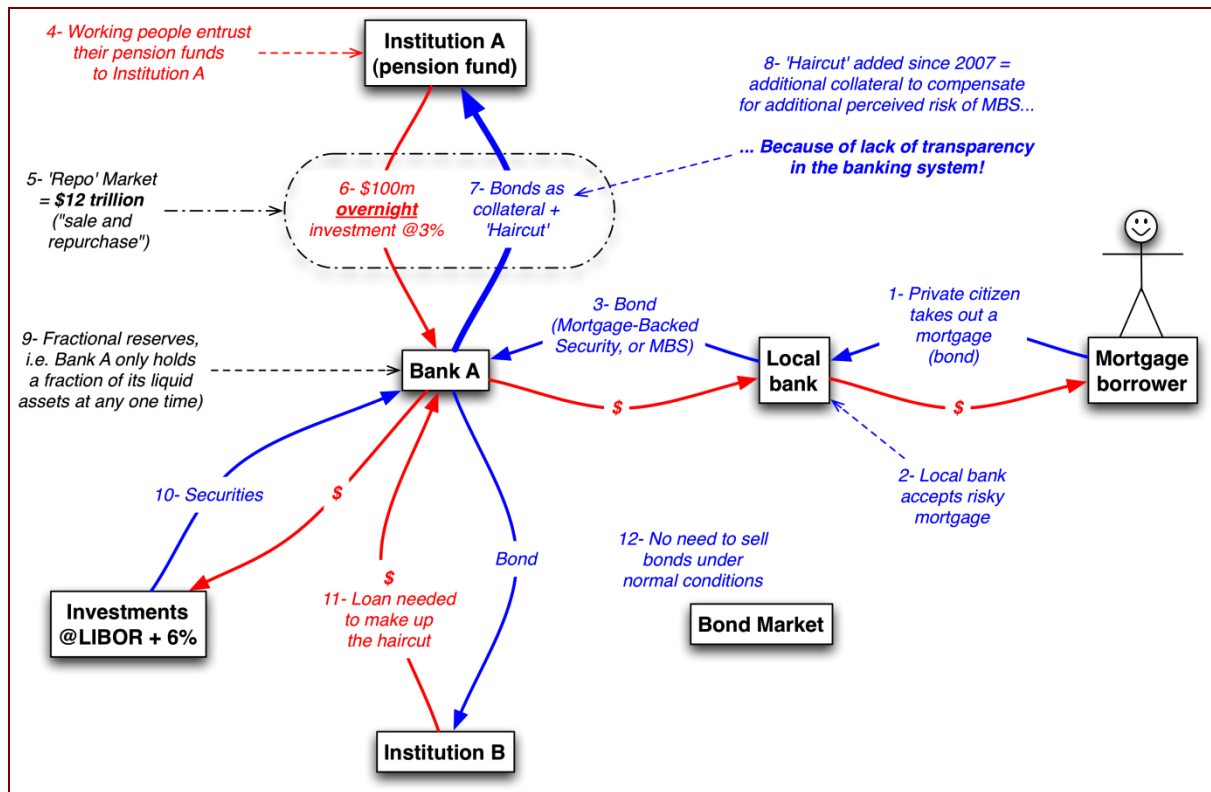


Figure 3: Securitization and the housing bubble lead to reliance upon the repo market

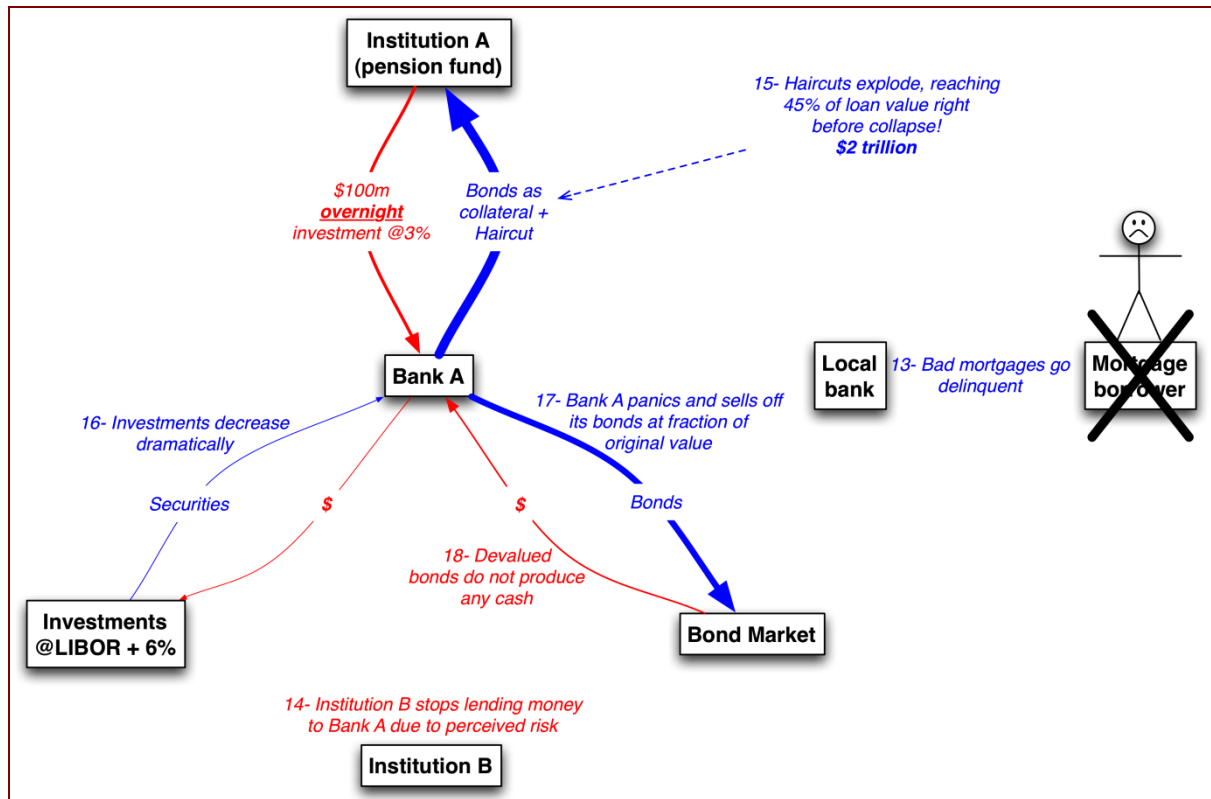


Figure 4: Mortgage defaults increase, leading to greater perceived risk in the repo market

Because the banks utilized a fractional-reserve banking system, the actions banks were taking became increasingly risky due to the shadow banking system. As investment banks grew greedier and more willing to take on risk, institutions demanded more collateral than the amount of money being lent to the bank (this difference is termed a 'haircut'; Step 8). Haircuts expanded over time and in turn banks like Bear Sterns needed larger amounts of money to balance the net withdrawal (the net negative balance due to the haircut). Because of the fractional reserve banking system, usually this net withdrawal is funded by more loans from other institutions or investors (Step 11); hence the importance of keeping the money flowing when practically all the banks rely on fractional reserves.

Meanwhile, American homeowners started to default on their mortgages (Step 13). Due to securitization, the institutions had no idea how and where their risk was distributed. Institutions holding MBSs and CMOs as collateral only knew that they were vulnerable to the housing market. Once institutions became aware of how little they knew about their exposure, they started to demand their loans back from the banks. Now, all of a sudden, banks were faced with a net withdrawal estimated at an aggregate of \$2 trillion due to haircuts (Step 15), on top of the money needed for the institutions who were demanding their loans back. Normally banks would raise this money by more loans from other institutions, but at this point institutions looked in the mirror and saw the riskiness of their previous loans (Step 14). Institutions were now too afraid to loan additional money, but unfortunately it was already too late. Banks became desperate to meet the monetary demands – they indiscriminately sold all of their bonds and panicked (Steps 17 & 19).

Panic Breeds Panic

The cause of the indiscriminate selling was that banks had no idea where the risk lay, how large the risk was, and who was taking the risks. 'Opaque' best describes the web of the repo market. Once weakness was revealed in the market, everyone immediately became suspicious of each other since no bank knew where anyone else stood. Evidence of this is found in the LIBOR-OIS [16] spread, a metric used by the Federal Reserve to measure the perception of risk in the credit markets. Spreads blew out in August 2007 and quickly reached record levels as more and more firms were found to be over-leveraged in the repo markets (Figure 6).

A Lack of Trust and Transparency as the Root Causes

As shown in Figure 3, the root cause of the crisis could be argued to originate from the willingness of local banks to accept unreasonable levels of risk in funding mortgages to borrowers of weak credit-worthiness. However, it is also true that securitization made it possible to package the bonds as MBS and pass on the risk to investment banks. So is securitization the culprit? As we stated above, not when it is handled responsibly. The individuals running the investment banks, in turn, were – and still are – incentivized to take on huge levels of risk since, if things go wrong, they are covered by 'golden parachutes' built into their employment contracts. So perhaps the system of bonuses is the culprit, as has been argued repeatedly in the press since the crisis? These are all contributing factors, of course.

From a global system perspective, however, we could also say that the accretion of value through interest reinforced the emergence of a culture of risk, since everyone was motivated to participate. Because of this shared culture of risk, the development of ever-more ambitious derivatives and leveraging instruments acquired the character of a game decoupled from a transparent assessment of the different perceptions of the underlying risk [17]. To clarify, while there is not necessarily a sole objective [18] measure of risk, increased transparency allows for an easier and more accurate assessment. Disagreements may still occur over how much risk exists, but greater transparency would enable different stakeholders to make more informed decisions. We argue that, more than

the other possible contributing factors mentioned above, the lack of the ability to make a transparent assessment of the different levels of risk caused the system to spiral out of control.

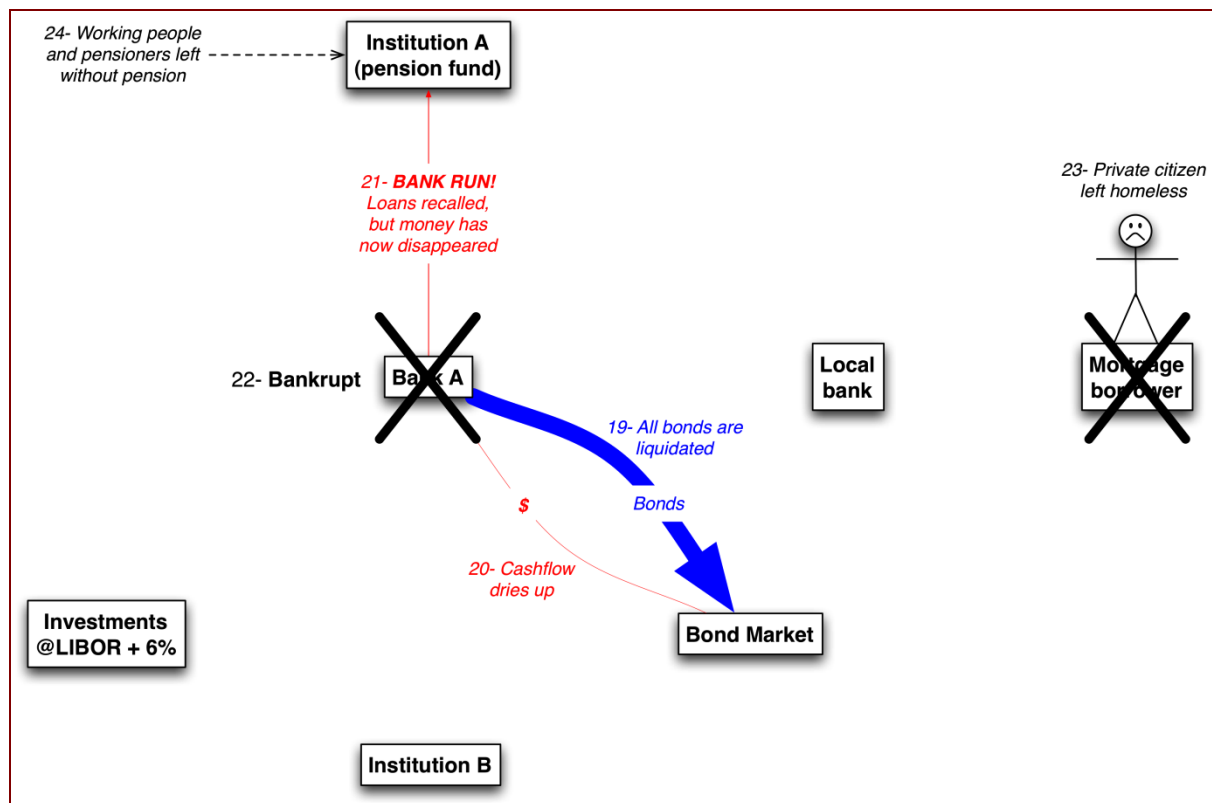


Figure 5: The housing bubble bursts, banks panic, and the repo market collapses



Figure 6: 3-Month LIBOR-OIS Spread

Serving as inspiration for this paper, Figure 6 provides an indirect measure of the lack of transparency and trust in the banking system. The banking system experienced a lack of capital and banks did not know how much capital was needed, who needed the capital, and who didn't have it. As Wood explains:

This could come about for example if one large loan suddenly collapsed in value, or if a whole group of loans collapsed. As bank balance sheets are opaque to customers (and apparently often to management too if recent experience is anything to go by) this leads to fears about the solvency of other banks, runs take place on them, and again in the extreme the whole system fails [19].

While many academics and financial gurus may have foreseen the potential damage caused by the collapse of the subprime market and alleged that banks should have foreseen such dangers, it was not this crash that resulted in the collapse of the banks. It is important to clarify that the housing bubble and subprime mortgages did not cause the crisis, but that they were key factors in the crisis because they triggered a panic in the repo market. This panic is what led to the bank failures since the housing market by itself was too small to have such an impact. So while banks may have known who they were transacting with and how interconnected their fates were, it was the bursting of the housing bubble that scared banks into the realization that the vastness of the repo market was unknown [20]. Facing the uncertainty of how large the repo market was and how vulnerable it was to the housing crash, banks panicked. Thus, it was the panic caused by a lack of transparency in the repo market which led to the fall of the banks. Even in hindsight only a broad estimate can be given about the size of the repo market [3] The repo market was in fact huge – \$20 trillion – yet even now that is still an estimate, so it would have been difficult for banks to foresee the effect on the repo market without knowing its size.

On this basis we suggest that the very nature of money and its derived investment instruments as interest-earning media of economic exchange create the potential for a structural problem in the system. We also suggest that a lack of trust and transparency is closely associated with the factors which gave rise to the crisis. One means of examining the importance of high levels of trust and transparency is to consider these aspects through the lens of a social constructivist perspective, and to examine them in the context of the development of community currencies, the adoption of which has increased in the wake of the banking crisis.

A CONCRETE LOOK AT COMMUNITY CURRENCIES

The Development of Community Currencies as a Response to Financial Crises

Community currencies are a form of local currency which serves to supplement a national currency in order to stimulate a local economy. In response to the severe recession in the United States, the emergence of community currencies has increased across various parts of the country [21]. This is important since the choice of local markets to utilize community currencies as a solution to the downfall of the overarching banking system highlights the ability of socially constructed concepts and practices to provide solutions to economic problems. Particularly in tough economic times, local markets develop community currencies to stimulate the regional economy. To provide a context for this discussion, some successful implementations of community currencies are introduced chronologically in this section.

The first successful example of community currencies, the Swiss WIR, shows how community currencies can work on a much larger scale. Paul Enz and Werner Zimmermann founded the WIR business circle cooperative in 1934, also to help fight the effects of an economic slowdown – in this case the Great Depression [22]. One WIR Franc is equal to one Swiss Franc and thousands of Swiss

businesses allow purchases to be made by a combination of WIR and Francs. The WIR Bank Cooperative handles the transactions of over 62,000 businesses, which means about 20% of Swiss business are members. These statistics make the Swiss WIR the largest and oldest example of a community currency. Most of the members are SMEs:

WIR is a cooperative association of small to medium size, independent (grass roots) Swiss businesses for the purpose of mobilizing their own credit potentialities, i.e., without using commercial banks as intermediaries, to facilitate business transactions within their own circle. This arrangement prevents, or at least inhibits, the outflow of capital and profits to the large chain stores, department stores, stock corporations, etc. WIR credit can be described as supplementary, low-cost credit, but has had also – the fully intended – result of increasing the business volume of their members. As a self-help measure, it appears to have been successful in large measure in protecting the small, independent businessman against the constantly increasing pressure from large, financially strong competitors [22].

Research has been carried out on the effects of the Swiss WIR on the Swiss economy and the studies showed that the community currency has helped to combat economic slowdowns. To summarize the findings:

...the WIR system has given proof of its profoundly anti-cyclical character. In periods of economic boom, it has tended to grow more slowly than the economic average, while in periods of recession it has tended to grow more quickly than average. Thus it contributes to the stability of the Swiss economy [23].

In times of high unemployment, utilization of the WIR has increased to promote the stimulation of the local economy.

Another notable alternative to a national currency is LETS, most commonly accepted as an acronym for Local Exchange Trading System [24]. Originally named LETS due to the cooperative and inviting implications of the word, Michael Linton designed the system in 1983 to be used in the Comox Valley of British Columbia [25]. His reasoning for doing so was that he found that unemployment and economic slowdowns were related to a decrease in the availability of money for barter. In order to truly be a LETS system, there are five common rules that must be followed [26]:

- 1- Cost of service – since administration and operation positions are needed to ensure that the system is functioning properly, certain personnel need to be paid in local currency for maintaining the system.
- 2- Consent – all members must agree to the rules of the system, adhere to the balances of the system, and transact in good faith.
- 3- Disclosure – Trust is of paramount importance to the system, along with transparency, in order to prevent abuses of the system.
- 4- Equivalence- LETS must be able to be converted at a certain rate into national currency to encourage the participation of businesses and new members.
- 5- No interest – the point of the system is to stimulate the economy, not to have LETS hoarded for future use.

When these rules are adhered to, the system can be extremely effective. Hundreds of communities around the globe now utilize LETS.

Another successful example is that of the *Ithaca Hours* paper currency. Paul Glover introduced Ithaca Hours within the local community of Ithaca, New York during the 1991 recession [27]. Despite some tweaks over the last two decades, the system of a local community currency is still going strong. Hundreds of vendors across all industries accept Ithaca Hours and thousands of kids, students, and adults earn them [28]. The success of the local currency has earned it significant amounts of publicity and the model has now been copied across various parts of the United States and beyond.

Many may ask, “Why go through all the trouble of printing Ithaca Hours?” One of the most important benefits of a local currency is that the money can be linked to real labour hours. In this case, an hour of work earns one Ithaca Hour, which is worth \$10 [29]. This increases support for a higher minimum wage, while also fighting inflationary or deflationary movements since the value of money is linked to the physical constraints of a labour force. Other benefits are that this money must be spent locally, which stimulates the local economy and keeps the Ithaca Hours in circulation at a high velocity. Additionally, some Ithaca Hours are given as grants to those who need them, and also one can borrow Hours without paying interest, which would otherwise also drain the flow of money. For these reasons, the town of Ithaca has continued to support the existence of a community currency.

A further example of community currencies is the Second Life Linden Dollar, which takes the concept of community currency into a new realm – that of the Internet. Second Life is a 3D virtual world that seeks to mimic real life through the Internet [30]. Users, known as residents in the Second Life world, control an avatar and perform activities just as they would in reality. For business transactions within this world, the Linden Dollar exists. Although a virtual currency, the Linden dollar can be exchanged into any currency and can be purchased with real money. Market data actually exists that tracks the exchange of Linden Dollars [31]. Even more amazing is that the virtual economy in 2009 had a value of \$567 million (United States Dollars) [32]. The Linden Dollar’s existence in a virtual world highlights the versatility of community currencies and its ability to adapt to the ever-changing needs of society.

We argue that community currencies exemplify principles and characteristics that could help to mitigate the root causes of the financial crisis, but we need a theoretical framework that can accommodate these differing scales of economic activity.

Free money

Community currencies in their modern incarnation can be traced back to Silvio Gesell. In 1906 Silvio Gesell, a German/Belgian/Argentinean economist, published *The Natural Economic Order* [33] on a proposal to make money as perishable as the goods it buys, i.e. a currency earning *negative interest*. Inflation has a similar effect, but inflation is not the result of an explicit design of financial policy, it is not planned. In fact, normally it occurs *in spite of* financial policy. According to Gesell, negative interest would motivate people to spend their money as quickly as possible, before it became worthless, rather than to hoard it. The resulting dynamism in the speed at which money would circulate in the economy would energise the economy and support growth. The theory of free money, upon which community currencies are largely based, is a special and less radical case of ‘perishable money’ and concerns money earning zero interest. As neatly summarised on the LETS system website,

Money is just information, a way we measure what we trade, nothing of value in itself. And we can make it ourselves, to work as a complement to conventional money. Just a matter of design [34].

In 1952 the WIR bank decided to abandon the free money principle, and deposits began to earn interest. However, the bank remained a non-profit organization whose sole purpose was, and still is, to support the members of the WIR community through access to low-cost and low-risk credit. In addition, the WIR currency is not actually printed in physical form; it is used and traded only as an electronic currency. Since 2004 it was assigned its own symbol “CHW” by the British Standards Institution and with the approval of the World Bank [35].

Thus, different implementations of ‘parallel’ currencies can follow widely different structures and rules. What is common to all of them is the substitution of an individualistic profit motive with an agreement to support and build up shared economic activity in a real or virtual community. In other words, community currencies embody a conscious and concerted effort to (1) protect small-scale economies from the swings in volume and value of large-scale economies and (2) rely on social dynamics to support economic dynamics.

Drawing on Gudeman’s work on economic anthropology [36], another characterization that seems appropriate relies on Aristotle’s concept of “use value” vs. “exchange value”, also recognised by Adam Smith: “Some things, like water, have high use value but low exchange value, whereas other things, such as diamonds, have low use value but high exchange value”. In other words, if the familiar distinction between goods and commodities is applied to money, clearly community currencies only have use value, whereas interest-bearing tender leads to a commodification of the original function of money, in other words it has exchange value and is in fact traded in currency markets. To iterate the concept further, whereas the “use value” of interest for the real economy is hard to argue with, as we move to securities and their ever-higher derivatives, the use value of these financial instruments seems to recede to the background, leaving in the foreground a social construction that looks increasingly like gambling.

Although due to the obvious collectivist undertones community currencies could be labelled as ‘socialist’ in some sense, and are in fact being actively supported by e.g. Hugo Chavez [37], our interest in this article is not to support a political point of view. Our purpose is to analyze scientifically and as impartially as possible what went wrong in the banking crisis and how things could be changed for the better. Community currencies could be seen as a diametrically opposite phenomenon to investment banking and financial markets, in every possible sense (scale, motive, methods, degree of embeddedness of economic action in social structure [38], etc). Both phenomena can be accommodated by the same theoretical – or meta-theoretical – framework. This will enable us to make constructive proposals for what might be changed in the current banking system.. The next section develops a meta-theoretical framework.

FINDING THE APPROPRIATE LENS TO THEORETICALLY ASSESS THE ISSUES OF THE BANKING CRISIS

Developing a Meta-Theoretical Framework [39] [40]

We begin with an intuitive definition of ‘social construction’. Social constructions are perceived as ‘real’ but do not have an existence independent of society. Although there are interpretations of social constructivism according to which *everything* is a social construction, such a view tends to be popular in more academic discussions of postmodern ideas. Our perspective is more practical. The concept of social construction is very useful to make tangible phenomena or constructs that, in spite of their sometimes abstract character, make up our everyday life, such as money, citizenship, and newspapers: “Money, citizenship and newspapers are transparent social constructions because they obviously could not have existed without societies” [6].

We can speak of social constructions as resulting from social processes mediated by language. Thus, social constructions acquire *meaning* through a consensual social process. The fact that such processes create meaning apparently ‘out of nothing’ and give us a way to talk about concepts that are otherwise difficult to define affords to social constructivism the status of an epistemology (‘study of knowledge’, in Greek).

Figure 7 can help position this discussion within a broader context of social theory. The figure, inspired by Hollis [41], summarizes the main analytical traditions in social science over the past few centuries in addressing questions of socio-economic structure and human action. A few indicative and by no means exhaustive names are added to make the table easier to interpret. The left-hand column is generally associated with the rationalistic, deterministic tradition, it is the older of the two, and grew out of naturalistic philosophy. The right-hand column is more recent, it reflects a greater emphasis on the social world for defining our reality (ontology) and the construction of knowledge (epistemology). Although interpreting the two columns in terms of an objective-subjective dichotomy can only be a gross oversimplification, the thinkers in the left-hand column could be loosely grouped as sharing a belief in some form of 'objective' reality, whereas a more 'subjective' perspective permeates the ideas found in the right column. The different widths of the columns are meant to reflect the much greater constituency (and funding), within social science, that a critical tradition inspired by naturalistic philosophy still commands.

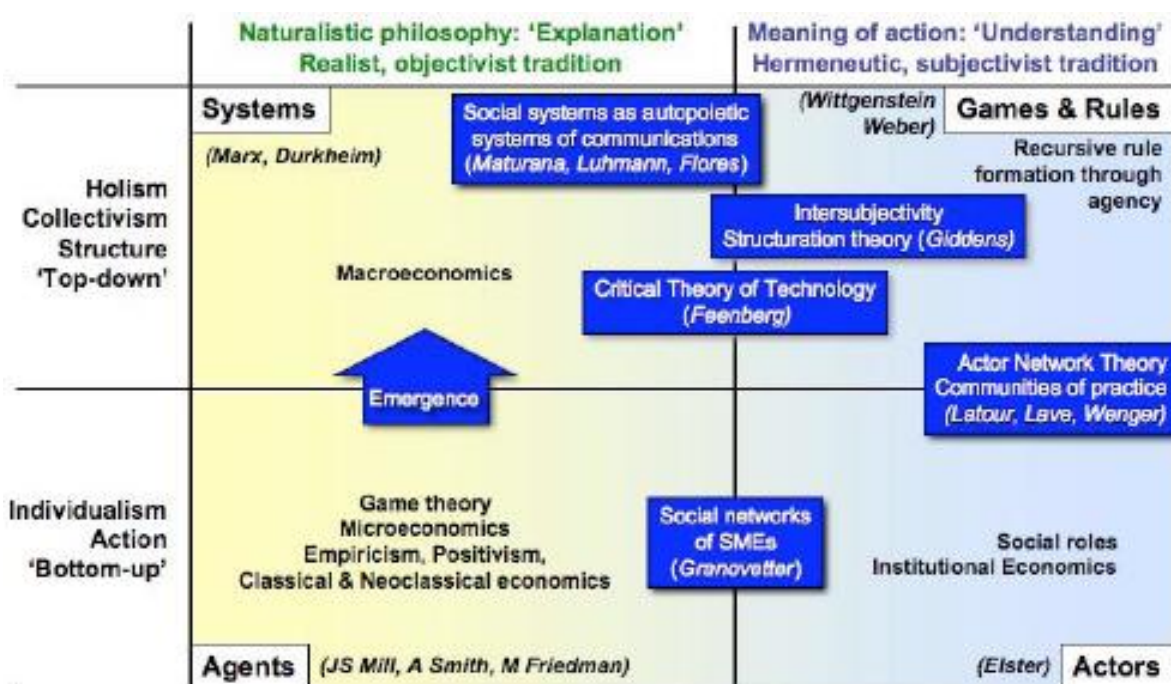


Figure 7: Map of social science adapted from Hollis [41]

Thus, the various flavours of social constructivism fall broadly in the middle of a spectrum whose extremes are identified with the radical subjectivism of individual phenomenology at one end and the radical objectivism of physics at the other. Because of their intermediate position between subjectivism and objectivism, social constructivist processes are sometimes called 'inter-subjective' (e.g. Popper [42]).

The table can also be understood in terms of different accounts of social systems and therefore human action. The top row favours a view of society and the economy that biases the importance of structures and systems over individuals, whereas the bottom row represents the opposite view. This distinction correlates also to methodology, in the sense that theories in the top row tend to be deductive in deriving behaviour from general principles, whereas the bottom row is best associated with the longstanding and currently overriding tradition of empiricism and positivism, where general principles are derived from experience through an inductive process. The relatively new field of

Complexity science is proposing new words for describing processes and phenomena that have long been studied in the social sciences, such as ‘emergence’ to describe the not-so-well-understood relationship between local interactions and global behaviour. Part of the excitement felt by practitioners in this new field derives from the development of new conceptual, mathematical, and computational tools for modelling processes that had until recently been considered too difficult for the reductionist scientific approach – and had therefore been mainly studied in the social sciences. Some insights of Complexity science are useful and illuminating, but a vigilant eye needs to be kept on the assumed ontological and epistemological basis when engaging in this particular type of interdisciplinary discussion in order to avoid falling back into the trap of ‘monorail’ rationalistic thinking.

The perspective taken in this writing sits towards the centre of both spectra, favoured towards collectivism. One simple, yet concrete, business example to relate this position is that of workplace attire. A fairly common institutional norm is to wear business professional attire, as enacted largely by Generation X. In more recent years, Generation Y has slowly pushed the workplace towards a business-casual environment. Such an example is important since it highlights the power of both subjectivism and collectivism. Clearly there is no written objective law about workplace attire, yet this most likely seems the case in many formal organizations across the world. Similarly, one person would probably be fired if they thought themselves above the dress code of their institution, but the wants of groups are able to gradually seep through a society or social group and create change. Acknowledging a certain level of subjectivism in the operation of businesses and the economy, along with the increased pressure towards change in relation to the more collective wants of society, is important when judging the feasibility of a solution to a socio-economic problem such as the banking system.

The Structuration of Financial Institutions [40]

In spite of the optimism of our ideas it is prudent to acknowledge that it is very difficult, if not impossible, to make general statements about social theory or social systems.

There are no universal laws in the social sciences, and there will not be any – not ... because methods of empirical testing and validation are somehow inadequate but because ... the causal conditions involved in generalisations about human social conduct are inherently unstable in respect of the very knowledge (or beliefs) that actors have about the circumstances of their own action [43].

Elsewhere, Giddens [44] elaborates:

There are no patterns of universal causation in the social sciences – that is to say, conditions in which circumstance X will, and must, always be followed by circumstance Y – because all causal connections in human social life are mediated in one way or another by agents’ knowledgeability and agents’ reasons.

In other words, Giddens is arguing that because the “theories and findings of social science cannot be kept wholly separate from the universe of meaning and action which they are about” [43], they are inherently multiple and defined by context (space and geography), subjectivity and time (history). A shorter way to say this is that, unlike physics, in social science the ‘object of study’ has *opinions* about what is being said about them. All social science is therefore defined by “mutual interpretive interplay” between theory and action.

With this disclaimer in mind, we believe that a theoretical perspective that is at once helpful in analyzing the credit crisis and in proposing possible strategies to minimize the probability of its recurrence needs to reconcile the subjectivist/objectivist and individualist/collectivist viewpoints. One such theory is Structuration, by Anthony Giddens. To appreciate its import, it is useful first to

clarify the concept of institution as clearly explained by Geoffrey Hodgson, an institutional economist in the tradition of Thorsten Veblen:

Among the preliminary tasks of scientific analysis are taxonomy and classification, involving the assignment of sameness and difference. Classification, by bringing together entities in discrete groups, must refer to common qualities. For classification to be enduring, it must be assumed that the common qualities themselves must be invariant. ... the relatively invariant unit is the social institution. We may define institutions in broad terms. They refer to the commonly held patterns of behaviour and habits of thought, of a routinized and durable nature, that are associated with people interacting in groups or larger collectives. Institutions enable ordered thought and action by imposing form and consistency on the activities of human beings. ... Institutions are seen as both outgrowths and reinforcers of the routinized thought processes that are shared by a number of persons in a given society [45].

Giddens opens his influential account by expounding “the divisions which have separated functionalism (including systems theory) and structuralism on the one hand from hermeneutics and the various forms of ‘interpretative sociology’ on the other” [43]. The appeal of structuration in this discussion is that it provides a balance between the emergence of institutions through processes that are reminiscent of ‘bottom-up’ social constructivism, and the effect these same institutions have on socio-economic action through processes that are reminiscent of ‘top-down’ and history-dependent structuralism. In other words, implicit in structuration is not only a useful integration of objectivist and subjectivist understandings, but also a measure of reconciliation between the individualist and the collectivist explanations of socio-economic action, although it is not emphasized as much by Giddens himself.

In a nut-shell, structuration is about the social constructivist processes through which individuals and social systems construct institutions. As the institutions acquire better definition and structure, they increasingly act as constraints on the behaviour and actions of the individuals, which is closer to Marx’s structuralist understanding of socio-economic systems. However, as language and social constructivist processes continue unabated, social systems have a chance to renew themselves over time. Thus structuration is about a dynamic and self-renewing balance between all four ‘isms’ by which socio-economic action is generally explained: subjectivism, objectivism, individualism and collectivism.

There is an additional concept which hovers between the individualistic and collectivist perspectives and that is relevant to this discussion: responsibility. From a purely individualistic economic perspective, such as e.g. game theory or neoliberal ideology (bottom left quadrant in Figure 7), the concept of responsibility is associated with the survival or otherwise of the individual agent. Regardless of the fact that the individual agent could also be a company or institution, the main point is that this is *responsibility towards the self*: the individual agent assumes a certain level of risk and, if things go badly, it accepts responsibility for its ‘freedom of choice’ and bears the consequences of the ill luck or poor choices.

Alternatively, another form of responsibility is *responsibility towards others*: the individual person or institution is seen as selflessly committing to the welfare of the group or society and accepting the responsibility to sacrifice him/her/itself when things become difficult. The volunteer fire-fighter would fall in this category. Collective responsibility, however, can also work the other way, meaning society assuming responsibility for the failing individual/institutional agent. This is the case of the huge and controversial bail-out packages the banks have received. Thus, the discussion to follow attempts to balance these two rather different perspectives on socio-economic action because they both appear relevant to the life of individual and institutional socio-economic actor-agents: we talk about ‘rational-agent’ incentives for individual banks, but also about ‘good behaviour’ that benefits the society of banks, and also about banks bearing the responsibility for their actions. This is

consistent with our tendency to 'claim the centre' of Hollis's map, and is not incompatible with Giddens's structuration.

So by 'meta-theory' we mean (1) the recognition of the different theoretical perspectives shown in Figure 7, each of which can be used as an epistemology for making sense of the world and as a basis for analysing socio-economic action; and (2) the specific combination of perspectives that we feel best illuminates the problems symptomized by the banking crisis: intersubjectivity and a mild form of social constructivism as an epistemology, structuration for understanding socio-economic action, and the multi-faced concept of responsibility as the basis for a governance perspective on the banking system that attempts to balance individual freedom with the welfare of the collective.

With this meta-theory in mind, we can begin to analyze what happened in the banking crisis. The fact that so much wealth could be created or destroyed easily reinforces our perception that the processes through which money and its derived assets acquire value are subjective and arbitrary. It also indicates that the mechanisms of value creation of the financial economy can become decoupled from the slow and 'old-fashioned' creation of value through labour. Further, the banks betrayed the trust of the depositors. They did so because the system let them, but ultimately the pull to make an ever-larger profit from taking on ever-more risk outweighed any qualms they might have had about the depositors who had entrusted their savings to them. Of course, the existence of deposit insurance in many countries mitigates the risk for cash deposits. In any case, however, the system should enable the depositors to set the level of risk they wish their assets to be exposed to; institutions should not be able to parlay more risk than the depositors originally intended through securitization and/or repackaging of the assets into financial derivatives.

In general, depositors base their choice of investment vehicle on a balance between perceived risk and expected return. Securitization enables banks to repackage the investment vehicles originally chosen and to expose the initial investments to higher levels of risk. This should not be allowed because it overrides the choice of risk level the initial investors had made implicitly with their choice of investment vehicle. Although it is not possible to place an objective quantitative measure of risk on an arbitrary security, a quantity that correlates with risk is rate of return. Thus, tranches and packages of securities should be created in a way to reflect, if not match exactly, the rate of return of the initial investment. To some extent this negates the very concept of securitization, so perhaps the best approach would be to put some bounds on what can be securitized and how. This is another facet of the principle of transparency that seems important for a more stable and accountable banking system.

The above indicates that, in the current banking system, at larger scales of financial activity money can become alienated from some important dimensions of socio-economic systems and social dynamics [46]. And yet, as long as all the players agree to the rules of the game, the creation or destruction of huge sums is still felt as very *real* by everyone. This indicates that some kind of social constructivist process applies. Therefore, our discussion serves to show how powerful social constructivist processes can be in influencing, and in many cases also in determining, our actions as supposedly 'free' and 'rational' agents.

In other words, the 'free market' is actually a complex web of interconnected institutions and, as such, is quite capable of supporting and mediating social interactions between its members. Where these institutions become concerned with increasingly abstract financial instruments and with large-scale transactions that are divorced from the details of the underlying assets, we run the risk of a social constructivist dynamic setting in to generate understandings that make sense only within a restricted community of specialists, remaining opaque to everyone else [47]. This is because the

abstraction level contributes to decoupling the traders' perception of these assets from the real economy.

In this environment the rest of society acquires a similar status of abstract concept, unrelated to the daily social interactions the traders themselves experience. As a consequence, the familiar norms of responsible and accountable behaviour are not as effective in acting as a counterweight to the drive for profit maximization. This is to be contrasted with local banks [48] whose directors, even today, personally know many of the depositors and are embedded in the social structure of the communities they serve: in other words, they feel accountable to them. Thus, in the case of the banking crisis, in the light of this discussion it should not be surprising that the social constructivist dynamics that emerged within the financial community legitimised behaviour which, to anyone outside it, appears grotesquely irresponsible at best and criminal at worst.

In this context, why the emergence of community currencies is important can be discussed further. The banking system in most countries is based upon fiat [49] money. Fiat money has no intrinsic value and the belief that fiat money has any value is a social construction. In other words, the money only has value since society has agreed to give it value. One may wonder what prevents such social constructions from collapsing. The answer introduces two concepts, which subsequently provide the necessary foundation for the social constructivist solution discussed below – the concepts of trust and transparency.

THE APPLICABILITY OF TRUST AND TRANSPARENCY IN A BANKING SOLUTION

A Simplistic Model Showing the Relevance of Trust and Transparency to the Banking System

Having covered the causes of the crisis and having developed a meta-theoretical framework through which to address the problem, a model can now be used to show how these concepts can help us develop a suggested solution. Since the model is only intended for demonstration purposes, it need not be complicated. For example, let's assume that there exists a very small local community consisting of five houses, five banks, and five institutions. Now, assume that this model micro-economy utilizes a community currency, called Micro Tokens, and that there are 500 MT in circulation. While the model undoubtedly requires simplifying assumptions to be made, principles and lessons can still be learned and extrapolated.

One of the challenges associated with the introduction of a community currency system in a given community is that the smooth operation of the system depends on a small number of administrative functions. For example, at least one person is needed to fulfil the role of bookkeeper. Such a person is accountable to the community for the distribution of local currency across the participants, the amounts exchanged to and from the national currency, the history of transactions, and so forth. All this information is made publicly available to and verifiable by the community. This reinforces the sense of shared ownership of this economic instrument, out of which we can plausibly expect that a greater sense of shared and individual responsibility and greater mutual trust will grow. However, in many community currency implementations this role is filled only on a volunteer basis. This is problematic because in the long run the volunteers often get tired of serving their community [50]. Clearly this function needs to be made an integral part of the economic system it supports, e.g. it could be remunerated with the local currency itself, as in the LETS and WIR approaches.

When the community currency concepts are scaled up to include also an institutionalised banking system, as in the WIR case, the role of bookkeeping is taken over by the banks. Thus, as shown in Figure 8, in our micro-economy example the 5 banks have the responsibility of tracking the flow of

Micro Tokens, and of making this information available to each other and to the public. As we will argue below, this added responsibility is not just an additional service that the banks perform for their customers, but it can also help their business activities. Banks can benefit from transparent bookkeeping since it provides them with the knowledge of exactly where the Micro Tokens are. In other words, our argument is that establishing greater transparency (by disclosing more information on the size and risk rating of transactions, allowing for a more accurate estimate of risk) in the banking system brings significant economic and business advantages. Since transparency is not the predominant characteristic of current banking practice, however, we first explore the economic behaviour of our micro-economy according to the currently overriding perception.

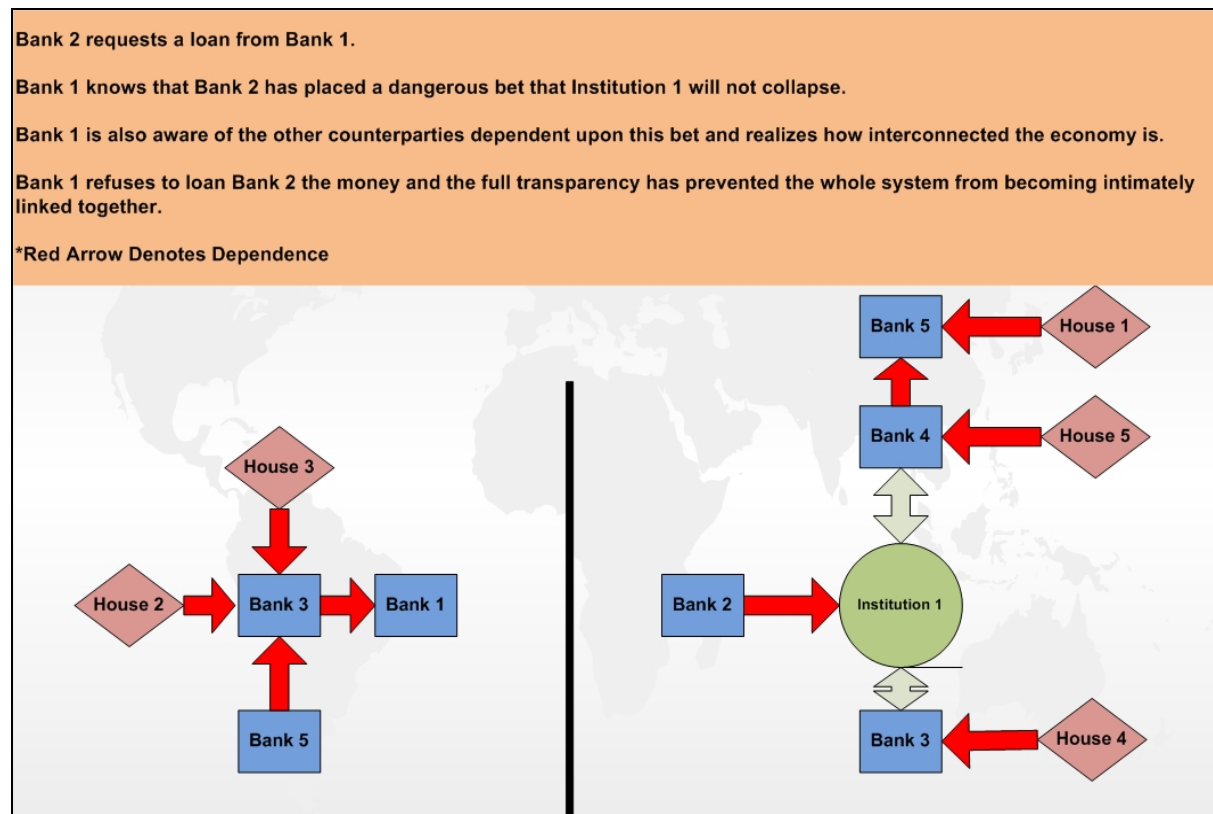


Figure 8: Transparency mitigates the dangers of an interconnected economy

Since all of the banks keep track of where all the Micro Tokens are distributed, this means that Bank 1 knows how many Micro Tokens are being held across the five houses, across the five institutions, and across the four other banks. Imagine that Bank 2 has 50 MT of assets. Also, Bank 2 has a bet with Bank 3 for 80 MT on whether Institution 1 will collapse. Since Bank 2's assets are tied up with the bet, Bank 2 seeks a loan from Bank 1 in order to service its other activities with its other customers. Bank 1 believes that Institution 1 will collapse and, due to the transparency provided by the Micro Token bookkeeping, Bank 1 knows that Bank 2 has an 80 MT bet that Institution 1 will not collapse, yet only holds 50 MT of assets. Therefore, Bank 1 will not lend Bank 2 any Micro Tokens. As a consequence, Bank 2 will not benefit from the transparency, and therefore it is likely to lobby against any policy introducing transparency requirements. This bias against transparency characterizes the banking sector today.

What we witnessed through the example is that, from Bank 2's point of view, transparency prevented Bank 1 from lending it any funds. This would have linked the fates of Bank 1 AND Bank 2

to the fate of Institution 1. Had other banks, institutions, or houses been dependent upon Bank 1 not defaulting on its loans, then they too would have been linked to the fate of Institution 1. As discussed in the Introduction, this is a simplified version of the spider's web that links together the agents in the banking system to suffer the same fate. Full transparency was not available during the banking crisis, which is why banks like Bank 1 unknowingly linked their fate on bets that were many degrees of separation away from them [51]. In our example, by contrast, transparency is what prevented Bank 1 from risking its own fate and the fate of all of the institutions dependent on it on a very poorly placed bet.

Thus, as summarized in Figure 9 for the micro-economy example, the problem with lack of transparency in the banking business is that it transforms a structural and unavoidable fact of economic life into a dangerous liability for the system as a whole.

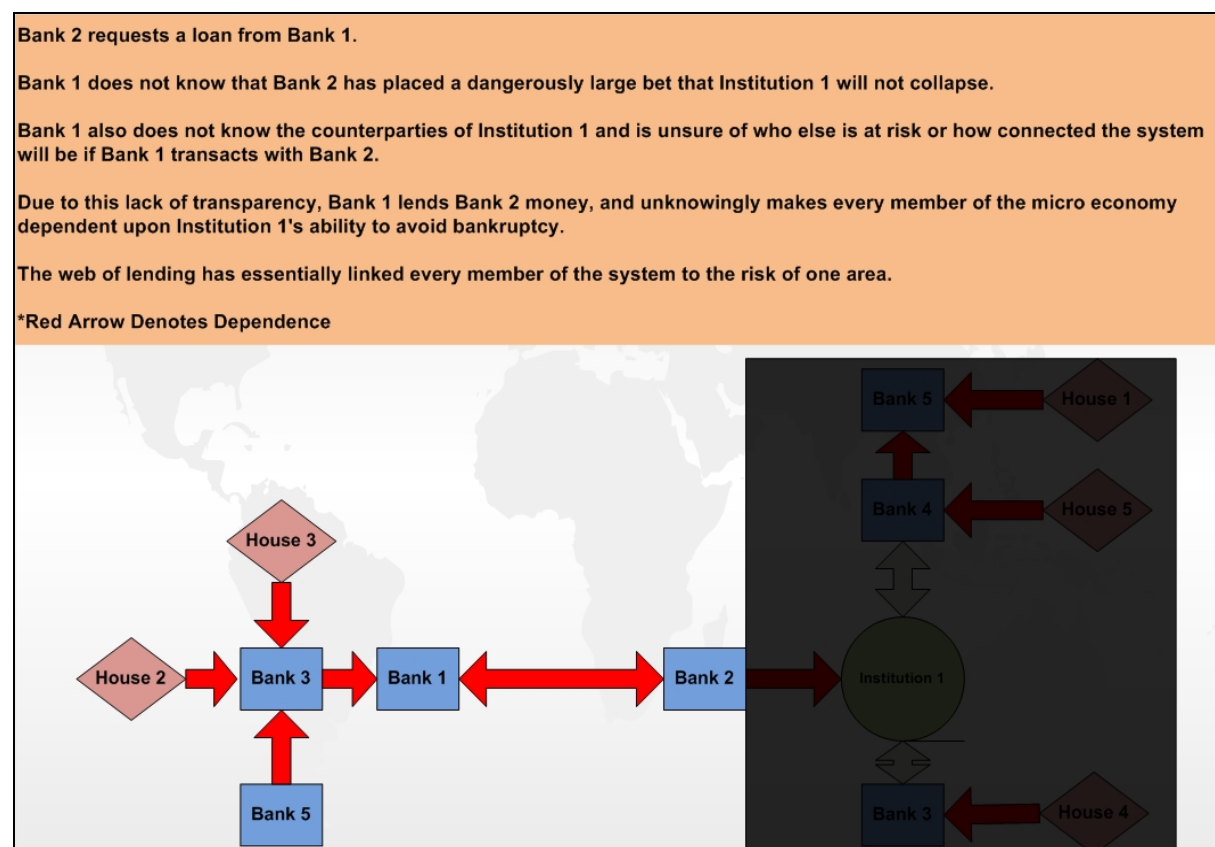


Figure 9: Lack of transparency amplifies the dangers of an interconnected economy

Economic Interdependencies, Lack of Transparency, and the Problem of Market Intervention

The interdependencies between economic agents and institutions highlighted by the micro-economy example are a fact of life, an aspect that is not only unavoidable but desirable. This concept has been effectively captured by the 'business ecosystem' metaphor, first introduced by Moore [52], since a biological ecosystem is characterized by such a complex distribution of interdependencies between all of its members, at and between all length and time scales. The metaphor of the business ecosystem, even if radically reductionist, is appealing to some because it implies a high degree of self-organization of the system, through endogenous forces and processes, and hence it negates the need for a supervisory or regulatory entity whose job is to keep things running smoothly.

Of course this is not what we then see in real life; for example, even a simple system like community currencies requires a lot of work on the part of an accountant to keep things running smoothly. But this point highlights the fundamental epistemological problem subjectivist and objectivist perspectives invariably collide with when attempting to communicate. The subjectivist perspective cannot help noticing the 'elbow grease' required to keep the socio-economic system running, whereas the objectivist perspective is happy enough, for the sake of the model, to abstract away even the structural (human) components that enable the system to function in the first place. Thus, different epistemologies draw the boundary of 'the system' at different locations.

The objectivist interpretation of a business ecosystem is strongly evocative of familiar neoliberal claims that "the market knows best" and that any problem can be solved by the market. Thus, whether or not we agree with the neoliberal point of view, we should approach seductive metaphors from biology with caution, a lesson that social science learned long ago from the catastrophic effects of social Darwinism.

Although we do not have the space in this article to do justice to the highly contentious 'free market' discussion, we can point to our recent and on-going research in the development of a theory of Digital Ecosystems [53-55], in which we have gradually pieced together a rationale that integrates *bottom-up processes* with *structural principles* of socio-economic action. This can be considered a 'synthesis' of what traditionally have been labelled as rightist/agent-based/individualist and leftist/structuralist/collectivist perspectives, respectively, on the explanation of socio-economic action. This integration has been made possible by adopting a social constructivist perspective in our research, with a strong reflexive component, as we outlined above, and has been significantly influenced by Giddens's Structuration.

In other words, by building on a combination of theorizing and direct experience in the application of the digital ecosystems approach to sustainable socio-economic development and innovation initiatives in different regional contexts in Europe, India, Africa and Latin America, we have arrived at a perspective on the construction of socio-economic environments that respects individual freedom, that values the self-organizing properties of the market, and that calls for the direct engagement of the stakeholders through the assumption of individual responsibility and the adherence to principles of accountability and transparency from a minimum base of trust. The trust literature indicates that there are combinations of accountability and transparency other than maximum for both that give rise to high levels of trust.

This is a tall order, to say the least, especially the responsibility, accountability, transparency, and trust. Where individuals do not want to or cannot take responsibility the assumption is that they can delegate to institutions. However, this brings additional difficulties since we cannot assume that institutions are universally regarded as trustworthy. In any given socio-economic system, we are therefore left with perhaps the oversimplified view that it is unwise to 'outsource' governance: the stakeholders had better roll up their sleeves and start talking to each other. In other words, a general theory of trust may not be achievable, but through good will and hard work the social construction of trustworthy institutions might indeed be possible, reinforcing the structuration view of socio-economic action.

Coming back to the micro-economy example, it would be understandable if, in the interest of preserving the health of the market as a whole, the far-reaching ramifications of its internal interdependencies were to trigger the application of a defensive normative response, whereby transparency guidelines are introduced by a regulatory body, formalized, and ultimately enforced. Such a top-down interventionist approach, however, would be a heavy interference with the

market. As such, it seems worthwhile to look for alternative approaches to direct intervention that might achieve the same effect of greater transparency in banking.

Acknowledging the Socio-Economic Environment

The simple model discussed above identifies how full transparency could balance the potentially dangerous effects of the intricate internal interlinking of the banking system that leaves it so vulnerable to failure in times of crisis. This paper's proposed solution is based on viewing increased transparency as an instrument for generating more business, rather than an obstacle to the same end. As we noted above, even at the level of a small neighbourhood implementing a community currency system the role of the bank needs to be self-sustaining and integrated within the same economic system that the community currency formalizes. Of course, the WIR system demonstrates that banks can also be non-profit institutions. As another example, in Islamic banking the amount of interest and the investment behaviour are significantly constrained. In other words, many solutions are possible, including the current overriding model of banks being run as profit-making businesses.

However, we should also note that, as of now, the banking system is broken. The structure of the game rewards risk-taking and self-destructive behaviour that is not conducive to safeguarding the interests of the company's stakeholders [56] or the economy at large, let alone the depositors. Past government regulation has proven ineffective at shifting the structure of the game, as demonstrated by the crisis itself. A prime example of the ineffectiveness of government regulation is highlighted by the current lawsuit against Ernst & Young by investors of Lehman Brothers in which off-balance sheet items allowed Lehman Brothers to wrongfully represent its stability despite the post-Enron Sarbanes-Oxley regulation [57]. Not until the stakeholders realize that they themselves must force a restructuring of the game, will the banking system be able to establish and maintain a sustainable symbiotic relationship with the overall economy. In this case, stakeholders include practically all parties with interests dependent upon the actions of the banks. These stakeholders include the government due to the emergency loans it had to issue, the banks' shareholders due to the depreciation of investments, and even the individual bankers due to the loss of employment. Bailout money in the recent crisis, funded by all taxpayers, now also makes every citizen a stakeholder with an interest in the reformation of this self-destructive game. While the subsets of stakeholders are diverse, all parties have a joint interest in preventing another banking crisis. Therefore, we must rely on the stakeholders to demand a new movement of increased transparency, with regulators gently guiding them towards this goal.

A Voluntary Effort to Provide Full Transparency

Why should the banks seek more transparency? All institutions and banks wish to minimize counterparty risk (the risk that an institution with whom an open contract is held defaults). In the long run and particularly through times of crisis, minimizing counterparty risk leads to increased profit. To demonstrate this point through a simple example, let's assume that Institution 1 perceives that Bank 1 and Bank 2 have an equal chance of defaulting. Institution 1 decides to lend 100 MT to Bank 2, chosen indifferently over Bank 1 due to the chances of default being perceived as equal. If both banks actually do have the same chance of defaulting, the decision between one or the other is irrelevant. However, since the original decision was based on the *perception* of risk, the actual level of risk can differ, resulting in significant implications. For simplicity, results will be analyzed over the long-run and therefore an expected return equation will be used. The expected return equation is simply a weighted calculation which multiplies the probability of each outcome by the return of each outcome. Let's say Institution 1's perception of Bank 2 was wrong and there is actually a 5% greater chance that Bank 2 defaults than Bank 1. The expected value of transacting with Bank 2 over Bank 1 using actual levels of risk is as follows:

$$E(\text{Transacting with Bank 1}) = 100\text{MT} \times [1 - \text{Chance of defaulting}] \\ + 0\text{MT} \times (\text{Chance of defaulting})$$

$$E(\text{Transacting with Bank 2}) = 100\text{MT} \times [1 - (\text{Chance of defaulting} + 5\%)] \\ + 0\text{MT} \times (\text{Chance of defaulting} + 5\%)$$

$$E(\text{Difference in return from choosing Bank 2 over Bank 1}) \\ = E(\text{Transacting with Bank 2}) - E(\text{Transacting with Bank 1}) \\ = 100\text{MT}(1 - \text{Chance of defaulting}) - 5\text{MT} - 100\text{MT}(1 - \text{Chance of defaulting}) \\ = -5\text{MT}$$

Institution 1's expected return is 5 MT less because the actual risk of Bank 2 defaulting was greater than the actual risk of Bank 1 defaulting. Again, while an objective consensus of risk may not be possible, increased transparency will allow for a more accurate estimate of risk that would lead to increased profitability over the long run as a result of better informed decisions being made. Therefore, a more accurate identification of actual risk over a number of transactions will lead to higher profits, which are clearly in the best interest of both the institutions and the banks. Banks and institutions will choose to transact with counterparties that have the least risk of defaulting since this is in the best interest of the stakeholders.

While the concept is simple, most institutions and banks rely on an estimated guess of counterparty risk based on perceptions. In the recent crisis, it was perceived that banks such as Lehman Brothers and AIG stood practically no chance of defaulting. Having seen the reality of the position they were in, it is clear that perceptions can often become disconnected from reality. Therefore, the proposed solution is to point out that banks have more to gain from voluntarily providing full transparency of risk. A firm's counterparties, contract sizes, reserves, and other measures should be disclosed to give a much more accurate idea of the amount of risk involved in transacting with a given firm.

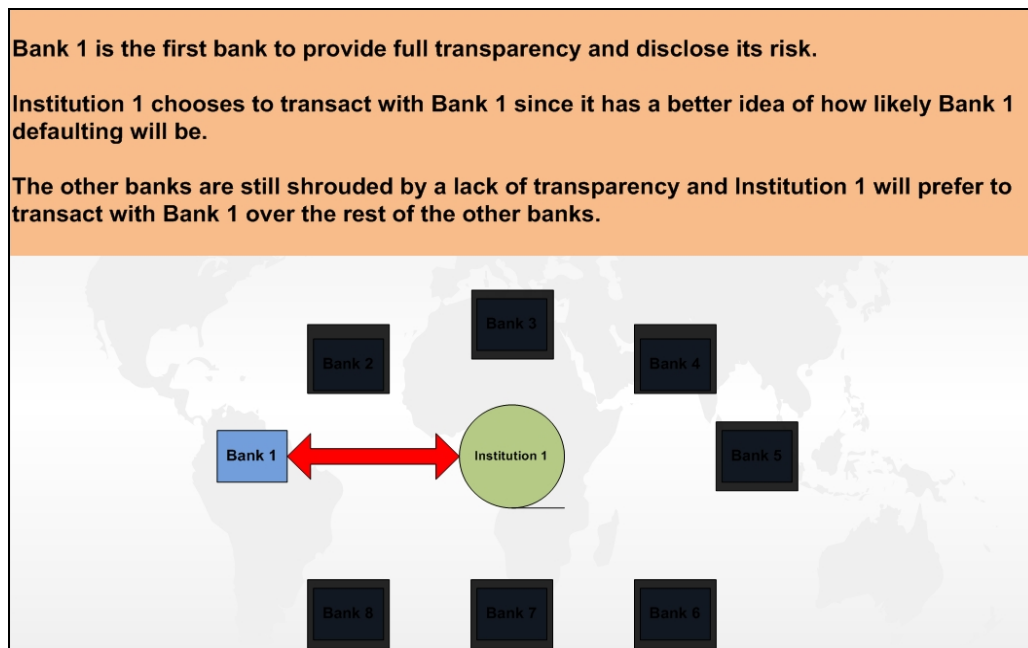


Figure 10: Institutions will prefer contracting with banks engaging in increased transparency

Many firms will be reluctant to provide such disclosure, but these are the same banks that have hidden risks, jeopardizing the stability of the system. Stakeholders in firms with lower levels of risk need to push management to provide increased transparency since it is in their best interest. Once one prudent firm discloses its risk, institutions seeking to minimize counterparty risk will then transact with that firm more than with others (Figure 10). Increased transactions due to the lower counterparty risk will directly lead to increased profits for that bank.

The next relatively prudent firm will realize that it is losing contracts due to a lack of transparency. Before long another firm will have disclosed its exposure and will benefit from the transactions. Thus, banks taking on relatively moderate amounts of risk will have an incentive to follow the lead of the first bank and to provide transparency in order to compete with the transparent firms. The hesitant players in the game will be the ones with the most to hide. Much like a society, the banking system will then shun banks that make imprudent choices (Figure 11). No longer will the structure of the game promote self-destructive risk-taking.

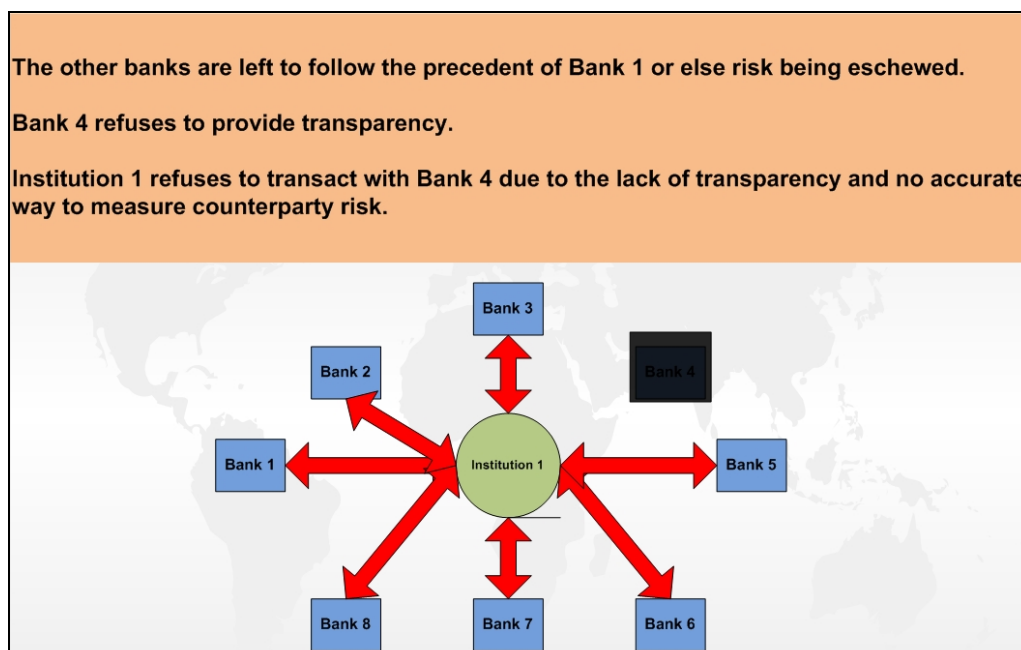


Figure 11: Banks refusing to provide transparency will be shunned by the system

Banks have hidden their disease with cloaks. In recent years, the disease spread and threatened the whole society of banks. Any bank that is not ill with hidden sickness, i.e. that has not placed high-risk bets on purpose and that is therefore more likely to be 'healthy', will wish to pull back its cloak, leaving other 'clean' firms to transact with it. Much like the lepers of old times, those who stay cloaked will be eschewed from society. In this manner, through a probabilistic argument it will become increasingly advantageous for the society of banks to cooperate in order to bring stability to the whole system.

A Regulatory Push in the Right Direction

While the scenario above should offset and eventually mitigate the exorbitant risks banks have been taking, a small push from regulators to guide the stakeholders towards the proposed solution would also help. Any democratic society relies on education of the public, yet the media have construed the problem in a complex esoteric manner, not favourable to bringing knowledge and understanding

to the public. The agencies that are responsible for preventing these crises should see a broad campaign to educate the public about the basics of investment banking as an opportunity to play a visible and constructive role. Although the disclosure will put them and many banks in an uncomfortable position, relative to the recent crisis, it will also demonstrate a willingness on the part of these institutional economic agents to assume their share of responsibility. This is the first step needed to rebuild an environment based on trust without which, as we have witnessed, credit cannot exist.

In parallel, a suggestion for regulatory action would be a policy that recommends, without mandating, the equivalent of the transparency discussed above. While the IMF has recommended certain measures for transparency, they admit to the shortcomings of their recommendations. They state that one of the most basic takeaways they must learn from the crisis is that, “flawed incentives and interconnections in modern financial systems can have huge macroeconomic consequences” and that future regulation must “raise transparency about the nature and location of risks to foster market discipline.” Such a statement implies an admission that previous measures failed to adequately address transparency issues [58]. The strength of such a policy, as proposed here, would lie in its ability to clarify *ex ante*, and enforce *ex post*, roles and responsibilities. All future decisions in times of emergency will weigh the level of transparency a firm has chosen to follow. Then, for example, the fraction of the bailout needed to keep the bank solvent could be made equal to the fraction of that bank’s total transactions that it disclosed transparently. Alternatively, should another crisis occur in the future, the Federal Reserve would only potentially bail out firms that met the standards recommended in the policy. All toxic asset repurchases or loaned funds could also be based upon a scale in proportion to a measure of transparency. Conceptually, the IMF has linked transparency and market discipline through regulation. One publication suggests that greater transparency would allow for “supervisors and policymakers to make better-informed judgments” and for penalizing “errant institutions by requiring them to hold more capital” [59]. However, comprehensive plans for achieving this greater transparency are lacking.

Such a policy would avoid the problem of direct market intervention, while also managing to convey the message that firms who refuse to voluntarily promote a safer banking system will be left to deal with the risks they have taken. Properly conveying this message would put greater pressure on the stakeholders directly able to influence such changes (shareholders with voting rights, the board of directors, employees, etc), since it will be against their own interests being left at risk. In other words, such a policy would make the banks more explicitly and transparently responsible for their actions. Finally, such a policy would serve to reduce much of the moral hazard involved when bailing out firms, which has been a significant political liability for national governments during the recent crisis. It is also worth noting that this proposal is not inconsistent with the growing trend for self- and co-regulation. Ofcom, an independent regulator of the UK communications industry, provides one such example of this movement. As Ofcom notes, “an approach fulfilling a broader public goal is often based on a combination of measures, with some elements of a solution defined by regulation and implemented via statutory instruments, and others possibly relying on self-regulation” [60].

Along these lines, one can argue that the government’s power over large banks is limited, largely due to how important the major banks are to the stability of the economy. A bailout in itself is almost an admission by the government that the existence of a bailed-out bank is so important to the economy that the government must give in and provide aid. Many argue that limiting the growth of major banks is needed, consistently with the Glass-Steagall Act, in order to balance the relationship between the government and the banks. Arthur Wilmarth, of George Washington University, contends that until restrictions on growth are adequately defined and enforced, there will never be true stability and the government may again be forced to provide banks with bailouts [61]. Unfortunately, the Dodd-Frank Act still leaves significant loopholes in the growth of banks and

the Basel III proposals released thus far have mainly dealt with liquidity, leverage, and capital standards rather than expansion restrictions [62] [63]. The provisions under the Dodd-Frank Act and proposed Basel III changes certainly seek to prevent the dangerous risks taken by banks, but it seems that neither seeks to prevent what truly triggered the bailouts: banks grew to become such a significant part of the economy that they posed a systemic risk.

CONCLUSION

The theoretical framework developed in this paper shows how the same social constructivist dynamic can reinforce the destructive behaviour of the trading community but can also lead to stronger democratic institutions as, for instance, in the case of community currencies. On this basis we have proposed a simplified model of economic behaviour that is based on the same kind of transparency and trust required for a community currency system to function. By implementing such a solution, the resulting increased transparency in banking could help to prevent a future crisis similar to the one recently experienced. Although it is clear that the banking system game is broken, and that self-destructive and greedy behaviour is still – even after the crisis – being rewarded, the strategy we advocate to arrive at such a scenario is not one of heavy-handed regulatory intervention. Rather, we believe that the solution lies in strengthening the democratic dimension of the banking system from the bottom up, which involves also the structuration of institutions, and in a way that is compatible with the ‘free market’.

Regulatory agencies can also play a crucial role in this (1) by setting a recommended standard of transparency and linking such standard to the level of financial support a bank can expect to receive in case of a crisis and (2) by informing and educating the public about such an accountability mechanism. The latter element of the policy will change the role of the voting public from passive depositors to active stakeholders and will do much to re-establish a base of trust in the financial institutions by the economy and society at large. It is reasonable to expect that from such strengthened democratic processes and institutions credit will flow more readily, with greater and more active participation of all the stakeholders and a more stable and constructive financial system.

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