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Global Financial Reform Since 2008: Achievements and Shortcomings

Summary: The global financial crisis that started in the U.S. had an immediate spillover to the rest of the world financial markets. Next, a decrease in real economic output throughout the developed world occurred simultaneously with high bailout costs for the salvaging of banks and other financial institutions. This vicious combination was at the core of the bank-sovereign interdependence and the sovereign debt crisis of the eurozone. As early as 2008, the G20 announced a thorough global reform agenda with an aim to tackle the root causes of the crises and to transform the system of global financial regulation. Some important reform steps have been made; still, more than six years on, the job is not finished. Where are we in terms of global financial reform, and are we close to creating a more secure global financial system significantly less prone to crisis and bailouts with taxpayers' money?

Key words: Financial crisis. G20. Financial stability. Financial reform.

JEL: E44, F33, F42, G28.

The global financial crisis of 2007/2008 originated in U.S. mortgage markets but had a relatively standard and easily recognizable crisis structure. There was a relatively vivid external shock (low interest rates), with clearly visible subsequent episodes in crisis evolvement: boom, euphoria, profit-taking and panic. However, the crisis has spread throughout global financial markets almost simultaneously with an immediate substantial decrease in confidence and liquidity. The spillover into real-sector recession was widespread in almost all developed nations and highly correlated emerging markets (Dimitris Kenourgios and Dimitrios Dimitriou 2014). The following episode of bailouts of financial institutions in periods of recession has triggered the banksovereign interdependence relationship¹ and subsequent sovereign debt crisis in the eurozone (Mikhail Stolbov 2014). Still, almost eight years after the inception of the crisis, its negative impact is far from being overcome. Economic growth has not fully recovered in most of the developed economies (especially the eurozone), and some of the emerging economies initially resilient to recession are now facing low or negative rates of growth (Latin America, Russia). Something that started as a consequence of inadequate regulation, and less-than-effective supervision, creating a po-

¹ When bad bank assets raise the issue of potential losses that would need to be covered by governments, and that consequently deteriorates the fiscal position and raises sovereign rates, which in turn deteriorates bank assets due to their sovereign exposure.

tential for mispricing or risk and allowing excessive risk-taking in a relatively small part of the financial markets in the U.S. (Barry Eichengreen et al. 2012), has spread almost immediately throughout the global markets with unforeseen negative side effects in terms of loss of GDP and employment. The total cost of the crisis in terms of taxpayers' money, loss of wealth and decrease in GDP on a global scale is immeasurable. Even now, in 2015, the negative consequences are still present and most probably far from over.

The initial response to the crisis was immediate and ambitious (The Group of Twenty (G20) 2009a) with a long list of potential improvements to be made, and with the internationally wide and relevant institutional backing of the G20². The intent of this initiative was to implement "sweeping reforms to tackle the root causes of the crises and to transform the system for global financial regulation" (G20 2009b, p.7). Such an ambitious endeavor was set to eliminate the possibility that a financial crisis of the severity and magnitude of 2007/2008 would emerge ever again. The Financial Stability Forum (FSF) was expanded into a Financial Stability Board (FSB) with a broader mandate and institutional capacity to organize and initiate a reform process and to regularly report to the G20 on reform results achieved.

A lot of enthusiasm and political backing was given to the reform process in its first years. Expert discussions, research and media backing supported the process. The reform agenda has evolved through time, with the addition of some new tasks or more emphasis on certain existing tasks, and with certain reform elements being moved down the priorities list, or eventually almost excluded from the reforms list completely.

In the beginning the national support for international cooperation, establishment of standards, and cross-border cooperation was nominally high. As time passed, it became clearer that certain differences in national financial systems, in terms of development and regulatory and supervisory structure, were starting to hamper the reform process. Strong existing international institutions were producing more reform results (like the Basel Committee for Bank Supervision - Basel III standards) compared to non-unified nationally biased international organizations (like the International Accounting Standards Board (IASB) and Financial Accounting Standards Board (FASB) tasked to conduct a convergence project on accounting standards and still not completing the job).

Despite the inspiring initial rhetoric that a "global crisis requires a global solution", six years on it is hard to see a consistent G20 vision and emergence of adequate institutional infrastructure. Meanwhile, in the absence of a new financial crisis, the political momentum coming from the G20 seems to be fading.

How far have we moved ahead with the global financial reform agenda, and are we close to saying that the system now does not allow for a financial crisis of 2007/2008 severity and magnitude to happen again?

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² Comprised of major world economies: Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the United Kingdom, the United States, and the European Union (represented by the European Commission and by the European Central Bank).

1. Literature Overview

The research literature on post-financial crisis global financial reform is fairly recent and dynamic. The reform agenda itself was announced in 2009 and has been molded through international discussions and initiatives in the years that have followed. Therefore, literature is still not numerous and often is based on original documents produced by the G20 and FSB.

For the purpose of this research, of particular importance is the following literature. Papers by John C. Hull (2009) and Eichengreen et al. (2012) are representative of the literature on the causes and development of the 2007/2008 financial crisis. Essential for this research are a large number of official G20 Summit communiqués and leaders' declarations (G20 2009a, b, 2013), as well as FSB progress reports, reports to the G20 and consultation documents (Financial Stability Board (FSB) 2014a, b, c, d; International Organization of Securities Commissions (IOSCO) 2014a, b). Also relevant is literature on the EU Banking Union. A paper by Jean Pisani-Ferry (2012) has clearly underlined the necessity of the creation of the EU Banking Union if eurozone bank-sovereign interdependency is to be dismantled. Pisani-Ferry et al. (2012) thoroughly analyze seven open issues in the creation of the Banking Union. Franziska Bremus and Claudia Lambert (2014) have analyzed EU Banking Union accomplishments so far, but also stress the need to do more in order to disentangle bank-sovereign interdependence. Niamh Moloney (2014) estimates the robustness of the Banking Union given the complex political, institutional and EU Treaty environment. Official EU regulation enacted as part of the realization of the global reform agenda are an additional important source (European Parliament and European Council 2013, 2014a, b). A paper by Mark Carney (2013) discusses progress in the area of over-the-counter (OTC) derivatives market regulation, and a paper by Nicolas Véron (2014) analyzes the achievements of the G20 agenda five years on.

The contribution of this paper to the literature is to provide an overview of causes and consequences of the 2007/2008 financial crisis and to compare what has been promised and what has been achieved in global financial regulation so far. In addition, this paper focuses on open issues and further steps in the global financial reform agenda.

We will start with an overview of basic problems and causes of the global financial crisis. Next, we will give an overview of the G20 reform agenda and compare it with the global financial reform results as of 2015. In the conclusion we will assess the accomplishments so far and the remaining risks in the global financial system.

2. Basic Problems of the 2007/2008 Crisis

Literature on the causes of the latest financial crisis has been growing and was widely available as soon as the crisis unfolded and even more so after the initial crisis impact and financial meltdown in the U.S. It was widely recognized that the origins of the crisis was in mortgage lending (Michel G. Crouhy, Robert A. Jarrow, and Stuart M. Turnbull 2008). Widespread defaults on mortgage-backed securities and collateralized debt obligations issued through securitization on pools of subprime mortgages were at the core of the problem. Literature has predominantly pointed to

certain "facts of life" in modern mortgage finance that have proven to be vehicles of mispricing of risk, excessive financial leverage and contagion.

Excessive financial leverage without adequate regulation and supervision has commonly been used as a broad description of the problems that lead to the financial crisis. And, as ever, in almost every crisis, if the perception of the investment public is that financial risks are not contained by prudential regulation and supervision, confidence in the financial system is prone to deteriorate. As a rule, crisis emerges as confidence plummets. Deflation of assets, counterparty risks and complex exposures and interdependence of financial institutions have fueled the contagion with a negative spillover into recession in the real sector. All of this has more or less simultaneously become global in the context of the global nature of the modern financial system.

But let us look closer into some of the important shortcomings of modern mortgage financial practices, and how they may have contributed to an increase of uncontrolled risks and the inception of the crisis.

2.1 Problem Set 1: Origination and Subcontracting

Traditional banking was relatively simple. The bank would chose a client and the loan would, as a rule, stay in bank assets until maturity. Therefore, the bank was inclined to choose well and the loan was a visible risky exposure in bank assets, subject to capital requirements and loan loss provisioning. However, modern banking has introduced at least two potentially hazardous innovations.

The first was the separation of origination, ownership and servicing of loans. Origination was the initial work done by a bank, from application for a loan up to loan disbursement and including the very important step of analyzing the creditworthiness of a potential borrower. By separating origination from ownership of a loan, it was possible to sell or securitize a loan before its maturity, but also to avoid the long-term consequences of a bad choice of borrowers. This is an obvious moral hazard situation that can generate incentives for credit growth based on the deteriorating quality of borrowers. Once the repayment capacity of borrowers deteriorates, if not earlier, the bank is in a position to use a liquidity vehicle (such as loan sale or securitization) to shift bad assets and associated risks from a highly regulated and supervised environment of the banking sector into less regulated and supervised elements of the local or international financial system, where the loss-absorbing capacity of bank capital and loan loss provisions most probably will not be available or associated with these assets. Therefore, separation of origination from ownership of a bank loan increases bank moral hazard, may contribute to uncontrolled generation of credit risks in the financial system, and should have been adequately addressed.

The second potentially hazardous innovation was the possibility to outsource such a vital banking role as mortgage loan origination. Namely, mortgage brokers could be engaged as a subcontracting agent for a bank, taking over loan origination activities in the bank's name for a fee. The majority of mortgage loans in the U.S. were extended in this way, rather than through the regular channel of a loan officer employed by the bank. Despite state-level regulation of mortgage brokers in most of the U.S., they are not financial institutions supervised by a bank supervisory agency

and they do not share the responsibility of a bad choice of borrowers, but rather work for a fee. Therefore, their incentive is based on a number, not quality of borrowers. This is an additional moral hazard point in the system that should have been addressed. Literature has shown that mortgage brokers have been most profitable with loans that have proved to be riskier *ex post* (Antje Berndt, Burton Hollifield, and Patrik Sandås 2010).

Both of these practices have increased moral hazard in bank lending and contributed to an increase in bad assets as one of the core causes of the crisis.

2.2 Problem Set 2: Securitization

The creation of bad financial assets in mortgage markets would not necessarily lead to insurmountable financial difficulties if adequate risk assessments were conducted, loan loss provisions set aside and adequate monitoring and supervision continuously practiced. However, loans, as a rule, were not there in the balance sheets of originators; their ownership had commonly already been transferred *via* securitization. One could argue that if the banks had not had the alternative of securitization, many of the bad loans would most probably not have been created in the first place. Loans would most likely have been granted only to creditworthy individuals, with proper and more precise valuation of collateral and a more conservative LTV³ (loan-to-value) ratio. All of this would have decreased the risk of substantial build-up of bad mortgage assets and the potential of relatively high bank loss given default. But modern mortgage lending practices, with the possibility of securitizing pools of mortgage loans, effectively taking them out of bank balance sheets and their responsibilities, has incentivized excessive risk-taking and leverage.

Let us for a moment analyze securitization a little bit more. Traditionally it was a useful means to provide liquidity for otherwise less liquid assets. Modern mortgage practices in some instances, however, have converted securitization into a mechanism of contagion and spread of mispriced risky securities issued on a dubious pool of mortgage assets, making them available to global investors as a security with an adequate rating provided by a credit rating agency. Credit rating has contributed to the liquidity of these securitized issues, but failed to convey clear and fair information on their riskiness to global investors.

And the tale of securitization does not end here. This mechanism also diminishes the effectiveness of traditional tools of credit growth control: reserve requirements, bank capital in proportion to bank assets, and loan loss provisioning. The transfer of assets in exchange for cash from banks to special purpose legal entities for securitization purposes (SPVs - special purpose vehicles) can potentially indefinitely replenish bank credit capacity without the need for additional bank capital, loan loss provisions or additional reserve requirements to be deposited within a central bank. All of these tools not only keep risks under control in traditional mortgage lending, but also put a lid on excessive credit growth. Furthermore, all of these tools almost

³ LTV is a measure of the value of a loan compared to the value of a collateral (a house or condominium in most mortgage loans). A higher LTV ratio means more risk to the borrower in the case that the value of the collateral goes down.

have no effect on credit growth based on securitization. Therefore it is fair to say that securitization overrides the classic defense mechanisms of a banking system not to take on excessive risks and excessive lending.

2.3 Problem Set 3: Liberalization

The exit of mortgage loans from the banking sector *via* securitization into securities markets is at the same time an exit from a relatively stricter into a relatively looser financial environment. Securities markets are less associated with public interests and public safety and more prone to relatively free market forces, where financial innovations, as a rule, are ahead of financial regulation. In such an environment, financial liberalization has strong advocates among market participants and even regulators⁴ in the sense that some practices, instruments and institutions have been left to the markets to shape and control.

Lack of regulation and supervision in several important market segments clearly contributed to the crisis of 2007/2008.

First, credit risk insurance as an area was under-regulated in terms of both institutions (monoline insurers) and instruments (credit default swaps). Monoline (or bond) insurers are a type of insurance company specialized in providing credit guarantees to securities issuers. At first they provided insurance for municipal bonds, and later for mortgage-backed securities (MBS) and collateral debt obligations (CDOs). Monoline insurance provided credit enhancement for bonds that as a rule contributed to a better credit rating. These institutions have been regulated on the state level in the U.S., i.e. never under federal supervision and regulation. One of the ways for monoline insurers to provide credit risk guarantees was to issue a credit default swap (CDS). These instruments were in essence insurance policies on credit risk of a third party. However, they have been issued not just by the monoline insurers, but also by normal insurance companies, hedge funds, investment banks, etc. They have not been effectively regulated nor supervised and are by nature off-balance-sheet instruments. The magnitude of the potential problem with such an instrument becomes clear when we take into consideration the fact that in midst of the crisis, in the second part of 2007, the total notional amount of outstanding CDSs was USD 58 billion (Bank of International Settlements (BIS) 2008, p. 5).

Second, SPVs established to serve as legal entities with pools of assets on their asset side and issuing bonds on their liabilities side in a process of securitization, as a rule, were registered in offshore jurisdictions. This would mean that issuers of infamous MBS and CDOs were registered as legal entities in jurisdictions other than the country of origin of the assets, other than the country of origin of the investors and other than the country of origin of the regulators of the market in which these bonds were traded. This was justified by the necessity for avoidance of double taxation, which is important for securitization, but effective supervision of SPVs was almost impossible, especially in the case of so-called non-cooperative jurisdictions.

⁴ As was clear from the now-famous statement given by former Federal Reserve Chairman Alan Greenspan to the U.S. House of Representatives Committee on Oversight and Government Control on October 23rd 2008, where he acknowledged he was partially wrong in his belief that some trading instruments, specifically credit default swaps, did not need regulation.

Third, credit rating agencies (CRAs) have played a crucial role in the securitization and mispricing of risk and subsequent large losses incurred on MBS and CDOs. They have served the purpose of assigning a credit rating to securities offered on the market based on a pool of mortgages. In doing so, it turned out that their focus was more on structuring the SPV assets in a way to fulfill the criteria for a certain credit rating assignment than to provide a realistic rating based on effective credit risk. Also, it turned out that they were ready and willing to assign a credit rating to a security based on a rating of a credit enhancer (e.g. monoline insurer) without prior verification of their credit rating. Both practices had the consequence of giving a higher than appropriate credit rating to MBS and CDOs. This led to mispricing of risk and distortion in valuation of these securities.

In addition to their initial role in 2007/2008 in the U.S., in subsequent years credit rating agencies have downgraded several European sovereigns, initiating bank-sovereign interdependence and sovereign debt crisis in the eurozone. Despite direct involvement in two important financial crisis episodes, credit rating agencies have not taken on any direct responsibility for the consequences of the events with their direct involvement.

Hedge funds did not have a prominent and direct role in the creation of the crisis, but since they are loosely regulated and heavily invested in MBS and CDOs, they did have a contagion role in the aftermath of the initial crisis impact. Subsequent large hedge funds bankruptcies have led to the argument that these institutions need to be more regulated and supervised.

2.4 Other Related Problems

The crisis has revealed some other actual problems in global finance. Most of the financial institutions that have collapsed or have been under severe financial pressure had enjoyed a very good reputation for years.

They regularly paid high bonuses to executives on various levels of the corporate structure. Yet, the financial meltdown and demise of these institutions was surprisingly sudden and severe. The justification of such bonuses paid had to come under question.

In the good years, and for quite some time before then, profits were generously dispersed *via* bonuses on various levels; yet when solvency was suddenly under threat, taxpayers' money had to be drawn upon and in previously unseen amounts. This has driven some countries into sovereign debt crisis (Karmen M. Reinhart and Kenneth S. Rogoff 2011). The use of taxpayers' money to salvage the so-called too big to fail (TBTF) financial institutions had to come under question.

When asset meltdown and lack of confidence began to run rampant, it turned out that the required capital was not available in the expected amounts and that liquidity was more severe than one would expect. Therefore, raising the quality and availability of capital and liquidity came to be a priority of future financial reforms.

As the crisis unfolded, it soon became obvious that cross-border activities in jurisdictions with different accounting standards (International Financial Reporting Standards (IFRS) as opposed to Generally Accepted Accounting Principles (GAAP)) were slowing down and complicating valuations and supervision of assets and insti-

tutions. Renewed initiative for standardization in this field was obviously very much needed

Credit default swaps have opened two important wider issues: capital adequacy for off-balance-sheet items, and monitoring of exposures and decreasing of risks from OTC derivatives trading.

Finally, the fragility of banks and excessive leverage has reiterated the need to use more and develop further macroprudential tools such as LTV, debt-payment-to-income (DTI), margin requirements, etc.

So has the initial global reform agenda of the G20 tackled these problems that were revealed and emphasized by the financial crisis?

3. G20 Reform Agenda

From the first meeting of the G20 in November 2008 in Washington, it was clear that there was a political momentum throughout the major world economies for global financial reform. It seemed obvious that immediate global action was needed to prevent the reoccurrence of such a crisis in the future.

In April 2009 in London, the G20 issued a declaration on strengthening the financial system. It was a common global financial reform agenda of major world economies. It was clear that there was a high level of nominal consensus on the need to make substantial progress and to cooperate in this field. There were several major elements comprising the G20 reform agenda of 2009.

3.1 Financial Stability Board and International Cooperation

The Financial Stability Forum as a G7 consultative body was enhanced in capacity and representation to serve the G20 global financial reform agenda and was renamed as the Financial Stability Board.

The FSB was given a variety of tasks in the areas of advising, overseeing and coordination. It was delegated several important responsibilities:

- to identify and assess the problems in the global financial system;
- to undertake joint strategic reviews with standard-setting bodies;
- to promote information-sharing among supervisors;
- to set and monitor actions taken to address problems;
- to promote activities of supervisory colleges for most important crossborder firms and support contingency planning for cross-border crisis management;
- to collaborate with the IMF on an early warning system to detect potential build-up of financial and macroeconomic risks;
- to conduct peer reviews as financial stability country assessments.

The FSB was to regularly report to the G20 and to the wider public with progress reports on the G20 financial reform agenda. The G20 agreed to set relatively high goals for international cooperation, especially in the areas of supervisory colleges and cross-border crisis management. International cooperation was envisaged to be most intensive between the IMF, FSB, World Bank and Basel Committee on Banking Supervision (BCBS).

3.2 Prudential Regulation and Bankers' Compensations

The intention of the G20 was to significantly strengthen prudential regulation globally. In this area there was solid institutional backing in the form of the BCBS, to which the G20 delegated most of the necessary work to be done. The main points of the reforms were:

- an increase in capital buffers;
- an increase in quality of capital;
- an increase in liquidity buffers;
- to mitigate procyclicality in the behavior of financial institutions;
- to introduce a simple universal leverage measure that would include offbalance-sheet exposures;
- to regulate incentives for risk management of securitization.

Special attention was given to systemic risk. In this context systemically important financial institutions (SIFIs) and the need for their more careful and joint supervision was underlined as most important. But systemic institutions were defined beyond banks, and included shadow banks and private pools of capital that could prove to have systemic importance. But in addition to that, systemic importance was broadened to markets and instruments with systemic importance, and the FSB and IMF were tasked with producing guidelines for national authorities to assess systemic importance of institutions, markets or instruments. Hedge funds and credit derivatives markets have been singled out as in need of better regulation and supervision to insure their resilience.

In this context, the compensation schemes in the financial industry have been addressed. This was done in a broad way and in line with previous FSF principles for salaries and compensation in significant financial institutions. Proposed guidelines include the involvement of boards of directors in the design of compensation schemes, and that they should adequately reflect performance, risks and timing with avoidance of short-term payments for long-term exposures. Stakeholders' right to be adequately and timely informed about compensation policies has been underlined.

3.3 Tax Havens, Non-Cooperative Jurisdictions and Accounting Standards

A relatively significant position in the overall G20 reform agenda was given to addressing the issues of tax havens and non-cooperative jurisdictions, especially concerning anti-money laundering and combating the financing of terrorism (AML/CFT). Mutual goodwill to take action against countries that do not allow tax transparency was also underlined. This was done with a comprehensive list of potential measures that could be initiated against non-cooperative jurisdictions.

Accounting standards were also mentioned as an important reform area. Emphasis was given to simplification of accounting standards for financial instruments, and improvements in the areas of loan-loss provisioning, off-balance-sheet exposures and valuation uncertainties. A plea was made for progress towards a single set of high quality global accounting standards and for cooperation with supervisors, emerging markets, and other stakeholders in the process of establishing such standards.

3.4 Credit Rating Agencies

At the end of the G20 reform agenda, credit rating agencies were addressed. They were confirmed as essential market participants and it was proposed that more effective oversight be conducted by national regulators. CRAs that provide rating used for regulatory purposes should be registered and subject to regulatory oversight. Practices and procedures of CRAs should be in accordance with the IOSCO Code of Conduct Fundamentals for CRAs (IOSCO 2014b) and national authorities were tasked to enforce compliance. BCBS was called to review the role of CRAs in prudential regulation and to address the potential adverse incentives.

4. What Has Been Done so Far?

Initial G20 summits and inspiring rhetoric on those occasions suggested the potential for supranational decision-making in the reform process and future regulation and supervision of global financial markets. However, soon after it was obvious that global financial reforms were going to be conducted in a less ambitious, i.e. coordinated, way and that decision-making was going to be left to individual national jurisdictions

What was missing from the start of the global financial reform effort was a genuine consensus on the main drivers of the crisis and a clear reform agenda in terms of a policy vision for global financial markets.

The G20 agenda itself has never aspired to be a reform process towards a precisely defined vision of the future global financial system. Rather, it is fair to describe it as a relatively long list of individual initiatives with sometimes unclear priorities in terms of importance and connectedness to the core of the 2007/2008 crisis. Comparing the G20 documents on the subject of global financial reform from 2009 to 2015, it is obvious that some initiatives have been declining in importance (e.g. rating agencies), some initiatives have been altered (e.g. regulating CDS markets gradually evolved into regulating all OTC derivatives), some initiatives have been prolonged (e.g. the merging of accounting standards or derivatives market reforms), and some initiatives have been added that had no significant importance for the crisis (e.g. the prevention of fraudulent activities under AML/CFT or reform and strengthening of Foreign Exchange (FX) benchmarks and interest rate benchmarks: LIBOR, EURIBOR, TIBOR).

However, despite the shortcomings, since the initiation of the G20 global reform agenda, some important results have been achieved.

4.1 Basel III

Basel III can surely be perceived as a crucial step forward in global banking prudential regulation. It has already been introduced in the EU *via* the Capital Requirements Directive IV and in many other jurisdictions as well. Full implementation, however, is going to take several more years. Despite that, banks preparing for the full implementation of Basel III are already becoming safer and gradually are implementing new regulatory standards. It introduces very important safeguards into the system.

It is not ease to achieve unified capital regulation even within countries with a common legal and regulatory framework but the Basel framework has precisely that ambition, and on a global scale. At a glance, capital is substantially increased both in quality and quantity. Common equity tier 1 capital (CET1) with the most loss absorbing capacity has been increased (from 2%) to 4.5% of risk weighted assets. In addition, a capital conservation buffer and countercyclical capital buffers may be introduced. Additional capital will be required for SIFIs and if required by the supervisor according to Pillar 2 of Basel III. As for leverage, it introduces a very simple leverage ratio (CET1/Total Exposure). In terms of liquidity, it introduces a liquidity coverage ratio and net stable fund ratio. New rules assign more capital to securitization exposures (both in trading and in banking books) and de-stimulate OTC derivatives trading without a central counterparty (BCBS 2014). Supervision of banks is called to enforce sound corporate governance, risk management and management compensation practices.

As is clear from this very brief overview, Basel III has addressed a wide range of very relevant issues for financial stability. The only visible disadvantage of the framework is its rather gradual implementation by the end of this decade in major jurisdictions.

4.2 OTC Derivatives

It has been clear from the crisis that trading in CDSs has proven to be excessively risky (Ping Wang and Tomoe Moore 2012). The risk itself came from various sources: first, from the nature of the instrument; then, from the fact that it is a derivative instrument that is an off-balance-sheet exposure; third, that it was traded as an OTC instrument. This would suggest that there is no clear centralized evidence of the trades capable of producing the vital information of overall exposures and maturities of contracts taken by specific institutions. In addition to that, OTC trades are as a rule conducted directly and not through so-called central counterparties (clearing houses), which would provide margin accounts as an important element of leverage and overall risk control of these trades.

That is why the reform initiative in this area started from CDS but was broadened to all OTC derivative trades. There are several important aspects of this reform:

- that all trades be done in the standardized forms of derivatives contracts and operational processes;
- that all trades be reported to trade repositories so as to identify shifts and concentration of risks if repositories are obliged to share this information with not just local but cross-border supervisors;
- that all trades be done through central counterparties, so as to reduce the risks;
- that all trades are at least done on trading platforms (if not on exchanges), so as to increase transparency;
- that all these derivative trades require higher capital and margin requirements.

These reform elements are envisaged to improve transparency, protect against market abuse and decrease systemic risk.

Work in this area is not complete due to the complexity of these markets, unresolved cross-border issues, and a variety of derivatives contracts that cannot easily be standardized or traded on a trading platform. Still, much has been done, especially concerning capital requirements for counterparty credit risk for non-centrally cleared derivatives according to Basel III. Guidelines for trade reporting, suitability for central clearing, margin requirements and standardization of derivative products are already in place. A substantial improvement in this area will be the launch of a global legal entity identifier, for entities connected to OTC derivatives transactions.

4.3 Other Important Issues

Ending "too big to fail" was one of the important goals of the reforms. Early in the reform process, there was a strong motivation that financial sector should "pay for any burdens associated with government interventions to repair the banking system" (G20 2009b, p. 10). As the G20 backed off from the proposition to introduce a specific "bank tax" to fund the incurred public expenditures, focus was given to limiting future public losses in case of bank resolution. There were several aspects to this issue. One was to provide additional capital requirements and stricter supervision for the systemically important financial institutions (SIFIs), so as to decrease the possibility of failure. Another was to provide for more loss absorbing capacity of banking capital and debt on which loss may be imposed to creditors in case of resolution. This was obviously intended for limiting the impact of bank resolution on taxpayers' money. Basel III has addressed these issues to a certain extent.

In the EU Banking Union, the Single Resolution Fund is scheduled to be operational from 1st January 2016, and it should be funded by the banks themselves. Thus, if the bank runs into financial problems, it should rely on more of its capital and loss absorbing creditors (a so-called bail-in instead of bailout) and in the EU Banking Union the Single Resolution Fund may support the process, avoiding tapping to taxpayers' money. However, the effectiveness of these elements of the system remains to be tested in the future.

The FSB has produced, and regularly updated, lists of global SIFIs. It has also produced a regulatory framework for systemically important banks, insurers, asset managers, financial infrastructures and shadow banking institutions, which should serve as guidelines for national regulators.

Some useful work has been done in financial data gathering, standardization and availability, which is useful for better future regulation and supervision, especially for cross-border financial activities.

Convergence in accounting standards remains an unfinished job. The G20 has failed to exert authority over independent accounting standard setters.

4.4 EU Banking Union

Despite not officially being part of the G20 reform agenda, the EU Banking Union can be seen as a product of the global financial reform effort. Essentially, Europeans

have done most of the things initially recommended by the G20. But this project has a substantial advantage over the G20 endeavor: the unified institutional backing of the EU. The Banking Union in the EU has been introduced not just as a consequence of the 2007/2008 financial crisis, but also as a consequence of the eurozone sovereign debt crisis of 2010 characterized with high level of bank-sovereign interdependence (Adrian Alter and Yves S. Schuler 2012).

Unified financial regulation was a strong basis for the creation of the Banking Union. The so-called Single Rulebook, i.e. legal acts that all banks in the EU must comply with, includes: the Capital Requirements Regulation (CRR) and Capital Requirements Directive (CRD) IV, the Directive on Deposit Guarantee Schemes (DGS), and the Bank Recovery Resolution Directive (BRRD). These new rules are designed to make banks much safer and resistant to crises, and to protect deposits of EU citizens up to EUR 100,000 in all member states.

Besides the Single Rulebook, there are two essential elements of the Banking Union: the Single Supervisory Mechanism (SSM) and Single Resolution Mechanism (SRM). The Banking Union can operate only if supervision and resolution are carried out on the eurozone level, so as to eliminate potential different approaches to supervision and implementation of the Single Rulebook, and to avoid different national approaches to dealing with ailing banks. In addition, adequate supranational financial backing is vital so as to dismantle the bank-sovereign vicious circle and financial market segmentation.

However, if the Single Rulebook requires better capitalization, better liquidity and better risk control on the side of the banks (in accordance with Basel III), and if there is unified high quality supervision led by the ECB and national supervisors in an integrated system within the SSM, risks for bank insolvencies should be far lower in the future. Even if they materialize, troubled banks should be dealt with by a unified, truly European resolution mechanism - the SRM. Potential financial assistance for troubled banks should come in the following order: the writing of certain liabilities and/or their conversion into equity (the so-called bail-in), tapping to funds that the banks themselves pay into and finally, as a last resort, use of public (taxpayers') funds but with neutral mid-term fiscal effect. Therefore, protection of taxpayers is at the core of the Banking Union.

Other EU countries outside of the eurozone are eligible to join the EU Banking Union. The spirit of the G20 reform agenda is obvious.

5. Prospects and Conclusions

The G20 initiative to reform the global financial system has practically been conducted without the formation of any new institutions. The Financial Stability Forum has evolved into the Financial Stability Board, but other than that, no major international institution has been created. This brings us to the source of the obvious weakness in the G20 global financial reform. None of the existing international institutions (the IMF, World Bank, BIS, etc.) has an enforceable regulatory mandate for global financial markets. If no new global regulatory institutions have been created by the G20, what we have is an ambitious global agenda with an almost endless number of national regulators and supervisors with very diverse institutional capaci-

ties operating in different jurisdictions. And, as time passes by, that proves to be the major weakness of the global financial reform.

Still, at least two accomplishments stand out: Basel III and the EU Banking Union. Both are not yet fully implemented, but are already improving financial stability. If the work on derivatives is soon completed and implemented in major jurisdictions, we will, most probably relatively soon, have substantial improvements in the stability of the global financial system. Still, a lot of work remains unfinished and without clear prospects concerning deadlines.

Ideally, global financial reform would try to effectively reconcile the facts of modern financial markets: namely, that financial institutions, instruments issuers and investors operate globally, and that the framework in which the markets operate is not global. It is neither global in terms of regulation, nor in terms of supervision, nor in terms of business operating standards⁵. Yet when problems arise, everyone seems to be surprised that cross-border financial institutions are very much global in their life, and very much local in their demise and death.

Therefore, effective global financial reform in an ideal world would call for global regulation, global supervisory institutions, global business operating standards and global financial institution resolution mechanisms. A less ambitious alternative to this would be to have, at least in major jurisdictions, full standardization of regulation, a high level of convergence in business operating standards and effective continuous cooperation of regulators and resolution authorities. Currently, unfortunately, we have neither.

So are we now, six years after the G20 agenda, living in a safer financial world? We could say yes. Several years of ongoing deleveraging and business conservatism as a natural response to the crisis has created somewhat more robust financial institutions, but at the same time has prolonged economic recovery. As for the global financial reform, Basel III and the EU Banking Union, when fully implemented, will certainly decrease global financial risks. Significant benefit would also come from more global regulation of OTC derivatives trading. In addition to that, other activities coordinated by the FSB will probably increase standardization and transparency, which are important for financial stability.

But, can all of this be treated as "sweeping reforms to tackle the root causes of the crisis and transform the system for global financial regulation" (G20 2009b, p. 7)?

Probably not.

It would be fair to say that global financial reform had a brave and promising beginning. The progress was in some areas effective, but in many others difficult and diluted. Meanwhile, the initial political momentum has been lost. Perhaps more was not possible in the current world. But if there are no signs that in the future financial markets will be less global, the question is: do we need the impetus of another financial crisis to adequately regulate and supervise the global financial market?

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⁵ Accounting standards, taxes, corporate laws, licensing of professionals, etc.

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