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## The shadow banking system and the new phase of the money manager capitalism

**Abstract:** *The conventional definition of the shadow banking system (SBS) put forward by economists of the Federal Reserve and endorsed by the Financial Stability Board and the International Monetary Fund is based on the mainstream view of banks as mere financial intermediaries. On the contrary, this article proposes a post Keynesian approach of the SBS that focuses on the banks' key role of creating money ex nihilo, highlighted by Schumpeter, Keynes, and their followers, such as Minsky. The hypothesis argued here is that on the threshold of the twenty-first century a new phase of money manager capitalism emerged, in which many money managers along with other nonbanking financial institutions became members of the SBS as they took part in credit risk withdrawals from banks' balance sheets. This was done through financial innovations (securitization and credit derivatives) that allowed banks to remove these risks from their balance sheets and, in turn, to grant increasing amounts of credit. Yet, by globally multiplying and redistributing the risks present in the system to a variety of financial institutions, they were responsible for the transformation of a classic credit crunch (wherein the sum of potential losses corresponding to loans with low collateral is known), into a systemic financial crisis in the international arena.*

**Key words:** *banking system, financial innovations, global financial crisis, money manager capitalism, shadow banking system*

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The conventional definition of the shadow banking system (SBS) put forward by economists of the Federal Reserve (Pozsar et al., 2010) and endorsed by the Financial Stability Board (FSB, 2013) and the International Monetary Fund (IMF, 2014) is based on the mainstream view of banks as mere financial intermediaries. On the contrary, this article proposes a post Keynesian approach of the SBS focused on banks' key role of creating money *ex nihilo* in capitalist economies, highlighted by both Schumpeter (1911) and Keynes (1930). For these authors and their followers, such as Minsky (1986), banks' capacity to issue money (cash deposits) frees the investors of the need for any prior savings, or, in other words, from wealth accumulated in the past and its distribution.<sup>1</sup> Therefore, banks are able both to create money (because their liabilities are convertible in the legal tender currency issued by the central bank) and to act as financial intermediaries, differentiating themselves from other financial institutions.

Precisely because of these two distinct yet linked functions, banks occupy a key position in payment and credit systems of modern capitalist economies, and for this reason, are under the control and regulation of the state (Freitas, 1997). State regulations limit the space and forms of banking competition because, although they create money, which is a public good (Polanyi, 1944), these institutions are capitalist agents subject to the logic of profit seeking. Therefore, their decision to leverage the buying power of entrepreneurs by creating money *ex nihilo* depends on their expectations in an uncertain and irreversible future, which gives a procyclical nature to the credit cycle and a potential destabilizing role to banking activity. In periods of optimistic expectations, they grant credit without requiring safe collateral and underestimate the risks, because the adoption of more prudent behavior could result in a loss of market share. In contrast, when expectations deteriorate, banks tend to reduce credit provision, raising interest rates and collateral requirements (Minsky, 1986).

Yet, as capitalist agents in search of profits, banks and other financial institutions actively react to regulatory, institutional, and

<sup>1</sup> In countries where the institutional segmentation in the financial system prevails, this capability is unique to commercial banks (which have thus become synonymous with bank), whereas other financial institutions (investment banks, savings institutions, etc.) are called nonbank. In countries where the institutional form of multiple or universal banks prevails, besides acting in the money market by raising deposits and credit-money creation, they are also present in other segments of the financial market.

macroeconomic changes. This is mostly done through the introduction of financial innovations that, usually, make existing regulations obsolete, thus requiring improvements to the regulatory framework (Minsky, 1986). The interaction between these changes and the competitive dynamics of bank and nonbank financial institutions came out with “money manager capitalism” (Minsky, 1989, 1996), characterized by the growing importance of institutional investors (such as pension funds and mutual funds), a class of nonbank financial institutions called “money managers.” Two financial innovations have underlined this phase of capitalism: the securitization of credit, which allows banks to reduce the risk of illiquidity intrinsic to banking, and the emergence of off-balance-sheet (OBS) operations.

The 1988 Basel Accord (Basel I), by setting a global goal of 8 percent for the risk-weighted capital/asset ratio, further encouraged banks to increasingly use securitization and OBS transactions in order to escape regulatory guidelines and to obtain new sources of income. This process, known as regulatory arbitrage, resulted in the introduction of a set of financial innovations traded on over-the-counter (OTC) markets, which deeply transformed the nature of banking in the United States and of the international financial system, culminating in the emergence of a new phase of “money-managed capitalism” on the threshold of the twenty-first century.

The hypothesis argued here is that, in this phase, many money managers along with other nonbanking financial institutions became part of the SBS as they took on credit risk withdrawals from banks’ balance sheets. This was done through two financial innovations: securities (such as asset-backed securities [ABS] and collateralized debt obligations [CDOs]) and credit derivatives. These instruments allowed banks to remove credit risks from their balance sheets and, in turn, to grant increasing amounts of credit. Yet, by globally multiplying and redistributing the risks present in the system to a variety of financial institutions, they were responsible for the transformation of a classic credit crunch (wherein the sum of potential losses corresponding to loans with low collateral is known), into a systemic financial crisis in the international arena. Therefore, we propose a definition of the SBS distinct from the one suggested by some post Keynesian authors such as Nersisyan and Wray (2010), for whom “shadow banks” are synonymous with “markets” or “managed money.” In other words, for them, the SBS would have appeared simultaneously with “money-managed capitalism.”

## The new phase of money manager capitalism

The logic of the maximization of profits that underlies the behavior of banks and thus the creation of money is a source of inherent instability, and can put into question the stability of the monetary regime, a public good. Precisely because they occupy a central and special position in the payment and credit system, banks evolved historically to become subject to state control, which involved the development of a set of institutions and instruments such as the guarantee of deposits, rediscount operations, the central bank acting as lender of last resort, and financial prudential regulation (Freitas, 1997). However, as Minsky (1986) highlighted, as capitalist agents in search of profits, banks actively react to regulatory, institutional, and macroeconomic changes in the environment through the introduction of financial innovations.

In the mid-1980s, a new form of organization of banking operations emerged, characterized by a significant increase in the share of liquid assets on both sides of the banks' balance sheets. This model, called "originate-to-distribute," was made possible by the securitization of debt (also called secondary securitization), by which illiquid assets (bank loans) are transformed into liquid assets (marketable securities). At the same time, various types of securities proliferated as the main method of financing for financial institutions, corporations, and governments (so-called primary securitization). The market-based financial system in which banking and capital market developments are inseparable emerged at this moment as well as the stage of capitalism termed by Minsky (1989) "money manager capitalism," characterized by the growing importance of "money managers," "highly leveraged profit-seeking organizations, such as mutual funds and private pension funds" (Nersisyan and Wray, 2010, p. 15).

Yet, at the beginning of the twenty-first century in the United States, the originate-to-distribute model underwent a quantitative and qualitative change in the setting of deepening financial deregulation (enabled mainly by the Gramm–Leach–Bliley Act of 1999)<sup>2</sup>

<sup>2</sup>This act, also known as the Financial Services Modernization Act of 1999, repealed part of the Glass–Steagall Act of 1933, removing barriers in the market among banking companies, securities companies, and insurance companies that prohibited any institution from acting as a combination of an investment bank, a commercial bank, and an insurance company. With its signing into law by president Bill Clinton, commercial banks, investment banks, securities firms, and insurance companies were allowed to consolidate (<http://www.ftc.gov/privacy/glbact/glbsub1.htm>).

and a macroeconomic environment of historically low interest rates. This environment, in turn, was the result of the loose monetary policy adopted after the bursting of the stock market bubble in 2000 and the terrorist attacks of September 11, 2001.

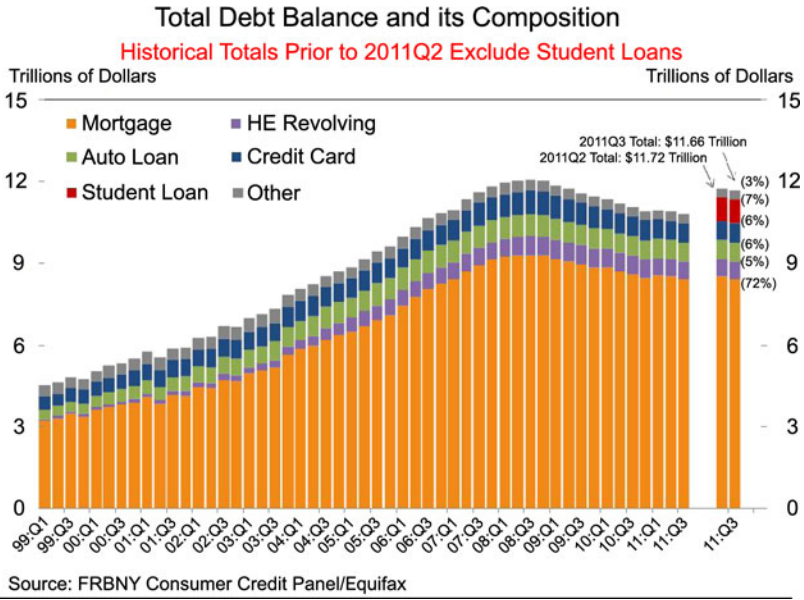
In order to increase their profitability, universal banks (or those with a commercial portfolio) chose to expand credit beyond the level allowed by the regulatory framework. From 2002, the mortgage market became the main locus of competition (Kiff and Mills, 2007). In the face of a limited number of prime borrowers and aiming to increase their loans (and thus boost their profits), these institutions extended credit to higher risk borrowers, including those at subprime level. This was done through the greater use of financial innovations, negotiated on the opaque and unregulated OTC markets. By allowing the withdrawal of credit risks from their balance sheets, these innovations led to strong credit growth in the United States (see Figure 1).

At first, the main instrument used to remove credit risks was the growing issuance of ABS (such as mortgage-backed securities—MBS), residential mortgage-backed securities—RMBS), and CDOs (Fabozzi, 1998). These securities were issued by banks, backed by their granted loans, and split into several tranches, with different risks and returns proportional to the cash flow generated by the service of the underlying credits. The structure of interest distribution came to be known as the interest waterfall, since the water had to fill up the first reservoir, or the senior tranche, to be able to start filling the others (mezzanine and equity tranches).

Very frequently, the riskiest portion (equity)—which takes on the risks of initial default and was nicknamed “toxic waste”—came to be a part of the assets of special purpose enterprises (SPEs) (special investment vehicles or SIVs, conduits, or SIV-lites)<sup>3</sup> often set up by the very bank originator to shift assets off balance sheets. The equity tranches were also partly transferred to hedge funds. In many cases, another part served as the underlying asset

<sup>3</sup>These different legal entities are generally characterized by the size and composition of their assets and liabilities. Conduits tend to be larger and less risky, while SIVs and SIV-lites operate with high leverage.

**Figure 1** Total debt balance and its composition



Source: Federal Reserve Bank of New York, [www.newyorkfed.org/householdcredit/index.html](http://www.newyorkfed.org/householdcredit/index.html)

of a new CDO (CDO of CDO). The expansion of these financial instruments generated large volumes of high-risk tranches (“toxic waste”). Difficult to transfer to other investors, these eventually ended in the aforementioned off-balance-sheet institutions, which underwent a huge expansion.<sup>4</sup> To carry these securities, the SPEs issued asset-backed commercial paper (ABCP) (short-term debt backed by assets) or other short-term liabilities and usually had a sort of total or partial liquidity facility guaranteed by the sponsoring institutions.

Later, banks also began to use credit derivatives (mainly, credit default swaps—CDS), defined as deferred settlement commitments between the “protection buyer,” the agent wanting to hedge or

<sup>4</sup>Initially, the management of the “toxic waste” allowed windfall gains resulting from the difference between interest rates in the two markets. With the rise of short-term interest rates in the United States, starting in 2004, excess liquidity led to the fall of long-term interest rates, reducing spreads and the profitability of these operations.



speculate on credit risk,<sup>5</sup> and the “protection seller,” who receives an income stream in exchange for taking on the risk of having to repay a loan affected by “events” stipulated in the contract. Like other financial derivatives, credit derivatives are a zero-sum game in which all losses equal the sum of the gains, while ignoring transaction costs. In other words, there is no creation of wealth in these markets, only a transfer of risk and flow of revenue. Nevertheless, these instruments, whose largest expansion started in 2006,<sup>6</sup> have an important specificity: their risks involve the principal of the operation, namely, in case of a credit event, the seller of protection must make whole the notional value of the contract. In all other derivatives with underlying assets involving interest rates, exchange rates, equity indexes, and so on, the risk is limited to the variation of prices at the margin (selling at a lower price than previously bought or buying at a higher price than initially sold). It also became common to issue securities based on these credit derivatives, that is, securitization squared or to the *n*th degree. These “synthetic” versions of securities backed by credit derivatives, called “synthetic securitization,” replicate the exposure to risk and return of the underlying asset, without the effective granting of loans.<sup>7</sup>

In order to attract investors, the higher-yield (i.e., subprime) loans underwent a genuine process of alchemy through the proliferation of MBS, RMBS, CDOs, and mortgage backed multi-name credit derivatives.<sup>8</sup> In this process, the housing loan

<sup>5</sup>Some buyers of protection on credit derivatives seek a way to eliminate or reduce their exposure to the credit risk of a particular asset. But, in doing the same operation, others can bet on the worsening credit quality of certain issuers or on their default, even if they do not own the underlying securities. Credit default swaps have often been compared to insurance. However, CDS are very different from insurance in at least two important aspects. First, only a person with an insurable interest can obtain an insurance policy. A car owner can insure only the car he/she owns, not his/her neighbor's. But a CDS purchaser can use it to speculate on the default of a loan he/she does not own. These are often called “naked credit default swaps,” which can multiply potential losses and corresponding gains on the default of a loan or institution. For more on credit derivatives, see Partnoy and Skeel (2006).

<sup>6</sup>According to Bank for International Settlements (BIS) data, the volume of these derivatives increased from US\$28.6 billion in 2006 to \$57.3 billion in 2008. See also Cetorelli and Peristiani (2012).

<sup>7</sup>For more on synthetic securitization, see The JPMorgan Guide to Credit Derivatives, available at [http://www.investinginbonds.com/assets/files/Intro\\_to\\_Credit\\_Derivatives.pdf](http://www.investinginbonds.com/assets/files/Intro_to_Credit_Derivatives.pdf).

<sup>8</sup>Credit default swap can be single-name (protects against default of a particular entity) or multi-name (protects against default of a pool of names).



portfolios (encompassing both prime and subprime loans) were quickly packaged with other types of credit receivables (such as credit card and car loan receivables, in smaller amounts) and securitized in CDOs, irrespective of their risks (Farhi and Cintra, 2009). These securities were then submitted to the rating agencies, which gave them their triple-A stamp of approval, making them easy to sell as low-risk assets, irrespective of the fact that the underlying credits were of poor quality. The logic behind this high rating was the reduction of default risks through diversification of assets that were supposedly uncorrelated.

In this process of alchemy, a number of different loans of varying risks were combined, so that many of those backed by subprime mortgages were eventually reclassified with an excellent credit rating. The repackaging of subprime mortgages and their endorsement by rating agencies enabled their purchases by institutional investors with higher risk aversion such as pension funds and insurance companies. Given the amount of accumulated financial wealth from, for instance, currency reserves of Asian countries and oil exporters, the trading desks of international banks in Wall Street had orders to buy any U.S.-debt-rated “investment grade” (nonspeculative). So, many of these tranches were sold to investment funds in Korea, Taiwan, Australia, China, France, Germany, and the United Kingdom, among others.

Therefore, it was the aforementioned financial innovations and their synthetic images that enabled the banks to remove many of the credit risks from their balance sheets in order to leverage their operations without breaching the capital ratios required by Basel I. Furthermore, with securitization, the nature of banking underwent another metamorphosis; the direct relations with borrowers that acted as a “leading indicator” of default risks were severed. As noted by Kregel (2008), by employing financial innovations in the process of regulatory arbitrage, the quality of the credit was put aside, as it was not meant to remain on their balance sheets. At the same time, banks took on the increased role of intermediaries of resources in exchange for a fee inasmuch they perform important functions in the securitization process, such as issuers of securities, underwriters in charge of placement, and servicers that take care of the revenue streams from securitization.<sup>9</sup>

<sup>9</sup>For a detailed description of banks’ participation in the securitization activity, see Cetorelli and Peristiani (2012).

It is worth mentioning that the so-called Basel II Accord—*International Convergence of Capital Measurement and Capital Standards*—set up in June 2004 was intended to formulate rules of prudential regulation more adequate to this new style of banking operations, increasingly interrelated with the capital markets. The main guidelines of Basel II were scheduled to be implemented by the G-10 countries only from 2007 on,<sup>10</sup> with an additional transitional phase of two years, except the United States, which delayed its introduction until 2009. In Basel II, the calculation of the total minimum capital requirements for balance-sheet and off-balance-sheet operations includes operational risk (besides credit risk and market risk, introduced by the Amendment of 1996) and special treatment for securitization exposures (called the “securitization framework”) that established regulatory capital requirements on exposures arising from traditional and synthetic securitizations or similar structures that contain features common to both (such as SIVs used as financing vehicles). Yet banks would not be allowed to assess capital charges for these exposures in the presence of the following conditions: significant credit risk that had been transferred to a third party (such as SIVs); the transferor would not maintain effective or indirect control over the transferred exposures; or the securities issued were not obligations of the transferor (paragraph 554 of the Basel II Accord). The new framework also allowed the use of a wider range of credit risk mitigants (as credit derivatives) to reduce regulatory capital requirements.<sup>11</sup> Therefore, in Basel II, off-balance-sheet exposures, such as SIVs and CDS, were accepted and regarded as ways of reducing the credit risk of banks.

In the new organizational form of the financial system, the large internationally active banks promoted capital markets as a source of income rather than hinder development in favor of the traditional functions of commercial banks (Guttman, 2008; Guttman and Plihon, 2008; Kregel, 2008). They increasingly turned into universal banks or “financial services supermarkets”

<sup>10</sup> As a matter of fact, many of the rules of Basel II were not implemented due to the crisis.

<sup>11</sup> The scope of the Basel Accord was also widened. Its new version was based on three pillars: minimum capital requirements for balance-sheet and off-balance-sheet operations (pillar 1), supervising review of capital adequacy (pillar 2), and the strengthening of market discipline (pillar 3). See Basel Committee for Banking Supervision (2004).

by developing a wide range of complex and diverse activities directly or through off-balance-sheet vehicles, such as retail, investment, insurance, asset management, fund management pension, and so on. To raise revenues besides those originated by managed investment funds, universal banks also began to provide asset management services through various departments, provide financial insurance (hedging) as dealers in the derivatives market, offer credit lines on issues of commercial paper and other debt securities in the capital markets and to sponsor hedge funds, providing credit for their operations and copying their business strategies. This business model was implemented by the investment banking sector within the universal banks and was responsible for a relevant part of the heavy losses in the crisis.

The role of the rating agencies in the makeup of this new phase of money manager capitalism should also be mentioned. These agencies had accelerated growth and recorded strong rises in profits with the expansion of securitization. By assisting financial institutions in the structuring of credit-based securities to ensure the best possible rating, the agencies participated in creating the myth that bank credit could be priced and traded as “low risk” in secondary markets. Therefore, they incurred a serious conflict of interest because a substantial portion of their income came from these activities.

However, for the banks to unload credit risk in such huge volumes, other agents, more specifically nonbanking financial institutions, had to be more than willing to take over the credit risks against a return that was considered high at the time.<sup>12</sup> These agents include not only the SPEs and hedge funds but also insurance companies and money managers, such as pension funds and investment funds. Three other kinds of financial institutions also took part in this process: the major investment banks, which multiplied the hedge funds under their management, making room in their portfolios for riskier products and assets and building highly leveraged structures; the U.S. regional banks specializing in mortgage loans and the government-sponsored enterprises—GSEs (Federal National Mortgage Association, Fannie Mae, and Federal Home Loan Mortgage Association [Freddie Mac])

<sup>12</sup>Persaud (2002) had already underlined the shift of the investments of insurance companies, who took prominent positions in SBS, to riskier assets due to the impossibility, in a context of low interest rates, of reaching the benchmark required to fulfill their obligations by investing in low-risk assets.

created for the purpose of providing liquidity to the U.S. housing market (Farhi and Cintra, 2009).

In our approach, these agents, among whom were many money managers (pension funds, mutual funds, and hedge funds), made up the shadow banking system insofar as they were directly engaged in taking over the credit risk of banks. In an environment of low interest rates, in search of revenues, they adopted a business model that replicates one of the largest sources of income for commercial banks: grant credit. Not being able to create money, they did so by purchasing securities backed by bank credit with a return linked to the repayment of the granted loans (MBS, RMBS, CDOs) and taking on the counterpart of bank operations in the derivatives market (selling protection against credit risks). But, as they did not issue money (cash deposits), they did not have access to deposit insurance, to rediscount operations, and last resort lending by central banks.<sup>13</sup> Furthermore, they were not included in the structure of prudential regulation and supervision.

Many of them (mainly, the SPEs, hedge funds, and investment banks) operated with a high degree of leverage, raising short-term funding (through the issuance of commercial paper, ABCP, or other short-term securities in the money market) to finance long-term loans (Guttman, 2008; Kregel, 2008).<sup>14</sup> This maturity mismatch made them highly vulnerable. As detailed below, the explicit or implicit credit and/or liquidity support offered by banks to these institutions proved insufficient to shield them from a withdrawal of resources or a loss of trust by short-term investors.

The concept of SBS proposed here could be called “post Keynesian” in as much as it focuses on banks’ special role of creating money *ex nihilo*, as emphasized by Shumpeter, Keynes, and Minsky. It is worth recalling Minsky’s (1987) claim that “securitization implies that there is no limit to bank initiatives in creating credits, for there is no recourse to bank capital.” We could state that in the new phase of money manager capitalism, besides conventional securitization (issuance of ABS), a new kind of

<sup>13</sup>The regulations before the outbreak of the crisis limited deposit insurance and credit lines of last resort to commercial banks. However, as detailed below, at the height of the crisis, several institutions of the shadow banking system had to be rescued by the monetary authorities. This extraordinary support lasted until mid-2009.

<sup>14</sup>For more details on the funding mechanisms of the SBS, see Pozsar (2011) and Tarullo (2013).

security (CDOs) and credit derivatives pushed the banks' capacity to grant credit to the limit in view of the prudential regulation then in force. Yet, this was only possible because nonbanking financial institutions, the SBS members, were willing to take over banks' credit risk.

On the contrary, the definition of SBS put forward by Fed economists (Pozsar, 2008; Pozsar et al., 2010) and endorsed officially by the Financial Stability Board (FSB, 2013) and the IMF (IMF, 2014) is based on the mainstream view of banks as financial intermediaries. According to Pozsar et al.:

Shadow banks conduct credit, maturity and liquidity transformation similar to traditional banks. However, what distinguishes shadow banks from traditional banks is their lack of access to public sources of liquidity such as the Federal Reserve's discount window, or public sources of insurance such as Federal Deposit Insurance.... Shadow banks are interconnected along a vertically integrated, long intermediation chain, which intermediates credit through a wide range of securitization and secured funding techniques such as ABCP, asset-backed securities, collateralized debt obligations, and repo. This intermediation chain binds shadow banks into a network, which is the shadow banking system. The shadow banking system rivals the traditional banking system in the intermediation of credit to households and businesses. (Pozsar et al., 2010, p. 2)

It is important to mention that Fed economists built on the term brought back and applied to the United States by McCulley (2007),<sup>15</sup> who emphasized the vulnerability of the SBS to runs due to its uninsured funding mechanisms (such as commercial paper), without access to the Fed's discount window.

The two definitions of SBS result in different compositions of the SBS. The mainstream definition includes all the nonbank financial institutions engaged in the securitization chain, including money market funds (MMFs), focusing on the funding mechanism of the SBS. The post Keynesian definition, in turn, encompasses only the nonbank financial institutions that take over banks' credit risk through both securitization and credit derivatives. Therefore,

<sup>15</sup>The term "shadow bank" has usually been used in a more generic meaning, namely, financing from sources other than banks. For instance, in many countries (e.g., China), it is used to designate informal moneylenders or loan sharks. Paul McCulley is executive director of Pimco, the largest asset manager in the world.

the definition proposed here excludes nonbanking financial institutions that only provide short-term funds to other institutions of the SBS, such as MMFs, and includes nonbanking financial institutions that do not depend on short-term funding, but take on the counterpart of bank operations in the derivatives market, such as insurance companies and pension funds. These different compositions, in turn, imply different measurements of the SBS and condition the ongoing reform of the regulatory framework (see next section).

Another important dimension of the SBS that is not highlighted by the mainstream definition is the locus of the transactions between banks and nonbanks (members of the SBS), the OTC markets. In these markets, unlike organized markets, there are no standard contracts, trading rules, or clearinghouses, which consolidate each participant position, promote their compensation, and ensure the transfer of gains and losses. The absence of these clearinghouses results in a higher risk of a counterpart's default. This risk arises every time a position in derivatives presents a profit, as this income is equivalent to the loss of the counterpart in the transaction. Counterpart risk can take on a systemic nature due to a domino effect caused by the default of a financial institution broadly active in the OTC derivatives markets. This risk is higher in the case of credit derivatives because they involve the notional value of the operation, which strongly increases the risk of contagion.

The OTC derivatives operations emerged and underwent a huge expansion in the United States, spreading across the globe, in the context of intense competition among banks and nonbank institutions, as well as broad financial deregulation. From the perspective of supervision and regulation authorities, the internal control mechanisms of corporate governance and the management of banking risks were extremely efficient and sufficient to contain systemic risk. As a result, a huge international network of cross-commitments outside any oversight, whose scope and format are extremely opaque, was created.

It is important to clarify that since the late 1980s, the OTC markets have recorded extremely high volumes of trading in financial derivatives, which enable financial institutions to cover their risks in foreign exchange rates, interest rates, and market prices of other assets, to speculate on the trend in prices, or to take arbitrage positions. Whereas negotiations were restricted to those assets,

the relationship between the banking system itself and nonbank financial institutions (the future members of the SBS) was limited to the credits granted by the first to the second and the fact that they usually took each other's counterpart, with the risk restricted to the margin.

Only when these markets started to negotiate credit derivatives (involving the notional value of the operation) and CDOs in meaningful amounts did these institutions begin to behave like banks without being able to create money by extending credit, which led to the overlapping of the balance sheets of banks and many nonbanking financial institutions and the emergence of a new phase of money manager capitalism.

Due to the opacity of the OTC markets, only after the outbreak of the subprime crisis was it revealed that the risks had not been diluted among a large number of small speculators, and were instead concentrated in certain large portfolios of the SBS, causing a huge loss of confidence and paralysis of the international interbank market (Adrian and Chin, 2010). At the beginning of the crisis in July 2007, negotiations on CDOs and ABCP froze due to the sharp increase in defaults on subprime mortgages, which uncovered the huge failures of the basic assumptions employed in these asset pricing models (Taleb, 2007). Assets that were accounted as mark to market in the balance sheets lost almost their entire value due to their total lack of liquidity.

From the outbreak of the crisis to its conversion into a systemic phenomenon, after the bankruptcy of Lehman Brothers, the most acute episodes (Borio, 2008) involved precisely the institutions of SBS that faced a "bank run against non-banks" (Kedrosky, 2007). In this process, institutions seeking to survive eagerly sold assets to the markets that still existed, further depreciating their prices. Moreover, some relevant institutions of the SBS, such as some of the biggest U.S. investment banks, simply ceased to exist due to the rapid shrinkage or disappearance of their funding source, to the lack of capital reserves, and/or to the illiquidity of their assets. In March 2008, the bankruptcy of Bear Stearns, the fifth largest U.S. investment bank, was only averted by the intervention and guarantees offered by the Federal Reserve for its purchase with major devaluation by JPMorgan/Chase. The extreme reactions to the refusal of the U.S. monetary authorities to prevent the bankruptcy of Lehman Brothers led to the purchase of Merrill Lynch by Bank of America, whereas Goldman Sachs



and Morgan Stanley were allowed to become financial holding companies, subject to the Basel standards and to supervision by the Federal Reserve, and with access to the rediscount window.

Institutions specialized in mortgage loans also experienced strong tremors in both the United States and Europe. The sharp loss of confidence in institutions with assets backed by mortgages also reached the two large quasi-public agencies, Fannie Mae and Freddie Mac. These private companies, considered “government-sponsored enterprises,” could obtain finance at a cost close to the U.S. Treasury, and, simultaneously, operate in a more leveraged way than other financial institutions. On July 30, 2008, Congress approved their rescue by the Treasury. Several insurers also incurred huge financial losses and some medium-size ones went bankrupt. The most striking case was the world’s largest insurer, American International Group Inc. (AIG). It had taken a short position in protection against credit risks in the derivatives market with a notional value of \$2 trillion (Teitelbaum and Son, 2009). Before being rescued by the Federal Reserve, it had declared \$321 billion in losses and write downs. On September 16, 2008, in an unprecedented action, the Fed provided a loan of \$85 billion to AIG (later increased to \$180 billion) because of the size of its position as a seller of protection in the credit derivatives market, turning it into one of the largest counterparts to banks’ operations.

Moreover, instead of having to cope only with the credit risks present on their balance sheets, banks had to take over part of the losses of SBS institutions. Losses of SBS agents found their way back to banks’ balance sheets due to prior explicit or implicit credit and liquidity support, such as contractual provisions for credit enhancements, put options, and collateralized borrowing arrangements, such as preapproved bank credit, repos, and reserve repos. A few of them had to resort to some form of public bailout to be able to pay what was owed on the credit derivatives market. These events highlighted the overlapping of the two systems’ balance sheets.<sup>16</sup>

As Moe pointed out, the capacity of the SBS

to operate on a large scale in a way that creates bank-like liabilities through a complex chain on collateral transactions, have created multiple forms of feedbacks into the

<sup>16</sup>For a detailed description of the different kinds of support, see Tarullo (2013).

regulated banking system. The use and re-use of collateral exacerbates pro-cyclical dynamics and makes the whole financial system more fragile. When times are good, market participants tend to be more willing to let counterparties re-use collateral, increase market liquidity and thereby lower the cost of capital. But in more stressed market conditions, market participants become more sensitive to counterparty risk and more reluctant to re-use their collateral. This puts additional strains on already tight liquidity conditions and tends to amplify the pro-cyclicality of the shadow banking system. (Moe, 2014, p. 5)

In revealing the importance that this system acquired, the Federal Reserve and the U.S. Treasury had to bail out many of these institutions, including investment banks, GSE, and even insurance companies, providing capital or credit lines, allowing access to rediscount operations with the acceptance of mortgage-backed securities and others, or extending guarantees to money market mutual funds.<sup>17</sup> The Bank of England also adopted similar measures through swap operations. Therefore, a relevant part of the SBS briefly came out of the shadows.

### **Conclusion: the survival of the SBS and the challenges of regulation**

The crisis highlighted several aspects of the international financial architecture that were, up until then, shrouded in shadow and were largely the result of the arbitrage regulatory process launched by banks after the Basel I Accord and the loosening of prudential controls, mainly in the United States. These aspects played a crucial role in the unprecedented accumulation of risk in the system and its brutal transformation into losses that continue to the present and are immeasurable. Its main features and the complexity of the relations between the banking system itself and the SBS were only brought to light by the huge losses of institutions belonging to the latter, which became the main protagonists in the crisis.

At the height of the crisis, the SBS came to light, then shrunk for three reasons: (1) acquisition of some of its agents by the regulated

<sup>17</sup> For details on the mechanisms of liquidity emergency assistance to the institutions created by the SBS during the crisis, see Adrian and Shin (2010) and Pozsar et al. (2010).

banking system (e.g., purchase of Bear Stearns by JPMorgan Chase and Merrill Lynch and Washington Mutual by Bank of America); (2) transformation of the remaining major investment banks (Morgan Stanley and Goldman Sachs) in banking holding companies subject to regulation and supervision; and (3) failure of some institutions (Lehman Brothers, several regional banks and hedge funds).

Two main issues shaped the global financial system after the most critical moment of the crisis (the last quarter of 2008). On one hand, the SBS went back into the shadow, again making it difficult to assess its positions and leverage. On the other hand, the balance sheet of the regulated banking system increased due to the inclusion of two major investment banks and large acquisitions of SBS agents during the crisis. As Nersisyan and Wray pointed out, the rescue of financial institutions followed “a strategy of increasing the size and importance of the most dangerous institutions” (2010, p. 3). Since the crisis, banks have even more so become “too big to fail,” and nonbanking institutions continue to be “too interconnected to fail,” according to the definition given in a testimony to the Senate by the Fed chairman Ben Bernanke (2008a).

There is only one way to mitigate this systemic risk. A profound change in financial supervision and regulation should be implemented to minimize the fragility of the deregulated, liberalized, and carelessly supervised financial system that enabled the emergence of the SBS and fostered its expansion.

Historical experience shows that changes in prudential controls are made in response to crises to prevent existing shortcomings and dysfunctions from generating a new crisis with similar characteristics. Lord Adair Turner, chair of the Financial Stability Board working group on shadow banking, summed up the problem: “We have clearly created incentives for people to do maturity transformation outside of the banking system. We need to be constructing a regulatory and supervisory regime that guards against shadow banking creating the crisis of 2015 or 2020” (Masters, 2012).

The first proposals for reform that have been discussed and/or approved remain confined to a national scope. The Dodd-Frank Act in the United States is typical of efforts that have been made to regulate shadow banking up to now: its measures include hedge fund registration, the aim of transferring the largest amount

possible of over-the-counter derivatives to exchanges, and the designation of systemically important financial institutions, some of which are nonbanks.<sup>18</sup> Despite those efforts, according to Gorton and Metrick (2010), “there are still large gaps where the law and policy are almost silent.”

The implementation of reforms of supervision and financial regulation at the international level were entrusted to the Financial Stability Board. In 2010, at the Seoul Summit, the G20 Leaders requested that the FSB, in collaboration with other international standard-setting bodies, develop recommendations to strengthen oversight and regulation of shadow banking.

The FSB has broadly defined shadow banking as credit intermediation involving entities and activities outside the regular banking system that results in systemic risk or regulatory arbitrage. It adopted a two-step approach to regulate shadow banking: (1) monitor all the activities of nonbank credit intermediation to ensure that all areas potentially prone to risks were covered; and (2) focus on policies involving maturity mismatch, imperfect transfer credit, leverage, and/or regulatory arbitrage. After various consultative assessments, this approach led to the publication, in August 2013, of several documents by the FSB, under the name of “Policy Framework for Strengthening Oversight and Regulation of Shadow Banking.”

In order to curb the potential systemic risks associated with shadow banking, the proposed measures aimed at: (1) mitigating the spillover effect between the regular banking system and the shadow banking system; (2) reducing the susceptibility of money market funds to “runs”; (3) assessing and aligning the incentives associated with securitization; (4) dampening risks and procyclical incentives associated with securities financing transactions such as repos and securities lending that may exacerbate funding strains in times of market stress; and (5) assessing and mitigating systemic risks posed by other shadow banking entities and activities.

Three-quarters of FSB jurisdictions declared their intention to adopt legislation and regulation requiring transactions to be reported to trade repositories by the beginning of 2014. Frameworks

<sup>18</sup> In March 2013, the United States named as systemically important financial institutions: AIG, the bailed-out insurance giant; Prudential Financial, the life insurer and asset manager; and GE Capital, the \$530 billion lender responsible for the bulk of GE’s profit in recent years.

for central clearing requirements are in place in most of the largest derivatives markets, with concrete rules now starting to go into effect. Furthermore, regulators from the United States and the European zone have reached understandings to improve the cross-border implementation of OTC derivatives reforms. The totality of the measures already proposed or still subject to consultations should be in place in 2015.

Yet the FSB points to a number of challenges that remain. Regulators should seek to increase market use of central clearing and minimize opportunities for regulatory arbitrage. They should also renew their focus on the commitment to increase the use of exchanges and electronic trading platforms and to implement capital and margin requirements in accordance with agreed schedules. Moreover, countries should adopt resolution regimes for financial market infrastructures (FMIs), including central counterparties, ensuring that recovery and resolution plans for FMIs are developed in line with international guidance.

Other challenges can be mentioned. The FSB is addressing shadow banking at the macro level, establishing norms and regulations to broad categories of nonbank financial institutions. On the contrary, in the United States, the reforms have focused on specific nonbank systemic entities and activities and avoided the term and concept of “shadow banking.” Furthermore, the Dodd–Frank Act still has many points that depend on U.S. Congress votes to be fully put into practice. The European Union, although involved discussions to establish unique supervision of the national financial systems by the European Central Bank, is embracing the FSB’s point of view and getting ahead of the scheduled implementation.

These FSB guidelines for banks (Basel III) and nonbanks have raised much controversy, on the part of both the financial system lobby, which has been trying to stall its implementation, and those who believe that “the architects of reform are working around the edges, taking current bank activities as somehow appropriate and trying to eliminate only the worst excesses of the 2000s” (Wray, 2011).

It is still early to assess whether the current FSB guidelines, if implemented, will be efficient. According to Tarullo, “the systemic risks associated with short-term wholesale funding in prudentially regulated institutions have not fully been countered by the important capital and liquidity standards adopted since the crisis.

My purpose today has been to reinforce the point that a sounder, more stable financial system requires a more comprehensive reform agenda” (Tarullo, 2013, p. 18).

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