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Working Paper No. 574.2

**A Critical Assessment of Seven Reports on Financial Reform:
A Minskyan Perspective, Part II**

Treasury, CRMPG Reports, Financial Stability Forum

by

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ABSTRACT

This four-part study is a critical analysis of several reports dealing with the reform of the financial system in the United States. The study uses Minsky's framework of analysis and focuses on the implications of Ponzi finance for regulatory and supervisory policies. The main conclusion of the study is that, while all reports make some valuable suggestions, they fail to deal with the socioeconomic dynamics that emerge during long periods of economic stability. As a consequence, it is highly doubtful that the principal suggestions contained in the reports will provide any applicable means to limit the worsening of financial fragility over periods of economic stability. The study also concludes that any meaningful systemic and prudential regulatory changes should focus on the analysis of expected and actual cash flows (sources and stability) rather than capital equity, and on preventing the emergence of Ponzi processes. The latter tend to emerge over long periods of economic stability and are not necessarily engineered by crooks. On the contrary, the pursuit of economic growth may involve the extensive use of Ponzi financial processes in legal economic activities. The study argues that some Ponzi processes—more precisely, pyramid Ponzi processes—should not be allowed to proceed, no matter how severe the immediate impact on economic growth, standards of living, or competitiveness. This is so because pyramid Ponzi processes always collapse, regardless how efficient financial markets are, how well informed and well behaved individuals are, or whether there is a “bubble” or not. The longer the process is allowed to proceed, the more destructive it becomes. Pyramid Ponzi processes cannot be risk-managed or buffered against; if economic growth is to be based on a solid financial foundation, these processes cannot be allowed to continue. Finally, a supervisory and regulatory process focused on detecting Ponzi processes would be much more flexible and adaptive, since it would not be preoccupied with either functional or product limits, or with arbitrary ratios of “prudence.” Rather, it would oversee all financial institutions and all products, no matter how new or marginal they might be.

See also, Working Paper Nos. 574.1, 574.3, and 574.4.

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JEL Classifications: E58, G01, G18, G28, G38

DEPARTMENT OF THE TREASURY: *BLUEPRINT FOR A MODERNIZED FINANCIAL REGULATORY STRUCTURE*

Summary

Rather than being focused on promoting financial stability, the core concern of this report is the competitiveness of the U.S. financial sector. The report argues that the current functional approach to regulation (for which a specific regulatory agency is assigned to a specific financial activity like banking, insurance, futures trading) constrains economic growth and financial innovations because of conflicts among regulatory agencies and long approval periods. The following quote summarizes well the main preoccupation of the Treasury:

Markets and financial products have evolved and continue to evolve at a pace that the SEC's current procedural practices fail to accommodate. Competitive pressures from technological innovation and globalization have rendered these delays problematic. Stock and options exchanges are competing both domestically and globally and must be able to make technical adjustments to their trading systems through rulemaking in a more rapid fashion. These adjustments typically relate to market and operational integrity. New securities products are often introduced and begin trading in other jurisdictions before appearing in the United States because of delays in regulatory approval. This limits investor choice and hinders the competitiveness of financial institutions. (Department of the Treasury 2008: 112)

These problems are all the more acute when financial holding companies combine many different financial services, which creates overlaps among financial regulators leading to inefficiencies (like duplication of supervision) and disputes “often hindering the introduction of new products, slowing innovation, and compelling migration of financial services and products to more adaptive foreign markets” (Department of the Treasury 2008: 27). Finally, the Treasury argues that the functional approach is not appropriate to deal with systemic risk. Indeed, none of the regulators has the necessary information and authority to monitor systemic risk, and to impose corrective actions over the whole financial system (Department of the Treasury 2008: 27).

In order to deal with those problems, the Treasury proposes to progressively change the regulatory system through short-term, intermediate-term, and long-term reforms. In the short-term, the Treasury proposes that the President's Working Group on Financial Markets broaden its scope of analysis to the entire financial system (rather than just focusing on financial markets).

It would do so by gathering regularly the heads of all the major federal regulatory agencies and the Conference of State Board of Supervisors. In addition, a mortgage origination commission should be created to regulate the mortgage industry more strongly. This federal agency would set minimum licensing standards for state-chartered mortgage companies, and would rate the state licensing and regulatory standards. Finally, in the short-term, regular (rather than emergency) access to the discount window should be broadened to non-depository financial institutions.

Intermediate-term reforms start a deep transformation of the regulatory framework that would transform all federal thrifts (who no longer play a major role in homeownership) into national banks, and would merge the Office of Thrift Supervision (OTS) and the Office of the Controller of the Currency (OCC). Similarly, the Securities and Exchange Commission (SEC) and Commodity Futures Trading Commission (CFTC) would be merged because the difference between securities and futures has declined to the point of being difficult to distinguish. Finally, among other regulatory changes, the Federal Reserve should regulate and supervise all payment and settlement systems, and should establish a chartering process for these systems.

In the long-term, the regulatory system would be reorganized in terms of objectives rather than in terms of functions. The Treasury proposes to have three different objectives when reforming the regulatory system: market stability, prudent behavior, and business conduct.

In terms of market stability, the market stability regulator (probably the Federal Reserve) would be put in charge of the “stability of the overall financial sector in an effort to limit spillover effects to the overall economy” (Department of the Treasury 2008: 146). It should focus on macro-prudential supervision over all financial institutions and all financial products, and would take corrective actions to guarantee financial stability:

For example, the Federal Reserve could be authorized to require that financial institutions limit or more carefully monitor risk exposures to certain asset classes or counterparties. Such a corrective action could require that exposures to certain asset classes (e.g., subprime mortgages) be constrained by either limiting future increases in exposure or limiting exposure to a certain percentage of capital. Similarly, the Federal Reserve could require that certain actions be taken to address liquidity and funding issues. Such a corrective action could require that financial institutions maintain or bolster their liquidity positions to ensure that short-term funding needs can be met. The potential scope of these actions would be broad, and could involve issues ranging from exposure to credit default

swaps and the proper functioning of the repurchase market. (Department of the Treasury 2008: 151)

In addition, the Federal Reserve should publish broad measures of financial exposures at the aggregate level and at the peer-group level, and should use them to justify corrective actions and changes in regulation. Finally, the Federal Reserve should destigmatize the use of the discount window by differentiating between normal operations and market-stability operations. The latter should be broad, anonymous and should allow the Federal Reserve to collect information. An auction-like lending mechanism like the recent Term Auction Facility would be ideal for a market-lending discount window operations.

In terms of prudential regulation, a prudential financial regulatory agency (PFRA) would provide regulation and supervision to avoid moral hazard among financial institutions with a federal or state government guarantee. It would complement the Federal Reserve by applying micro-prudential regulation.

Finally, business conduct would be regulated by a conduct of business regulatory agency (CBRA) that would ensure that financial institutions have, and maintain, minimum qualifications to enter certain lines of business. This agency would impose standards of business practice on all businesses (federally and state chartered) to make sure they have a more homogenous financial system and good consumer protection. Its areas of concerns would be information disclosure, marketing practices, testing and training of security firms, frauds and manipulations, and others. A charter would be granted to businesses that meet the criteria required to enter a financial activity.

Critical Review

One of the most interesting recommendations is that the central bank should orient its regulatory focus toward systemic risk via a macro-prudential policy that checks financial interrelationships among all financial institutions. The need to destigmatize the discount window is also very relevant and complements the previous policy by giving to the central bank a constant awareness of the financial practices of financial institutions. The President's Working Group, or another government institution, would be essential to implement the long-term reform proposed by the Treasury. However, it should include more than the members of the financial community, and it should meet frequently to discuss financial developments in the economy. Participants should

include members of Main Street, lawyers, and other members that can help regulators and supervisors to understand sometimes complex and/or localized financial practices that may be harmful to society and that may contribute to the emergence of Ponzi finance.

The need to orient regulation and supervision toward monitoring systemic risk and the need to emphasize the role of the discount window rather than open-market operations have been arguments that Minsky has put forward for a long time. Minsky also argues that the discount window should become the main central-bank refinancing channel in normal times (thereby destigmatizing it), and that the central bank should be able to know who accesses it and the type of collateral provided. This would help the central bank to stay in touch with developments in the financial sector. In addition, he also emphasizes the need to develop a cash-flow oriented analysis of financial institutions by looking at the types of asset and liability that financial institutions have, deducing the core net cash inflows from operations and cash outflows from liabilities, and determining if, and to what extent, position-making operations are necessary, and under what economic and financial conditions the capacity to make position would be threatened:

The crux of the report is the form on which the position-making accounts are identified. From the cash needs as derived from the liability structure and business operations and the cash position as derived from activity in the various accounts, a need to acquire or place cash by position-making activity emerges. The final steps in the examination procedure are to develop feasible position-making operations and to evaluate the liquidity of the bank under the hypothesized economic and financial conditions (Minsky 1975: 161)

This “conditional analysis,” as Minsky called it, has been partly applied by stress tests but it has not been focused on cash flows and the whole financial sector.

Compared to that the Treasury is vague in terms of what the analysis of systemic risk would look like: it should “look at risks present in the overall financial system, including correlations and common exposures across financial institutions.” (Department of the Treasury 2008: 151). In addition, the emphasis on capital and surplus as “key measures of financial health” that capture the “the financial strength and ability of financial institutions to meet their obligations” (Department of the Treasury 2008: 5) is not good for several reasons. First, in terms of financial health, capital may grow for reasons unrelated to the capacity to run a business properly, and Black (2005) illustrates how thrifts maintained a high profitability while being financially rotten. In addition, given the multiple adjustments that can be made to accounting

profit, this measure must be differentiated from the capacity to make money (Das 2006). Second, capital is also a poor measure of the capacity to meet debt commitments for liquidity and cash-flow reasons. In terms of liquidity, if the asset side of the bank is composed of highly illiquid assets, the recovery rate will be very low and it will be impossible to meet debt commitments by selling assets (even if they are very profitable). Second, as stated earlier, commitments are normally met through the cash inflows from business operations and that is a central measure to look at to determine if financial obligations can be met; growing profit does not imply growing net cash flow (especially if one is concerned with cash flows from operations).

Capital is a measure of the existing financial buffer available to protect to-the-person liabilities senior to the claims of company owners against losses of principal. If capital equity is zero, any further decline in the value of assets (either because of losses of market value or because of write-downs) will affect the principal advanced by senior creditors. However, rather than being a measure of a healthy business, capital equity is a buffer protecting the stakes of creditors if a company is in bad financial shape.¹ Raising or lowering capital requirements affects the buffer that needs to be given to creditors against losses and so does have a purpose of limiting leverage capabilities, but it is not to measure the financial health of the company. Finally, even though large capital equity may help to find refinancing funds and so may be helpful in a period of trouble, even a company with capital well above its required amount may still not be able to find refinancing sources because of a lack of confidence of lenders. Bear Stearns is a very good illustration of all those points:

As you will see, the conclusion to which these data point is that the fate of Bear Stearns was the result of a lack of confidence, not a lack of capital. [...] When the tumult began last week, and at all times until its agreement to be acquired by JP Morgan Chase during the weekend, the firm had a capital cushion well above what is required to meet supervisory standards calculated using the Basel II standard. [...] Counterparty withdrawals and credit denials, resulting in a loss of liquidity—not inadequate capital—caused Bear’s demise. [...] It is worth noting, however, that net capital rules are designed

¹ Besides this critical view of capital as a measure of financial health, one also can criticize the role of capital as a means to prevent moral hazard (Wray 2006, Kregel 2006, Tymoigne 2009a). As Minsky noted, stability is destabilizing and well-capitalized firms may have the incentive to take excessive risks.

to preserve investors' funds and securities in times of market stress, and they served that purpose in this case. (Cox 2008)

Floyd Norris in a 2008 *New York Times* article makes the point "Bear Stearns never ran short of capital. It just could not meet its obligations." More recently the Iceland bank Straumur stated in a financial release:

In spite of its *strong capital position and the support of funding banks* Straumur Burdaras Investment bank hf. (Straumur) believes that its liquidity position is no longer strong enough to sustain its activities. The Icelandic Financial Supervisory Authority (IFSA) has therefore decided to assume the powers of a meeting of the shareholders of Straumur and immediately suspend the Board in its entirety. Further, the IFSA hereby appoints a Resolution Committee, which will take over all authority of the Board of Directors. (Straumur 2009. Italics added)

Thus, rather than looking at capital and availability of refinancing channels to see if debt commitments can be met, cash flow and the size of cash reserves should be assessed within and among financial institutions. This will broaden the understanding of what position-making activities are required and how safe and relevant they are.

A second interesting point of the Treasury report is the emphasis on innovation as a crucial factor for the competitiveness of the U.S. financial sector. This is a serious issue but the Treasury puts too much trust in the capacity of financial companies to create financial innovations that do improve the competitiveness of the U.S. financial sector, and to promote safe and reliable financial practices that improve standards of living. This belief in the capacity of financial companies to create relevant innovations and to self-regulate is perfectly expressed by the following quote:

Treasury believes market participants will be reluctant to self-certify rules harmful to the market place. (Department of the Treasury 2008: 116)

This is quite an amazing statement, especially given the current financial state of affairs, and it really shows that this report was not written with the crisis in mind. There are, today, plenty of examples of innovations that have been harmful to society and to the competitiveness of financial companies. Greenspan recently had to admit that this is the case:

I made a mistake in presuming that the self-interest of organizations, specifically banks and others, were such that they were best capable of protecting their own shareholders and their equity in the firms. And it's been my experience, having worked both as a regulator for 18 years and similar quantities, in the private sector, especially, 10 years at a major international bank, that the loan officers of those institutions knew far more about the risks involved and the people to whom they lent money, than I saw even our best regulators at the Fed capable of doing. (Greenspan in U.S. House of Representatives 2008: 34)

The lack of concern for their own survival is not mainly the result of greed and irrationality. On the contrary, most market participants behave rationally in the sense that stiff competition and short-term incentives to reach money return targets pushed them to do *whatever* is legally (and sometimes illegally) possible to maintain their market shares. Unfortunately, this exclusive concern for individual financial accumulation pushes aside the long and indirect feedback effects that lead to financial fragility and increased systemic risk (Tymoigne 2009).

Maintaining a competitive profitability requires that financial institutions constantly innovate by creating new financial products or by using existing financial products in new ways. Over enduring periods of relative calm (small short recessions), those innovations involve higher leverage, higher credit risk, and higher liquidity risk, and it is the duty of regulators to adapt regulation and supervision as quickly as possible before things get out of hand. Regulators must discourage Ponzi innovations even if financial institutions claim that it is the only way they can maintain their profitability and stay competitive. Regulators must discourage those developments because ultimately they lead to financial crises, destroy financial institutions, and threaten the viability of the entire economy. In addition, if competition is the only mechanism left to select innovations, the "good" innovation will be the one that raise profitability irrespective of the impact on systemic risk. What is good for Wall Street may not be good for Main Street, and the criterion for selecting a "good" innovation should neither be Wall Street's interest nor Main Street's interest but the socio-economic system's interest (which requires financial stability to be able to durably raise the standards of living of Wall Street and Main Street). Systemic stability (rather than profit, homeownership, or other sectorial objectives) should be the paramount criterion to judge financial innovations, because systemic stability is required to obtain permanent welfare gains and to maintain the profitability and existence of any company. Stated

in terms of Minsky's framework, hedge financing should be promoted and Ponzi financing should be strongly discouraged, and even forbidden in most cases. Indeed, a Ponzi scheme (legal and illegal), except in the case of financially reliable² production projects, always collapses, no matter how efficient financial markets are.

Thus, rather than pushing for all kinds of financial innovation that provide short-term monetary gains and lead to long-term economic instability, the government should motivate financial firms to create innovations that make the U.S. reputable for a sound and reliable financial system, even if short-term profitability should suffer. This is where a good understanding of systemic risk based on a cash-flow analysis becomes very important. Not all inventions are worth becoming innovations. The Treasury report clearly does not think that this is the case and that government involvement prevents competitiveness. In addition, the licensing of financial products is only considered in relation to the interests of financial investors without consideration for financial stability:

The business conduct regulator should not have the ability to prohibit broadly products, limit entry through excessive licensing requirements, or control prices. In general, business conduct requirements that are too rigid can result in less competition, less innovation, and diminished flexibility to adapt to market conditions. For example, broad prohibitions on products should only be considered in circumstances where disclosures and regulation of business practices prove insufficient. (Department of the Treasury 2008: 171)

Rather than only taking into consideration the needs of financial investors, the stability of the economic system should matter and be the overwhelming criterion. Ponzi financial products should be forbidden because they *always* fail even if disclosure of information is optimal and even if used only by sophisticated financial-market participants.

In addition to monitoring financial innovations, a patent system could be created that reward safe innovations. Too much competition prevents the emergence of well-crafted innovations, and promotes sloppy financial products that do not respond to the needs of

² Reliable in the sense that Ponzi financing is expected to be only temporary, and that the production process does not help to sustain a pyramid Ponzi process.

customers and that are prone to generating Ponzi processes. Das provides a nice insider view of those tendencies:

We need “innovation,” we were told. We created increasingly odd products. These obscure structures allowed us to earn higher margins than the cutthroat vanilla business. The structure business also provided flow for our trading desks. [...] New structures that clients actually wanted were not that easy to create. Even if somebody came up with something, everybody learned about it almost instantaneously. [...] Margins, even on structured products, plummeted quickly. (Das 2006: 41)

A patent system would help financial companies to take the time to create innovations that respond to the needs of clients and that promote safe financial practices. Combined with government monitoring, it would encourage financial institutions not to innovate more (they already innovate a lot), but, to develop better financial innovations. This will be good for the competitiveness of financial institutions by raising the quality of financial innovations.

COUNTERPARTY RISK MANAGEMENT POLICY GROUP III: *CONTAINING SYSTEMIC RISK: THE ROAD TO REFORM*

Summary

This report is the most detailed and thorough in its recommendations and provides an explanation of the crisis that contains some elements similar to Minsky. For the Policy Group, at the roots of any crisis are human behaviors, specifically “unbridled optimism on the upside and fear on the downside,” which are compounded by a strong competitive environment in which “it is very difficult for one or a few institutions to hold the line on best practices, much less for one or a few institutions to stand on the sidelines in the face of booming markets” (Counterparty Risk Management Policy Group III 2008: 7). These general factors were coupled with causes specific to the current crisis.

First, given the high abundance of cash from energy producing countries and excess savings in Asia, and given the low central-bank rate, long-term interest rates were low which led to a “reach for yield” strategy. Given the strong competitive environment, this led financial institutions to mirror each other’s trading strategies with high involvement in subprime lending, leveraged loans and highly leveraged structured products. Competition and overabundance of savings also led to a situation in which “credit risk had been mispriced for some time” (Counterparty Risk Management Policy Group III 2008: 3).

Second, the complexity of financial transactions, that involved high leverage and strong maturity mismatch in the funding of assets whose liquidity was misperceived, contributed to the severity of the crisis (Counterparty Risk Management Policy Group III 2008: 54-56). The use of special purpose entities was further “encouraged by the implicit belief that ready access to [short-term] financing would always be there” (Counterparty Risk Management Policy Group III: 38). Unfortunately, the embedded leverage has led to very large losses even from small problems and this was not analyzed appropriately by stress tests; moreover, the funding of long-term illiquid structured products with short-term debts was highly destructive when refinancing sources dried out. These problems were compounded by the complexity of accounting rules to determine what is on- or off-balance sheet (Counterparty Risk Management Policy Group III 2008: 38), and by some confusion among market participants about the role of credit ratings. Indeed, some market participants assumed that a high credit rating implied a high liquidity as well.

Third, the report argues that there is a flawed incentive system in the financial industry that promotes short-termism and the implementation of highly complex and highly leveraged financial practices. Fourth, macroeconomic imbalances, such as the fiscal and trade deficits, have had adverse impacts on the expectations of market participants regarding future market outlooks. For example, rising fiscal deficit led to the expectation that inflation would rise, which generated an increase in interest rates.

As a consequence of this reading of the crisis, the Policy Group recommends many changes centered around five core principles for improving the management of financial institutions and financial-market resiliency. First, corporate governance should be enhanced to make sure that incentives are consistent with stability while maintaining competitiveness. Second, risk monitoring at the firm level should be enhanced by monitoring gross and net exposures to specific asset classes and by reporting results to senior management. Third, the estimation of risk aversion in the company should be improved through quantitative and qualitative analyses. Fourth, firms should think outside the box and have brainstorming sessions about contagion among financial institutions and potential systemic risk. Fifth, oversight should be enhanced and intra-firm regulatory and supervisory boards should meet with the board of directors at least once a year.

There are too many specific recommendations to summarize them properly. The following focuses on a few of them.³ First, the report recommends developing standard disclosure requirements for off-balance sheet activities and integrating the latter into an enterprise-wide disclosure of risks (market, credit, liquidity, capital, operational, and reputational).

Second, sophisticated financial products should be sold only to sophisticated investors, i.e. those who have the capacity to price instruments and to run stress tests, who have good governance and strong financial positions, and who have the capacity to understand risk and return characteristics (Counterparty Risk Management Policy Group III 2008: 59). In addition, sophisticated instruments should have a cash-flow analysis for each tranche, and should disclose their performance under extreme scenarios.

Third, risk management within companies should be strengthened by establishing a risk culture that is understood by all employees and approved by the highest level of management. In

³ The table in Part IV of this assessment provides a more detailed critique of the full recommendations.

addition, a risk-management committee, independent of the income-producing units of the company, should be established and the chief risk officer (CRO) should report directly to the top managers who should sign the documents brought by the CRO (Counterparty Risk Management Policy Group III 2008: 73). The committee would develop risk measurements for credit and market risks on a daily basis and would include contingent and secondary exposures (through SPEs). It would also develop a more systemic view of risks by developing an aggregate credit-exposure measure that accounts for positions at other firms (Counterparty Risk Management Policy Group III 2008: 26). Moreover, in addition to credit losses, stress tests should emphasize liquidity stresses by analyzing the cash-outflow impacts of on- and off-balance sheet liabilities. The report argues that liquidity management is as important as capital management:

First, while strong capital levels are critical to future financial performance, they alone do not ensure a financial institution can or will remain a going concern. Both Bear Stearns and Northern Rock appeared to have reasonable levels of capitalization as measured by their respective regulatory regimes. However, neither firm was able to maintain the necessary liquidity to fund their operations on a continuing basis, resulting in their effective insolvency. Therefore, it is evident that capital management and liquidity management are complementary disciplines that must be addressed together.

(Counterparty Risk Management Policy Group III 2008: 99)

This would allow the determination of a maximum liquidity outflow (MLO) based on liquidity stress tests. The latter would analyze the strength of secured and unsecured liquidity sources (excluding central bank refinancing channels) under normal and extreme circumstances. The financial companies should then have an “unencumbered liquidity reserve of cash and the highest grade and most liquid securities” (Counterparty Risk Management Policy Group III 2008: 29) that depends on both MLO and credit losses. MLO and credit losses should be judged for each desk of a company but also for a company as a whole. Finally, the inclusion of systemic risk should be used for decisions regarding new trade structures, incentives, strategies, and opportunities (Counterparty Risk Management Policy Group III 2008: 27).

Fourth, market resiliency should be improved by creating a clearing house for OTC transactions and derivatives, by developing and improving many other aspects of markets like frequent mark-to-market pricing, by making sure that counterparties are doing a good evaluation

of risks, by developing best practices for counterparty terminations, and by testing frequently the impact of the latter.

Critical Review

This report is in sharp contrast with the Treasury report in terms of its understanding of the economy and of what should be done to reform the financial system. Overall, it is much closer to what Minsky has in mind even though it concentrates mainly on reforms internal to financial companies.

In terms of its reading of the financial crisis and the events leading to it, the report is very good at showing the destabilizing effects of competition. Minsky noted that competition was both a source of productivity and instability, and that too high competition leads to short-termism and a *fuite en avant*, i.e., a process in which people focus exclusively on fulfilling their own agenda without any consideration of the fact that the system is becoming more and more unstable (which threatens the fulfillment of their own agenda).

The importance given to the analysis of cash flows and existing cash reserves, and the recognition that capital equity does not give a good measure of the financial health and strength of a company are fully consistent with the Minskyan analysis. The idea that liquidity reserves should be a function of a stress test on liquidity, credit, and market risk is very appealing. The Policy Group also recognizes the importance of studying financial interrelationships with other institutions and the strength of position-making channels. It also recognizes the importance of brainstorming sessions, in which thinking “outside the box” and qualitative informal analyses are involved in order to account for worse-case scenarios in addition to most probable scenarios. There are, however, several issues to review.

First, measuring and meeting MLO, liquidity ratio, and leverage ratio is beneficial only from the perspective of providing a buffer against expected risks induced by the past financial practices of a company. They define what “prudent” management of risk is. It is a reactive approach to the problems: “we made some decisions, now let’s cover our back and everything will be fine.” However, this is not enough because no matter how prudent a company is, excessive risk cannot be prudently managed. A Ponzi position cannot be hedged and any financial buffer is rapidly wiped out by the needs of the process:

The payoffs needed to contain a systemic crisis cannot be determined by a calculation of probabilities. The underlying relations that lead to payoffs cannot be forced legitimately into a “known risk” framework. Furthermore, the potential dollar amount of the possible payoffs from a systemic crisis would overwhelm any existing or feasible insurance reserve. (Campbell and Minsky 1987: 256)

Thus, it is not because a company has a cash reserve largely sufficient to meet its MLO at a point in time, or because liquidity ratios are high relative to the norm, that a company is managed well. Stated another way, it is not good enough to protect against risks induced by existing positions, it is also necessary to get the incentive firms not to take excessively risky financial positions (even though they may be extremely lucrative). Therefore, companies should thrive to detect and to eliminate their existing and potential Ponzi financial practices and a pro-active cash-flow analysis is central at this point. The MLO and other types of similar simulations (qualitative and quantitative) should be used in a preventive way to detect potential Ponzi tendencies.

Second, one of the problems of the report is that it leaves the assessment of the previous risks to “firm’s liquidity risk tolerance and desired survival period.” (Counterparty Risk Management Policy Group III 2008: 29). As the report notes, competition and market saturation lead to an increase in risk taking, and periods of expansion are characterized by rising optimism (however, not necessarily excessive); thus, if left to companies, risk tolerance will decrease over time, which is fine as long as this does not lead to the emergence of Ponzi financial deals. The pressure (from stockholders and top managers) to loosen risk aversion will be all the stronger when no major crisis has occurred for decades so that managers do not see the point of being tough on risk tolerance. In addition, new managers do not remember financial catastrophes and consider old past experiences as irrelevant, and financial innovations are assumed to protect economic agents well and to allocate risks toward those who are able to bear them (a long period of economic stability will be brought forward as the ultimate proof of this state of affairs). Finally, it is doubtful that the CRO and its committee can be truly independent from the income-producing unit, even more so that the Policy Group recommends rotating the people in the committee with other people in the firm (which, unless well managed, will lead to complacent and compliant behaviors; “you scratch my back, I scratch yours”). Das (2006), a financial insider, shows very well that back-office operators (accountants, risk managers, etc.) are considered a “burden” that does not contribute at all to the profitability of a company.

Therefore, we need a government oversight of systemic risk that focuses on the items presented above and that makes sure that the entire set of data available regarding past financial crises is used. Taking a 30-day time horizon to measure the MLO, as the report recommends, is far too short. In addition, the involvement of the government would allow centralization of a lot of information regarding the cash-flow interrelations among financial institutions, their interdependence in terms of position-making activities, their main refinancing sources, and other interesting financial data. This would give an aggregate view of systemic risk based on cash flows.

The focus on cash flows instead of capital is essential for several reasons. First, as shown in the review of the previous report, capital does not give a good picture of the financial health of a company but is rather a measure of the buffer provided to creditors in case of financial problems. In normal times, a good capital cushion may help to find financing and funding sources at cheaper costs but in bad times counterparties may be unwilling “to provide funding, even against certain high quality assets” (Counterparty Risk Management Policy Group III 2008: 90) or any asset.

Second, focusing on cash flows allows the assessment of the solvency of a company more accurately than looking at market value of assets and liabilities. Solvency is the capacity to generate a positive net cash flow after all expenses over the long run via normal business operations, rather than the capacity to currently have a positive market net worth. Like the historical cost approach, the current willingness to focus on mark-to-market valuation or other “immediate” market valuation is not a good way to measure solvency. Indeed, it does not take into account the underlying capacity to generate cash flows, which is at the heart of the sustainability of any capitalist activities. The historical approach has absolutely no consideration for the viability of a business. The market approach is influenced by all sorts of factors that have nothing to do with the core business of a company, and is focused on a short-term horizon and shareholders’ interest rather than the capacity to run a business as a going-concern. All this leads to erratic and silly valuations, especially when markets are highly illiquid:

The common valuation procedures take book or market value. For purposes of both management and central bank decisions it would be better if valuation procedures were conditional, that is, of the form: if the economy behaves as follows, then these assets would be worth as follows. [...] An arbitrary element enters into every placing of a price

on asset for which no broad, deep, and resilient market exists. [...] [However], even though the value placed upon a financial asset may be the result of an arbitrary valuation procedure, the commitments of the issuer of the instrument are precise. [...] The examiner, by reading the outstanding contracts, can make a time profile of contractually date cash flows to and cash flows from the unit. [...] Thus, a time series of the needs and source of cash, under alternative contingencies, can be estimated. (Minsky 1972: 120, 125)

From the determination of these cash flows, one could develop a conditional analysis of each financial company and of the entire financial sector:

A conditional cash flow analysis of individual, and classes of, financial institutions will estimate the impact of various alternative policy and market-determined conditions upon the individual institutions and the set of institutions. [...] The Federal Reserve must look beyond the commercial banking system [...] A unified procedure for examining all financial institutions that focuses on their cash flow will be of help not only to unit managements but also to regulatory authorities. One advantage of this approach is that through the information obtained the distribution of impact can be estimated. (Minsky 1972: 120, 129)

This idea of cash-flow analysis and conditional valuation has been applied partly through stress tests and CAMELS supervision; however they do not go far enough. Indeed, they do not take into account interrelationships between financial companies or they are not focused on cash-flow implications. In addition, a macroeconomic cash-flow accounting framework should be created to track interdependencies among financial institutions and the main sources of position making. Then, an analysis should be conducted about the reliability of position-making sources and the growth of Ponzi tendencies at the aggregate level. At the level of a company, the conditional cash-flow analysis allows determination of the solvency and liquidity of a company, independent of a pricing method. If necessary, a fair value for assets and liabilities can be measured from cash flows and be used to determine a balance sheet and net worth. In addition, the conditional analysis allows judgment of solvency under different future economic conditions, which gives a better idea of the probable viability of a company.

The conditional cash-flow analysis also could be used to determine the reliability of a financial product in terms of its capacity to allow a smooth financing and funding of economic activity. Regulators could watch two things before allowing a financial product to enter the economy. First, if the cash-flow implications of a financial product cannot be determined precisely, probably this product should not be allowed to exist. For example, payment-option mortgages would be a type of financial product that probably should not exist, or that should be restricted to customers with an income large enough to meet the demands of such a product (the availability of position-making channels should not be used to measure the reliability of a product). Second, cash-flow analysis allows the determination whether a financial product tends to promote a Ponzi process or not. For example, interest-only mortgages are Ponzi prone if they are granted to individuals who cannot pay the full debt services expected through their core sources of cash inflow and cash reserves (i.e., excluding refinancing and liquidation of the encumbered asset(s)). In 2003, a *New York Times* journalist noted, regarding interest-only mortgages, that:

Leaving the principal balance on a mortgage untouched, however, carries risks. [...] This is not to worry as long as home prices are appreciating [...] and owners can simply sell for more than they paid. (Bayot 2003)

More recently, Fitch commented that:

Fitch believes that much of the poor underwriting and fraud associated with the increases in affordability products was masked by the ability of the borrower to refinance or quickly re-sell the property prior to the loan defaulting, due to rapidly rising home prices. (Pendley et al. 2007: 1)

Thus, by the early 2000s, the Ponzi process was working full speed in the mortgage industry. The underwriting process faulted by qualifying customers on the basis of interest payments, and by taking the “long” history of rising home prices as a given (Tymoigne 2009b, 2010). The latter trend created a feeling that selling a home is a normal and safe way to repay a mortgage; this should not have been used to determine if a person could qualify for an interest-only mortgage.

Overall, therefore, focusing on expected cash flows has several benefits. First, this will help to get a better picture of the solvency and liquidity of firms. A firm may have a mark-to-market net worth that is negative because of panic in the market when its fundamental business

may be very strong if discounted expected cash flows are analyzed carefully under different economic conditions. Second, this will help to detect systemic risk more accurately by having a picture of the position-making needs of specific individuals and sectors, and of the whole economy. Third, this also will allow regulators to influence innovations toward safer products whose cash-flow implications are clearly laid out and can be easily compared to the cash flows and cash reserves of the intended categories of customers before they are issued. Cash flows should be the overwhelming criterion to judge the adequacy of the product and cash reserves should only be considered as a secondary source of cash. The Policy Group is aware of this need:

The Policy Group recommends that all market participants implement a paradigm shift in credit terms, establishing arrangements that create more stable trading relationships, are less pro-cyclical, and thus reduce systemic risk. (Counterparty Risk Management Policy Group III 2008: 24)

As Das noted earlier, financial companies are pushed by competitive pressures to create all kinds of instruments without necessarily checking the needs of customers and their safety. However, the Policy Group puts too much emphasis on the “sophistication” of investors to determine the adequacy of financial products. Good cash reserves, good risk management system, and other criteria are of secondary importance compared to the capacity to meet the demands of a product through core business operations.

Third, another point of the report that can be critiqued concerns the role of disclosure of information and the need to let only “sophisticated investors” deal with “sophisticated financial products.” Probably, improving the disclosure of information regarding the cash-flow pattern of a financial instrument under “normal” and extreme circumstances may help potential customers to make a better decision; however, regarding the recent financial products, the Policy Group also notes that:

There is almost universal agreement that, even with optimal disclosure in the underlying documentation, the characteristics of these instruments and the risk of loss associated with them were not fully understood by many market participants (Counterparty Risk Management Policy Group III 2008: 53)

Products were so complex that it was impossible to comprehend fully the implications of the information provided. In addition, there are several other problems with the idea that better

information means better decisions (and so better market allocation of resources). First, psychologists have observed that more information does not lead to more rationality, only confidence is boosted:

The relationship between availability of information and confidence is surprising. Intuitively, it is assumed that more information leads to better decisions, and more confidence in judgments and decisions. Only the second part is confirmed by research. More information inspires more confidence, but the quality of decisions tends to increase only up to a point and then deteriorates. (Wärneryd 2001: 168)

Better information gives a sense of control and knowledge that boosts the willingness to take risk. Second, competition and economic interest give an incentive to disregard information that could threaten the continuation of a highly profitable business even if this leads to a Ponzi process. This is all the more so that the latter usually seems (and may be for a time) extremely lucrative.⁴ Third, a period of good economic times, coupled with competition, increases tolerance to risk and forces economic agents to take more risks as markets saturate.

The idea that a lasting period of good economic performances, during which recessions or “shocks” have only been small, generates an increase in risk taking is easy to grasp. It is not due necessarily to irrationality or unbridled optimism; instead, it may rest on the fact that good times mean good economic results and so justified optimism. The fact that past data are strongly discounted or even ignored as time passes also plays a role:

As we tend to learn from the past and as horizons are short, a run of success or failure will feed back quickly into the evaluation of risks. (Minsky 1967: 293)

The determination of the cash to be expected by the borrower depends upon the loan officer’s views of what business conditions over the time of the contract will be; these views, even in an era where loan officers use forecasts of the economy, are seriously affected by the performance on outstanding loans. (Minsky 1984: 238)

⁴ As the Ponzi scheme established by Bernard Madoff shows, the “extremely lucrative” benefits do not have to be that high (even though most Ponzi processes promise double digits, or even triple digits, returns). The average return was 12% with a low variance (Markopolos 2009). This was a much better return than what was available, especially under the tight spreads of the early/mid 2000s.

This effect is reinforced by the progressive replacement of managers who experienced deep financial troubles, with new ambitious and highly motivated young managers who do not care about what happened in the past, and who have strong economic incentives to show off their talents for aggressive expansion of markets.

The idea that market mechanisms intrinsically lead to taking greater financial risks is more difficult to grasp and in fact controversial. However, Minsky has shown repeatedly that market saturation and competition push even the most conservative individuals to take more risk, by becoming less conservative in their estimates of expected cash inflows and required margins of safety and by being involved in riskier economic activities. This leads to a higher sensitivity of a given financial position (hedge, speculative, Ponzi) to adverse changes in economic conditions, and to an increasing use of funding operations requiring position making (higher proportion of speculative and Ponzi finance). Tymoigne (2009b) illustrates this idea with the trends observed in the 2000s and the report also notes this point.

Thus, overall, the goal of regulation and supervision should be not only to restrict access to some financial products, but also to make sure that financial products are reliable and do not promote Ponzi tendencies in the economy. This requires the use of a cash-flow analysis by regulators and financial institutions, and a view of regulation that accounts for systemic risks. For example, IO mortgages, that were created to meet the needs of wealthy customers, should not have been extended to subprime borrowers. Only people who have the capacity to meet the demands of such a loan *on their own* (i.e. without the need to refinance or liquidate a home) through income and, secondarily, cash reserves should be allowed to get those mortgages.

In addition, financial companies, not their customers, should determine if a customer can use a specific financial product. Individuals have been blamed for taking mortgages that they could not afford either because of fraudulent behaviors or because of a lack of financial education. However, the entire burden of selecting borrowers lies on bankers. Bankers are the financial experts, not the borrowers, and they should be the one that determines what is best for borrowers. It is not the role of a customer to determine if she can take an IO mortgage, like it is not the role of a client to tell to a mechanic what the problem is with his car. Similarly, when one goes to the dentist, one is not asked to educate herself about dentistry before going to the dentist, and one is not expected to tell the dentist what the problems are. One trusts the dentist to tell to the patient which tooth needs to be fixed and to do the job well. There is no reason to assume

that people are smarter, or have (or should have) more expertise with money and economic matters, than with medical or mechanical matters; and the fact that people use money everyday does not make them financial experts. Bankers are the experts, not borrowers, and the former should promote sound financial practices. It is the role of regulators to make sure that bankers do so.

Finally, in terms of off-balance sheet accounting, one may wonder why they should still exist, especially given the fact that the Policy Group recommends including off-balance sheet positions into risk measurement, and into the calculation of capital and liquidity requirements. One of the reasons for which securitization was created was to evade capital requirements, so if the Policy Group recommends accounting for secondary exposures there is no point in having off-balance sheet accounting. The only time off-balance sheet accounting would be justified is if full truth in sale could be established, i.e., sale without guarantee or residual participation by the SPE sponsor. This (to our knowledge) never occurs. Similarly, the capacity to hedge a position in an asset through derivatives should not be a justification to allow off-balance sheet accounting.

FINANCIAL STABILITY FORUM: *ENHANCING MARKET AND INSTITUTIONAL RESILIENCE*

Summary

The report argues that the crisis was caused by four basic factors: a long period of economic growth, low interest rates, financial innovations, and regulatory and accounting incentives to use securitization with high maturity mismatches. The combination of these four factors has led to an increased search for high-yield low-default securities, and has led to an underestimation of the value-at-risk because no data was available for new financial products, and because the creators and the buyers of new financial products put too much faith into the blessing of credit rating agencies. As a consequence, the belief that financial risks could be managed more efficiently grew rapidly, underwriting standards and consumer protection worsened, risk taking rose and maturity mismatch on balance sheets widened. As one could predict default rates have risen significantly which has led to the unwinding of the biggest financial crisis since the Great Depression.

Given its reading of the crisis, the report proposes five main recommendations: strengthen prudential oversight, enhance transparency and valuation, change the role and use of CRAs, strengthen responsiveness of authorities to risk, provide robust institutional arrangements to deal with market stress.

In terms of prudential oversight, the report recommends, first, that risk management should be forward looking. It is the responsibility of financial companies to do that but the government can provide some incentives to improve risk management. Second, capital requirements should be broaden along the line of Basel II for structured products. In addition, the calculation of capital requirements should be continuously adapted to keep up with financial innovations. Third, liquidity management should be reinforced:

The turmoil demonstrated the central importance that effective liquidity-risk-management practices and high liquidity buffers play in maintaining institutional and systemic resilience in the face of shocks. During the turmoil, it became apparent that financial institutions' funding arrangements often had not planned for sustained system-wide stress in funding markets, and did not address the links between funding, market liquidity and credit risk. As a result, many banks and other financial firms were vulnerable to a prolonged disruption in market and funding liquidity. (Financial Stability Forum 2008: 16)

The report does not provide additional recommendations on this matter and refers the reader to a future report. Fourth, supervisors must make sure that the robustness of stress testing is good by including data that reflects the whole business cycle and severe shocks. In addition, off-balance-sheet exposures should be subject to prudential reports and included in stress testing. Fifth, the compensations received by employees should be aligned to the long-term firm-wide profitability and, sixth, derivative contracts should be amended to allow easier cash settlement.

In terms of transparency of information, more information should be disclosed to maintain the confidence of financial-market participants:

Sound disclosure, accounting and valuation practices are essential to achieve transparency, to maintain market confidence and to promote effective market discipline. (Financial Stability Forum 2008: 23)

In addition, major financial-market participants should meet semi-annually to discuss the disclosure of the information “most relevant and useful to investors at that time” (Financial Stability Forum 2008: 25). Finally, the valuation of securities should be improved:

Potential weaknesses in valuation practices and disclosures, and the difficulties associated with fair valuation in circumstances in which markets become unavailable, have become apparent from the turmoil. Financial institutions, auditors, accounting standard setters and supervisors must take urgent action to address these problems. (Financial Stability Forum 2008: 26)

The report states that further recommendations will be available in the future regarding off-balance sheet accounting, disclosure of valuation methodologies and other matters related to the valuation of securities.

In terms of the role and use of CRAs, one needs to improve the rating process, especially in terms of its stability, by evaluating more carefully the information provided by firms requesting a rating (no rating should be provided if the information is too complex or if there is not enough information [Financial Stability Forum 2008: 36]), by disclosing more information about the cash-flow analysis of structured products, and, finally, by recognizing that a rating only evaluates credit risk, not liquidity risk, market risk or other financial risks (market participants too easily assumed that all those risks are related). In addition to improving ratings, a major reform of CRAs concerns their business arrangements; notably the conflict of interest within

CRAAs (CRAAs are paid by their raters) should be addressed as fast as possible. This is especially the case for structured products, for which the rating procedure is reversed relative to corporate bonds, and even more so when the CRAAs provide consultancy work to achieve a specific rating (Financial Stability Forum 2008: 33). Finally, the use of CRAAs for regulatory measures is problematic:

Credit ratings are referred to in various regulatory and supervisory frameworks both at the international and at the national level. Such official recognition in regulation and/or supervisory policies may have played a role in encouraging investors' over-reliance on ratings, by discouraging some investors from paying close attention to what the ratings actually mean. (Financial Stability Forum 2008: 38)

In addition to create leniency and over confidence, the use of some ratings by the government can lead to a dangerous feedback loop between market participants and regulators:

It is important to ensure that the use of ratings by authorities does not contribute to the lack of competition in the CRA industry. Issuers prefer to obtain, and investors prefer to use, the opinions of CRAAs that public authorities also use. Regulatory recognition in turn takes into account the extent of use of CRAAs in the market. (Financial Stability Forum 2008: 38)

This may reinforce the procyclicality of risk measurement so, maybe, the rating provided to the government should not be disclosed.

In terms of strengthening the responsiveness of government authorities to risks, they should have the resources and expertise to judge risks in financial innovations, and to make sure that companies have a risk management system that is able to deal with the risks induced by new financial products (Financial Stability Forum 2008: 40). In addition, large banks should share their contingency plans with the central bank (Financial Stability Forum 2008: 43).

Finally, in terms of the arrangements for dealing with market stress, central bank liquidity channels should be widely available and should vary in terms of the frequency of their availability, the maturity of the advances provided and the types of collateral accepted. In addition, the stigma regarding the discount window should be removed because even under periods of great stress, financial companies did not dare to use the window too much. By making the Discount Window operations anonymous during stress periods, the stigma will be removed.

The Term Auction Facility, by creating an anonymous auction system, has helped on this matter. In addition to the central bank arrangements, deposit insurance arrangements should be strengthened by making them simpler to understand by the public. Finally, cross-border financial companies should be assessed internationally.

Critical Review

With the Geneva report presented in Part III, the FSF report is the closest to Minsky's framework of analysis in terms of the explanation of the crisis and its policy recommendations. It accounts for the interaction between long periods of prosperity, innovations, and willingness and necessity to take more risks. Some of the recommendations are similar to the Policy Group, like the need for more liquidity management, and the need to account for off-balance sheet exposures, as well as the need to delink CRA "managers' compensation from the financial performance of their business unit" (Financial Stability Forum 2008: 33). The need to remove the stigma of the discount window is also well in line with Minsky's view who recommended doing so by making the window the main central bank refinancing channels for financial institutions. The need for financial companies to share their contingency plan with the Federal Reserve is also a very good recommendation. The central bank and other regulators should be aware of the position-making practices of financial institutions. This could help regulators to detect the growth of unreliable position-making sources. The recognition by the Forum that regulators have a role in judging the risks involved in financial products is also a good step forward.

Some of the recommendations, however, are not as consistent with the reading of the financial crisis. First, the report notes that members of the industry should meet semi-annually to determine if the disclosure of information is appropriate for financial investors at that time. However, as the report notes, what is appropriate at one time in the business cycle may not be appropriate at other times, either because information threatens the continuation of profitable businesses, or because information is seen as too pessimistic as the expansion proceeds. Information is constantly subject to interpretation by social norms regarding proper financial practices. These norms loosen over time under competitive pressures and smooth economic activity:

In the 1960s, commercial bank clients frequently inquired how far they could prudently go in breaching traditional standards of liquidity and capitalization that were clearly

obsolescent. My advice was always the same—to stick with the majority. Anyone out front risked drawing the lightning of the Federal Reserve or other regulatory retribution. Anyone who lagged behind would lose their market share. But those in the middle had safety in numbers; they could not all be punished, for fear of the repercussion of the economy as a whole. [...] And if the problem grew too big for the Federal Reserve and the banking system were swamped, well then the world would be at an end anyhow and even the most cautious of banks would likely be dragged down with the rest.

(Wojnilower 1977: 235-236)

Regarding the financial troubles involving the hedge fund Long-Term Capital Management (LTCM), Shinasi notes that:

Although it is easy in retrospect to question why LTCM's counterparties did not demand more information, in a competitive environment, cost considerations must have weighed heavily. Clearly, LTCM's counterparties thought the cost of more information was too high, and walking away from deals was not seen as in their interest. (Schinasi 2006: 221)

However, even if the cost of information is low, it may not be in the interests of individuals to check the information:

Above all, it is evident that the capacity of the financial community for ignoring evidence of accumulating trouble, even of wishing devoutly that it might go unmentioned, is as great as ever. (Galbraith 1961: xxi)

Recently, in the mortgage industry, lenders did not bother to verify the stated income of borrowers with the I.R.S. even though they had the means to do so quickly and at very low cost (Morgenson 2008). Overall, therefore, a better and more frequent disclosure of information should not concern only financial investors and should not be based only on the mood of the moment. In addition, information should be provided to regulators more frequently, and systemic information should be provided to financial investors on the basis of the overall trend of the economy. Thus, it is not as simple as providing information nor a question of having no data. Even if more information is provided, value-at-risk and other risk measures will still be procyclical, will ignore (or heavily discount) past worse events and will ignore information that could affect the profitability of a business.

Second, creditworthiness should be differentiated from probability of default, credit rating and FICO score. Indeed, rather than measuring the risk of emergence of a Ponzi process (“how will you pay on time?”), these three concepts measure the risk of loss for the lender (“will you pay on time?”) by measuring the chance that one will repay independently of the capacity to repay through core repayment methods. Of course, the probability of default is highly relevant for financial institutions because some borrowers may default even if they still can repay. As the current crisis shows if home value declines steeply and generates large negative net worth, it may make economic sense for some individuals to default even though they could still easily service their mortgage (Congressional Budget Office 2008; Elul 2006; ElBoghdady and Cohen 2009). Thus, probability of repayment is much more important for bankers than knowing how a borrower will repay. Similarly, credit “ratings are driven by the size of credit support, which is, in turn, driven by the expected losses from the pool, which are driven by the inherent risk of default in the pool” (Kothari 2006: 61). Thus, “ratings of mortgage-backed structured instruments relied heavily on CRAs’ assumptions about future house price movements and broader economic conditions” (Financial Stability Forum 2008: 35). Indeed, house-price trends affect the default probability (by affecting the negative-equity trigger) and the recovery rate, which are both central to determining average expected losses. Finally, the FICO score also tries to answer the “will you pay on time?” question, based on credit history that depends on past delinquencies, past foreclosures, outstanding debt amounts, types of credit and other factors present in the credit report. It is rather straightforward to notice that the FICO score does not take a cash-flow view of creditworthiness, because neither borrower’s income (or employment history) nor the interest rate on outstanding debts are included in the calculation of the score (Fair Isaac Corporation 2007: 10).

By now, the reader should be able to see that a very destabilizing feedback loop can emerge from the credit history approach to creditworthiness. Indeed, some people will qualify for a loan not because it is expected that they can meet payments but because it is expected that collateral prices will go up. Thus the rating process may encourage a Ponzi process: for example, the faster the housing price growth, the higher the recovery rate and the lower the default rate, the lower the expected loss, the higher credit ratings and the more people qualify, which sustains the growth of house price...until not enough people can be qualified to overcompensate for foreclosures. Thus, a Ponzi process may contribute to a decline in default probability and an

increase in credit ratings, while creditworthiness would actually worsen if judged with the criterion of “how will you pay on time?” In addition, data inputted to calculate the credit score can be manipulated to raise the latter (Creswell 2007), and, combined with a period of good credit history (irrespective of how the repayments were made), may help to create a Ponzi process:

Until a few years ago, FICO was just one factor in the underwriting process. But as Wall Street grew hungrier for mortgages it could stuff into securities and sell to investors, it came to value FICO as an easily understood risk measure. Lenders were all too happy to use it as a substitute for laborious underwriting. “There were investors around the world demanding more and more deals, with investment bankers happily supplying the business,” says Ron Chicaferro, a mortgage consultant in Scottsdale, Ariz. “It trickled down to the lender, who told their sales force, The faster you can get me a score and close a loan, the better. We’ll forgo the documentation.” (Foust and Pressman 2008)

By taking a cash-flow approach to creditworthiness, the risk of occurrence of a Ponzi financial process will be limited and so the possibility of *large* negative equity will also decline (negative equity is not the only source of default and has to be quite large to generate default), which lowers the default probability and so contributes to the health of financial institutions.

Further work should be devoted to this distinction between creditworthiness, willingness to repay on time, and expected loss. Financial institutions are more interested in the latter two because they directly affect their profitability but a good credit history may have been sustained only on the basis of Ponzi finance (which indirectly, and through long and complex lags, negatively impact profitability). The latter may not necessarily operate at the level of the borrower but rather at the level of the whole society. We need a painstaking analysis of borrowers’ cash inflows and cash outflows based on sources. This must be done by bankers who should be the “designated skeptics” as Minsky used to say, and regulators should encourage bankers not to lend to borrowers on the expectation that liquidation and refinancing will be the normal cash inflows that allow loans to be profitable. And this should be done before financial claims are securitized and resecuritized. This will make financial business less glamorous and more time consuming, but it may be the price to pay for enhanced stability and for a financial system that responds to the needs of society.

The concept of pre-loss creditworthiness should be a central element to determine if a financial product is adequate for a specific customer. It aims at determining if borrowers can repay on their own, rather than if lenders can recover their stakes *by any means*. This measurement of creditworthiness should be based on expected operational net cash inflows relative to cash outflows from liabilities. Expected cash outflows from debt service payments should be based on the normal interest rate and amortization rate, not the introductory terms. For example, in order to qualify someone for an IO mortgage, the income of the borrower should be compared to the complete debt service payment including principal, even if the borrower plans to leave the house before principal payments begin. In addition, the liquidation of the home should be considered as an abnormal source of cash inflow and so should not be included in the measurement of the capacity to repay. Doing otherwise will contribute to a Ponzi process because an IO mortgage that is unamortized, or only very partially amortized, relies heavily on the capacity to sell the house at the same or higher price. For pay-option mortgages (even more so for pay-option ARMs), the determination of creditworthiness is extremely difficult and so those loans probably should not exist or be highly restricted.

None of this implies that lender should not include the possibility that the value of the home will decline before granting a loan, but that is different from figuring out if the borrower *can* meet debt service payments on its own. Considerations about the value of the home should enter when a banker evaluates the possibility that a borrower may not be able to repay a mortgage on its own; even though, at the moment the loan is in the approval process, it is expected that he can. Relevant questions would be “What is the decline in house price that will prevent recovery stakes in the event a borrower unexpectedly defaults?” “What is the decline in home price that would be necessary to generate a default?” Thus, home prices matter to determine the profitability of a mortgage, but they would be used as a means to determine the available buffer against unexpected incapacity to pay, rather than as a means to figure out capacity to pay; they would be used in a defensive strategy rather than an offensive strategy.

A potential suggestion could be to try to combine the two views of creditworthiness (credit history and pre-loss). One way to do that would be to develop credit ratings that give information about the expected method of repayment. The report suggests that structured securities should have a different credit rating scale from corporate bonds. However, more than a change in lettering, we need a change in the information provided so that credit ratings respond

to the preoccupations of regulators rather than only to the preoccupations of financial investors. An entity whose high creditworthiness rests mainly on the expected capacity to resell its encumbered asset at a higher price should have a AAA_L rating where L stands for liquidation. On the contrary, an entity for which the capacity to repay is mainly based on its normal economic activities should have a AAA_I rating, when I stands for income (as income from the operation of an asset, rather than its liquidation, is usually the normal source of cash inflow). This would provide lenders with a view of expected losses (will you repay on time?) while at the same time providing a view of the growth of a Ponzi process to regulators (how will you repay on time?). The more AAA_L grows relative to AAA_I, the more a Ponzi process has a chance to develop in full-blown fashion and so some corrective actions should be taken by regulatory agencies. In addition, this, hopefully, will give some courage to regulators and supervisors to intervene, even though everybody is making money and benefiting from the continuation of the process (bankers make money and gain market shares, people access homeownership, retirees make huge capital gains, etc.), because the increasing reliance on a Ponzi process will be there for all eyes to see. However, this is probably not proactive enough and a direct detection and elimination of Ponzi processes is necessary to prevent their existence in the first place.

Overall, therefore, rather than competitiveness, homeownership, or any other goal, the detection of Ponzi financing must become the core concept around which to build prudential and systemic regulation. Stated another way, systemic stability (rather than profit, homeownership, or other sectorial objectives) should be the paramount criterion to analyze financial companies and the overall economic system. This requires the use of a cash-flow analysis at all levels (from specific financial practices to the entire financial sector) because systemic stability is required to maintain the profitability and existence of any capitalist entity.

Focusing regulation and supervision on detecting and preventing the emergence of Ponzi financing at the level of banks and the overall financial system has several benefits. First, rather than pushing for all kinds of innovation that provide short-term gains and lead to long-term instability, the government would motivate financial firms to create innovations that make the U.S. reputable for a sound and reliable financial system, even if short-term profitability should suffer. This will be good for the competitiveness of financial companies by raising the quality of financial innovations. Second, this would encourage financial companies to make sure that product users can afford them. Doing otherwise will promote (and in fact has promoted) the

emergence of a Ponzi process. Third, a patent system should be created and managed by the government in coordination with the oversight of new financial inventions. If the latter are certified to be safe, a patent should be provided to the inventor as a reward. This should encourage financial companies to take the time to develop financial products that meet the needs of customers and that promote hedge financing. Thus, we need a competitive environment but too much competition does not provide the ground for meaningful creativity, because safe financial products take time and are costly to develop but the reward obtained is very limited.

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