THE FINANCIAL CRISIS FROM THE PERSPECTIVE OF CENTRAL BANKS

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The roots of the current global financial crisis stem from the excess supply of liquidity in a world pumped to solve the previous dot.com crisis and the consequences of the September 11 attack, as well as from the colossal external imbalances in the form of the American deficit and Chinese/Japanese surpluses. It is nothing new: the history of financial crises is quite abounded (Kindleberger C., Aliber R.Z, 2005).

The crisis is in fact a consequence of the lost credibility in the global financial system. Therefore, only the highest authorities in each country and in the world as a whole can lead to appropriate solutions with their decisive action. These are represented by governments (fiscal authorities) and central banks (monetary authorities), acting on their own within their country, but also in cooperation on the world stage. An appropriate approach to the crisis requires - first of all - a clear division of tasks between authorities, and secondly, a choice of appropriate instruments and optimal timing and sequencing in their implementation.

This paper deals with one half of it - the activities of the monetary authorities. More specifically, it compares the activities of two major world players within the monetary field, the Federal Reserve System (FED) and the European Central Bank (ECB).[1] After introductory description of crisis, the framework for central bank activities is presented in the second part of paper and their activities in present financial crisis in third part. Critical assessment of central bank activities is given in the part four. Paper concludes with a view into the future of global financial system in the last part.

1. INTRODUCTION: THE FINANCIAL CRISIS AND ECONOMIC RECESSION

1.1. Desccription

According to Trichet (2009) the crisis was initiated by the dramatic shift of focus in large parts of the financial sector from facilitating trade and real investment towards unfettered speculation and financial gambling (Casino capitalism).

1 These two central banks are chosen due to their importance. They cover the two largest economic entities in the world (50% of the world GDP), issue two most important reserve currencies ($ and Euro) and are the leaders in creating the global monetary policy (according to their measures).

Security was implemented in a precarious way: loans were sold by banks as well as non-banks and then they were put off-balance, which resulted in the weak underwriting standards and the lack of an incentive for prudency in screening loans (risk taking increased).
The credit boom leading up to the crisis was aggravated by the following three multipliers:
1/ incentives: ill-designed compensation schemes for loan managers and traders reinforced the reduction of their time horizons;
2/ complexity: increasingly complicated and opaque financial instruments made it hard for security holders to assess the quality of the underlying investments,
3/ global macroeconomic imbalances: a chronic shortage of savings in certain industrial economies was made possible by an excess of savings in other parts of the world.

The turmoil erupted in mid-2007, and this was not entirely unexpected. The risk re-pricing occurred suddenly and this triggered turbulences in the inter-bank market. The credit boom was thrown in reverse. The asset cycle turned and numerous missing links within the financial chain were exposed.

The collapse of Lehman Brothers (for more on this see Wessels, 2009) in September 2008 transformed the financial turmoil into a global financial crisis: financial intermediaries restored the liquidity buffer, scaled down their balance sheets, tightened the lending conditions, reduced risk exposure, deleveraged, reduced their loans, the spreads were increased and the loans was squeezed.

1.2. Origins

The positive effects of financial liberalization and innovation occurred during the recent decades. In the more recent times managing genuine economic risk gradually ceased to be the main concern of international finance, as the creation and assumption of financial risk became the core activity of the financial industry. The decoupling of financial positions from the underlying flow of goods and services created the conditions for the credit boom, which was reinforced by the asset price boom, which was to a certain degree sustained by loans. Both, the loan and asset price expansion initiated formidable amplifiers within the microeconomics of the financial markets and created global imbalances.

In the financial market, compensation schemes for bank loan managers weakened their incentive to conduct prudent loan screening: executive salaries were defined by the overall volume of loans. At the same time risk could be shed (by banks, not by loan buyers) through the sales of loans to other investors in the secondary markets. Investors failed to assess the quality of the increasingly complicated financial structures, instead they trusted the originators. On the global scale, international mediation of savings to borrowers provided potent fuel for the expansion of the financial industry.

On August 9, 2007, the trust and confidence suddenly started evaporating. The circular interactions between the asset price, biased incentives, excessive complexity and global balances went into reverse. Market liquidity became scarce and investors were extremely afraid of the risks that they had been exposing themselves to for so long. In mid-September, the collapse of the Lehman Brothers turned the risk re-pricing into a major financial panic, as illustrated by the money spreads (chart). With the collapse of confidence, financial intermediaries made every possible attempt to restore the liquidity buffers: the loan spread soared, the financial market activities fell dramatically, and the global financial system almost grinded to a halt. This triggered a freefall in economic activity.

1.3. Panic

According to Bernanke(2009) this financial crisis contained the elements of classic panic (as described by Bagehot). Panic can occur in any situation in which longer-term illiquid assets are financed by short-term liquid liabilities and in which suppliers of short term funding either lose confidence in the borrower or become worried that other short term lenders may lose confidence. Panic may be collectively irrational, but rational on the individual level, as each market participant has a strong initiative to be one of the first to exit. In 2008 panic arose in multiple contexts: the vicious spiral was at work and the line between illiquidity and insolvency was blurred.

1.4. Indication

The interbank market rate spreads increased significantly from approximately 10 basis points at the onset of the financial crisis in July 2007 to over 250 basis points at the peak of the crisis in November/December 2008. By the summer of 2009 they declined to approximately 100 basis points.

1.5. Systemic approach to solving the crisis - genaral

Based on the experience gained from the Japanese crisis (1990-2006) Ohmae (2008) proposed a systematic three step approach to the crisis:
1/ accept the systematic approach to the crisis instead of approaching it case-by-case,
2/ choosing the proper sequencing of measures against the crisis by solving, first of all, the liquidity of the banks and other financial institutions (obtaining additional liquidity from the central banks and excess liquidity from other market segments, wherever this is available), secondly, providing solvency for financial institutions (state intervention measures are: state guarantees, state deposits given to banks, state re-capitalization of insolvent banks),

and thirdly, solving the recession in the real sector through monetary measures and fiscal stimulus measures;
3/ dealing with the changes in the financial system or constructing a new financial system.

2. FRAMEWORK FOR THE CENTRAL BANK ACTIVITY

2.1. Globalization and monetary policy

According to P. Moutot and G. Vitale (ECB Occasional paper 106, August 2009) globalization has structural implications on the financial sector and monetary policy. In their opinion, central banks should remain focused on their mandate to preserve price stability even in a globalized environment. The monetary policy needs to take into account four elements of the new financial landscape: the decline of the home bias, (in ownership and institutional setting), the increase of international financial transactions relative to the transactions in goods and services (which helps to intensify the contagion effect during the financial crisis), the increasing number of countries that use inflation targeting and the currency peg, and finally the transformation of the financial market microstructure. In the new environment the monetary policy should 'lean against the wind' of the asset (and stock) price bubbles. Also a macro-financial surveillance on the international level is necessary and the monetary policymakers should extend the information more intensively. When the central banks intervene with extraordinary measures during a crisis, they should clearly communicate that these measures do not indicate a change in the monetary policy stance (separation principle).

The main task of the central bank is to secure sufficient monetary support (flow) to enable the execution of real sector activities without any obstacles (a smooth flow of transactions in the real sector). In order to fulfil this it needs to assure sufficient monetary supply potential and monitor the financial institutions that participate in the money and loan creation. In addition, some other functions are also delegated to them.

2.2. Independence of central banks

The central banks gained independence from direct government involvement only at the end of the 1960s. The central bank independence consists of the following four elements:
- institutional: interdiction of other institutions to give orders to central banks,
- personal: the mandate of the central bank Governor exceeds that of the Government, the Governor has an independent personality, the central bank leadership is protected from illegal replacement actions,
- functional: the basic goal of the central bank should be price or financial stability at which it is free to use any instrument it chooses,
- financial: the central bank has an independent budget and its own primary financing resources.

For EU members the principle of independent national central banks is defined in the EU legislation. In article 107 of the EU Agreement (EEU) the influence on national central banks and their representatives is interdicted, while article 14.2 of the Statue declares replacements of central bank governors and board members for political reasons as invalid. The FED independency is defined in the related FED statues. It is well known that the Bank of England is by statue less independent than the FED which is less independent than the ECB.

An independent central bank has less obstacles on the route to fulfilling its basic tasks and reaching its objectives. However, in times of battering financial crisis a certain coordination of fiscal and monetary authorities is desirable. This might be easier to achieve with a less independent central bank.

2.3. Organization, tasks and environment of central banks

Faced with unprecedented challenges, central banks around the globe demonstrated a remarkable unity of purpose. However, different economies and different transmission channels called for different responses. The different approaches to crisis management of the two major central banks are linked to the differences:
1/ in their institutional arrangements: organization and tasks,
2/ in the structure of their economies.

Ad1/ Differences in the organization and tasks of central banks

Tasks of the ECB and the FED

	FED	ECB
Conduct monetary policy	Yes	Yes
Issue banknotes	Yes	Yes
Conduct foreign exchange operations	Yes	Yes
Hold and manage official reserves	Yes	NCBs
Act as a fiscal agent for the government	Yes	Yes
Promote the stability of the financial system	Yes	Yes
Supervise banks	yes, not alone	some NCBs
Promote the smooth payment of system operations	Yes	Yes
Collect and analyze statistical information	Yes	Yes
Participate in international monetary meetings	Yes	Yes

Source: Gerdesmeier, Mongelli, Roffia: The Fed, the Eurosystem and the Bank of Japan: More similarities than differences ?, mimeograph, 2009, NCB = national central bank

Monetary policy framework

	FED	ECB
Established	1914	1998
Policy decision-making body	FOMC 12	Governing council 22
Appointment	President and Congress	National governments
Independence	Yes, but report to Congress	Yes, in Maastricht treaty
Policy Objectives Goals, Mandate	Numerous objectives: maximal employment, price stability , moderate interest rates	Price stability (below 2%)
Policy instruments	4	4 discount rate
Targets	Federal fund rate (operational)	Money aggregate
Strategy of M policy	Focus on economic forecast; gradualism unless the risk requires aggressive action	Short term price develop., long term inflation
Decision-making	Consensual, dissents infrequent, Chairman first among equals	Consensual, dissents rare, president as moderator
Role of monetary aggregates and asset prices	Neither plays a significant role, independent of their effects on growth and inflation	Both play a significant role
Accountability and transparency	Immediate announcement following FOMC, with voting record, Semi-annual report to Congress, speeches	Immediate press conf. after council meeting; annual report to EU institutions; monthly bulletin; speeches

Source: Gerdesmeier, Mongelli, Roffia: The Fed, the Eurosystem and the Bank of Japan: More similarities than differences?, mimeograph, 2009; author

Ad 2/ Differences in the environment: economic strusture

a) Financial structure: in the EU bank financing accounts for 70% of the companies' total external financing, while in the USA 20% (market-based resources 8%). Thus, the ECB has to primarily focus on the banking sector and the establishment of an appropriate design of the monetary policy.

b) Economic structures:

- important size of SMEs without direct credit market availability in the EU,
- housing market was not the epicentre of the crisis as in the USA, however the euro area was indirectly affected by the toxic assets backed by the mortgage loans originating in the USA. Solving the toxic assets problem will help revive loans and banks should use government recapitalization measures.
- the economy is not as flexible: wages and prices of goods and services are slower to change in the euro area than in the USA, which offered some protection against extremely bad outcomes, the policy frameworks provide a solid anchor for the private sector expectations. The fiscal policies were geared towards sustainability and the monetary policy towards price stability. However, overly active policies may risk destabilizing expectations, which makes them counterproductive.

c) Political structure: the independence of the central bank is an important issue. A higher degree of independence offers a rise to a more prudent monetary policy and is positively correlated with higher economic development.

3 .CENTRAL BANKS IN TIMES OF CRISIS

This chapter analyzes the activities of central banks:

- on the way (leading up), and at the onset of the crisis: entry, onset (liquidity support of shocks in the global real economy; weak supervision of the banking sector)
- during the crisis: the appropriateness of the used instruments (monetary and fiscal stimulus coordinated; interest rate policy in the domain of the liquidity trap)
- at the exit from the crisis (the ability to neutralize the excess liquidity pumped into the system)

The general economic policy mechanism is the following:

instruments measures means	→	(operational) targets guides	→	objectives goals final results

The monetary policy measures are qualitative (selective) and quantitative (required reserves ratio, discount rate, open market policy).

3.1. Central bank actions in a crisis

Due to the financial crisis the basic goal of the central banks will be redirected from price stability to protecting a broader financial stability within the country. And, even if the narrow goal of price stability is retained, the question arises whether prices of real estate and securities should also be taken into account. There were already cases in the past in which there was no inflation, but still the vast financial disequilibria led to a financial crisis (in 1990s and 2000s).

In a financial (banking) crisis, Bagehot's dictum from the late 19th century (1873/1897) remains valuable for central bank behaviour: "To avert panic, central banks should lend early and freely (without limit) to solvent firms, against good collateral, and at high rates." This dictum has both, macro and micro aspects:

Macro aspect: provide unlimited liquidity sources in order to prevent fire sales that can lead to a decrease in asset values, reduction of wealth and contraction of economic activities. Enable financial institutions to continue lending.

Micro aspect: provide loans to solvent firms, against a good collateral, at high rates (penalty rates leads back to market funding when made available again), which limits the moral hazard and other distortion effects of special intervention.

In times of crisis the results of the following monetary policy mechanism indicators are observed:
A) standard monetary policy measures are changes in key interest rates, while non-standard measures include quantitative and qualitative easing.
B) targets - guides that indicate the transformation channel (pass through) of monetary policy in which market interest rates are standard measures, while financial aggregates of central banks are non-standard measures.
C) inflation rates were the targeted final goals for both - FED and ECB - and, in addition, FED also had the goals of employment and long-term interest rates.

A) Measures

Excessive global liquidity was eliminated through the increase of the key central bank interest rates during the first phase. The hike of the key rates came too late, was insufficient, and remained enforced for too long. However, when the financial crisis arrived, the decreasing interest rates (as a modern standard instrument of the central bank's expansive policy) proved to be an insufficient instrument . They managed to achieve the liquidity trap levels but failed to sufficiently increase the financial system liquidity. It was time for non-standard measures. A direct intervention with quantitative and qualitative easing was used in an unprecedented degree. Now, the question appears, when, with what instruments and sequencing should the intervention be exited .

A1/ Standard measures

During the first phase of cycle excess liquidity within the system was curbed with the increase of the interest rates. However, the financial turmoil monetary policy became expansive during the second phase of cycle, when it took the form of decreasing key policy rates. The reactions of the monetary authorities were late in both phases.[2] Thus, the ECB increased the key rate to 4.25% as late as July 2008, when the financial turmoil was already on the way to a full blown financial crisis.

Key interest rates	FED (federal funds rate)	ECB (discount rate)
Maximum in 2007-2008	5.0%	4.25%
December 2009	0-0.25%	1.0%

Sources: FED data, ECB data

2 As is usually the case the information as regards the liquidity situation in the financial markets came with a delay, was incomplete and sometimes even ignored by monetary authorities.

Interest rates were decreased to historically low levels, but this was not enough. The question of the "liquidity trap" was not even posed. The need for additional monetary stimulus with non-standard measures became eminent.

A2/ Non-standard monetary policy measures: quantitative and qualitative easing

Standard central bank measures operate with interest rates as an instrument.
Non-standard measures, introduced at a time of (financial) crisis are defined as quantitative or qualitative easing, but in fact they mean "direct money printing", (or increasing the supply of money). The term quantitative easing was first used by Richard A. Werner (1991)

Quantitative easing means the expansion of the central bank balance sheet through the use of various central bank policies: direct purchases of non-performing loans, direct lending to companies and the government, purchases of commercial paper and other debt and equity instruments. All of these would stimulate credit creation and hence boost the economy (credit easing). This would mean an expansion of the high powered money or bank reserves and the money supply, which in turn would lead to an increase in the monetary liabilities (base money) of the central bank balance through the preservation of constant (average) liquidity and risk of its asset portfolio.

Qualitative easing is the exact opposite: this is a process in which the central bank adds higher risk assets to its balance sheet. This is a shift in the composition of the central bank assets towards less liquid and riskier assets, while holding a constant balance sheet size (the official policy rate and other measures).

A3/ Non-standard specific central bank measures in a crisis

Differences in the role of central banks and environment they are in defined their specific choices of non-standard measures:

- Japan = quantitative easing: to a large extend outright purchases of government bonds
- US FED = credit easing: use of direct lending facilities vis-à-vis (all) market participants.
- ECB = enhanced credit support: primarily focused on banks as the main credit source in the euro area. This is a special and primarily bank-based measure aimed at enhancing /bank/ credit above and beyond what could be achieved through policy interest rate reductions alone.

FED policies are closely tied to the asset side of the balance sheet, while the ECB policies are closer to the liability side.

• FED specific instruments include:
TAF = Term Action Facility = short term lending program for financial institutions
PDCF = Primary Dealer Credit Facility = short-term collaterized loans for primary dealers
CPFF = Commercial Paper Funding Facility = for a high-quality commercial paper issuer
TALF = Term Asset-Backed Securities Loan Facility = loans for non-commercial borrowers
ABMBS = Agency Backed MBS = high quality market securities

• ECB
The ECB's enhanced credit support includes a set of primarily bank-based measures aimed at enhancing the credit flow beyond the standard interest rate channel. They are:
• Fixed-rate full-allotment
• Expansion of the collateral
• Longer-term liquidity provision
• Liquidity provision in foreign currencies
• Financial market support through purchases of covered bonds

Comparison of non-standard FED and ECB measures

	FED	ECB
Maturity	Outright purchase	From ½ to1,6 or12 months
Collateral	Extended	Extended
Additional facilities	Many: TAF, PDCF, CPFF TALF, ABMBS	One: covered bonds
Counterparties	Many: banks, primary dealers, Investment banks, mutual funds, Commercial paper issuers, Investors in asset backed securities	Banks and saving institutions

Source: author

B. Pass though of monetary policy:

B1/ Standard measures: key rate – market rates – money growth

Selected monetary indicators, June 2009

	USA	Euro Area	Difference USA – Euro Area
Policy rate	0-0.25	1	‹ -0.75
Interest rate			
- unsecured rate	1.73	1.64	› 0.09
- unsecured-secured spread	1.24	0.70	› 0.54
Bank rates (long term)	3.52	3.99	‹ -0.47
Credit premium (BBB spread)	2.59	2.22	› 0.37

Source: The ECB's Enhanced Credit Support, speech by Jean-Claude Trichet, Munich, July 13, 2009

The higher key rates that lead to lower financial market rates indicate that the interest rate pass though (channel) is stronger in the EU (for ECB) than in the USA (for FED).

Standard measures in the form of interest rate changes:
The view that the lower the key policy interest rate the more effective the monetary policy is in response to a downturn is over simplistic. The resulting market rates (and other economic variables) should be looked into. At 1% the euro rate of refinancing is higher than the US federal funds rate target of 0 – 0.25%. However, due to the relatively low level of credit and liquidity premiums observed in the euro money market, this difference in policy rates does not translate into equivalent differences in the money market rates (for May-June 2009):
In the euro area inter-bank rates were used by banks to grant floating rate loans to households and companies.

Merely comparing policy rates provides limited information as regards the effective credit conditions in individual markets.

B2/ Non-standard measures: central bank balance – credit growth (crunch) M growth

The monetary easing can be seen through the central bank balance sheet expansion that serves as a guide (target) for the monetary policy.

Expansion of central banks` balance sheets

Total assets	July 2007	Growth	December 2008	Growth	September 2009
FED (billion $)	869		2250		2144
% change		+160%		-5%	
ECB (billion €)	1212		2021		1844
(billion $)		+67%		-8%	
% change					

Source: FED balance reports, ECB balance reports

The balance sheet of both central banks increased significantly from the onset of the liquidity crisis in July 2007 to its peak in December 2008 (160% for FED, 67% for ECB). In 2009 both balances started to shrink,(even if it was slowly), which indicates that the worst is over. The FED's balance sheet declined in the nine months of 2009 by 5%, while the ECB's balance sheet by 8%.

The effect of the qualitative easing measures can be observed through the changes in the balance structures.

It is clear that the US (FED) exceeds EMU (ECB) in the intensity of the used standard and non-standard monetary policy measures (amplitudes or differences between the maximum and minimum values are larger).As is the case in their regular economic policy, the US actively leads the policy, while the EU reacts with stabilizing measures.

One indicator of success for both, i.e. the standard interest rate policy and the non-standard monetary easing, is bank credit growth. In the year up leading up to September/October 2009 the volume of bank credits in the USA declined by 10%, and in the EU by 2%. At this it should be taken into account that the actual amount of disbursed loans depends on the supply and demand of loans, and even on the supply side it depends on the decisions of the banks, not only on the central bank policies. Also, in the USA the central bank intervention was not carried out merely through the bank channel, but also directly to other financial market players, thus the greater decline in the outstanding bank loans in the USA (compared to the Eurozone in 2009) does not automatically also mean a greater credit crunch.

C. Final results: goal achievement by FED and ECB, end of 2009

	FED/US	ECB/EMU
Inflation	-0.2 Oct	+0.6 Nov
Unemployment	- 10.0 Nov	(9.8) Oct*
Interest rates LT	3.42 Dec	(3.09) Dec*

*Employment and long term interest rates are not explicit ECB goals
Source: The Economist, December 2009

At the end of 2009 the inflation and long-term interest rate goals were fulfilled, but this was not the case with the employment goal. This indicates that stability is preferred to growth. However, the final goals are not merely the result of the monetary policy measures.

3.2. The exit strategy

The exit strategy issue becomes important as the global economy shows signs of recovery. On the global level the exit strategy includes the choices of the policy-making authorities regarding the time, sequencing and type of instruments used. Their choice will define who (countries, sectors, individual economic agents) will carry the heaviest burden of the crisis. This is a question of the crisis burden overturn. Non-systematic interventions carried out in order to save individual large banks and other financial institutions gave an unjust advantage to the financial sector and the too-large-to-fail financial institutions in comparison to the real sector and small economy units (argued with the systemic risk danger).

Decisions:

- fiscal versus monetary policy: in theory the fiscal exit should proceed the monetary one, however the social and political constraints indicate that the opposite is the case in practice. The budget deficit and increasing public debt are becoming the seeds planted for the next financial crisis, similar to the role the excessive liquidity created in order to solve the previous crisis (caused by dot.com, September 11 events) had on the current financial crisis.

The coordination between the fiscal and monetary authorities during the exit is equally as important as during the onset of the crisis. The questions are when and how (pace and sequence).

- The judgment as to when will be based on the forecast of economic developments, for it takes people time to adjust their spending and pricing decisions as a response to a change in the interest rate and other aspects of financial conditions determined by the monetary policy decisions.

The forecast will use all sources of information at its disposal.

- The judgment as to how depends on the peculiarities of each central bank and its economic environment. As banks will become increasingly confident with the capital levels, they will be more willing to undertake the arbitrage that will tighten the link between the rate on deposits and short-term market interest rates.

Each central bank adapts its exit strategy according to its special policy features. However, the unusual nature of FED/ECB actions and the uncertainty as regards when and how required greater clarity of communication with the public. In December 2009 both central banks announced their intention to exit from the non-standard measures, although they also announced that this would take place gradually. The improved conditions were indicated by: low resource utilization, subdued inflation and continuing restrains on loans, which constrained the speed of recovery.

1/ The exit strategy - FED

The accommodative FED policies will be warranted for an extended period. During the exit, the tightening monetary policy represents a reduction of excess reserves or, if they remain, the neutralisation of their potential effects on the broader measures of money and loans and thus aggregate the demand and inflation. In detail:

- Excess reserves will automatically shrink as the improving financial conditions will reduce the use of special lending facilities and ultimately lead to their closure;
- The reserves will be reduced by 100-200 billion $ in each of the following few years as the securities held by the FED are matured or prepaid;
- Additional means of tightening monetary policy are: increasing the interest paid on reserve balances (now it is at 0.25%, if increased, this would discourage the growth of money and loans);

• Taking actions that would reduce the reserves. There are three ways of achieving this:
1/ the FED can arrange large scale reverse repurchase agreements with financial market participants = reverse repos,
2/ offer time deposits to the banks, which would be roughly analogous to the certificates of deposits that the banks offered to their customers,
3/ selling a portion of the long-term securities on the open market.
Each of these actions would raise the short-term interest rates and limit the broad money and credit.

When conditions are no longer unusual and demanding, those programs that are not focused on depository institutions will be terminated, and with the exception of the Term Asset Backed Securities Loan Facility (TABSLF), they will leave no residual on the FED balance sheet.
The long-term securities that are currently being bought by the FED will not run off so rapidly (however, the sales of these assets could be decided by FOMC).

2/ The exit strategy - ECB

Enhanced loan support policies have boosted the market liquidity. Additional liquidity will not lead to inflation, because:
1/ The broader monetary aggregates are decelerating, as additional liquidity is primarily taking the form of precautionary balances that the banks are deliberately holding with ECB. This will not result in a higher inflation.
2/ The conditions for unwinding non-standard policies are good, except for covered bonds.

Long-term refinancing operations provide liquidity over a fixed time horizon and run-off in a totally predictable way. By contrast, the unwinding of outright purchases typically requires an additional decision whether to hold the securities until their maturity and if not, when to sell. In the ECB such decisions are limited to the covered bond purchases, while the rest relies on the built-in mechanism for the re-absorption of liquidity.

Cornerstones in the exit strategy:
1/ The monetary policy strategy shapes the exit: the primary ECB objective is price stability = priority
2/ the design of the enhanced credit support facilitates the exit: a number of measures will phase out naturally by design (as repo), while the scope of outright purchases was calibrated (covered purchases up to 60 billion €).
3/ The ability to act: independence and technical capability: not to interfere with the fiscal policy.
4/ Credible alertness: reputation to act when appropriate.

The ECB's steady-handed approach to conventional monetary policy actions strengthened the swift transmission of policy changes to market rates and loan conditions. The fall in inflation acted as an automatic stabilizer and price expectations remain stable (chart).

Key elements in the monetary policy phasing out measures include:
- Operational goal – the re-establishment of the key operational framework features
- Decision parameters
  - the level of key interest rates will be based exclusively on the assessment of the risks to price stability
  - the size and maturity of the liquidity that provides the operations also depend on the evolution of the funding risks

3/ The fiscal exit strategy as condition for successful recovery

The coordination of the fiscal and monetary policy measures is sine qua non for a successful exit strategy from the crisis. In its nature the fiscal policy lacks a similarly strong built in mechanism when it comes to the unwinding of the stimulus. The discretionary policy needs to be invoked for this would engineer an exit from the current degree of fiscal expansion. The euro area governments should prepare a plan for the fiscal exit and consolidation strategies within the Stability and Growth Pact.

The importance of the fiscal exit strategies is emphasized by the following:
- Unsustainable fiscal policies represent an upside risk to price stability
- Exit strategies may reduce market concerns as regards fiscal sustainability
- The government role within the economy should not be on a permanent increase
- The challenging fiscal positions in most countries
- Considerable fiscal cost of the crisis measures are to be expected, and this poses a high risk to the fiscal sustainability.

The general principles for the fiscal exit strategies should take into account that:
- The banking sector consolidation is a primary criterion for phasing out the support of the financial sector
- The fiscal exit should start no later than the economic recovery and if possible it should precede the monetary exit,
- The consolidation efforts should also take into account the growth prospects, the size of the budget deficits as well as debt and long-term sustainability
- the consolidation strategies should be in line with the US Congress rules and the EU Stability and Growth Pact
- The consolidation pace has to be maintained and stepped up in the prosperous times.

4/ Comparison of the fiscal and the monetary exit strategy

The rules used by the authorities should be transparent and the decision-making bodies have to be independent.

The financial support measures, which potentially involve a significant transfer of credit risk from financial institutions to the taxpayer, fall within the realm of the fiscal policy. In the euro area the structural consolidation efforts will need to significantly exceed the benchmark of 0.5% of GDP per annum as set by the Stability and Growth pact (at least 1%).

Over the next few years the economic policy makers are going to face two delicate balancing acts, both, in the monetary and in the fiscal policy.
a) As the monetary authority central bankers have to keep their balance sheets large and the interest rates low for a period that will be long enough to prevent deflation from setting in. On the other hand they also have to be prepared for quick changes in order to prevent inflation from taking off. Over the past decades a powerful consensus has emerged that economies perform better when the monetary policy is left to an independent group of experts with a clear mandate (usually inflation target) and that the transparency around central bankers' assumptions and actions helps anchor the people's expectations as regards future inflation. However, as Alan Greenspan shows, they can be wrong.

b) As a fiscal authority politicians need to increase public expenditure in order to replace the slump in the short term private demand, however they also need to balance the budgets in a longer term, before the public debt rises out of proportion and thus becomes a source of instability in its own. The weight of the public debt (in rich large economies over 100% of GDP and still growing) will push up interest rates, crowd out the private investment and sap the economic growth, with possible nastier outcomes in the form of out-of control inflation and country default on debt servicing.

The fiscal balancing act is tougher than the monetary one: besides timing it is also important to find the best mix of increasing taxes and cuts in the spending. Politicians also lack the credibility that the central bankers have obtained over the recent decades (appropriately or not). A similar focus on the rules and transparency as in the monetary policy also appears in the fiscal policy: limiting deficits, transparent budgeting and independent bodies (fiscal council) that assess the budget decisions adopted by politicians' (like Congress CBO in the USA, the Stability and Growth Pact in the EU).
However, the tools for fiscal credibility are less widely adopted and less effective. The way to improve this is by introducing fiscal rules and independent budgeting monitors.

4. CRITICAL ASSESSMENT OF THE FED AND ECB POLICIES IN A CRISIS

The critical assessment is firstly based on Ohmae's (2008) requests for a systemic approach and in the sequencing of measures that first of all tackle liquidity and then solvency of the financial institutions and, thirdly helping the real sector, especially the real estate market.

When the financial crisis first exploded in the American and British financial sector in September 2008 (collapse of the Lehman Brothers investment bank), the approach of their authorities was selective and thus wrong. FED and the Bank of England attempted to solve the solvency of banks, insurance companies and the housing market (Paulson in the USA) before solving their liquidity. Undertaking the task that is supposed to be delegated to the government budget, they performed a case-by-case rescue plan instead of implementing a **systemic approach**. Their mistakes were corrected only through trial and error were , however in this time the wrong start of the rescue operation contributed to the increase in the depth and the length of the present financial crisis.

As regards **liquidity** the central banks should play the role of liquidity stations that are open 24x7 for a sufficiently long term (1 year- to 2 years). For monetarists, the permanent danger of such central bank generosity lies in the inflation that could appear once credibility returns to the market. For fiscalists the immediate danger is deflation, while the central banks are of the opinion that they have sufficient instruments to suck the excess liquidity from the system when this is needed.[3] In order to be credible, the central bank liquidity injection should be unlimited. In fact, this represents merely a potential liquidity supply of the central banks to the banking sector.

b) The present central banks' attempts at resolving the credit crunch is to the greatest extent inappropriate. The fact is that banks are unwilling to extend their loans to the non-financial sectors (enterprises, households) due to their fear that they will not be repaid and their own need to repay their foreign loans.[4] The bank's ability and willingness to extend loans to the non-financial sectors depends on the existence of liquidity inflow received by the banks (in the form of deposits from non-financial clients, loans from other financial institutions or from the central bank) and on the credibility/probability of the repayment of the banking loans by the real sector. Both, inflows and outflows should be insured for banks so that they will be willing to engage in lending activities.

3 In the beginning of May 2009, in the same issue of New York Times and on the same page, two recognized economists, Alan Meltzer for conservatives (Republicans??) and Paul Krugman for the Democrats stated these two entirely opposing views on the issue of price stability. The view of the former was shared a few days before this by Martin Feldstein, th economic adviser to Ronald Reagan, despite the fact that the USA are currently experiencing deflation on a year-to-year basis, for the first time in 50 years.

4 Three conditions need to be fullfilled for a country, financial institution, enterprise or individual to be able to sail through the current crisis with least possible problems: de-leveraging, in order to be protected against the inability of repayment = bankruptcy; accumulation of liquid assets, in order to be able to cover all current expenditures and obligations; and a countinous stream of income, in order to survive the bad times.

- As regards the **inflow of financial resources to banks**, the banks' deposit base has shrunk as inter-bank liquidity drained out, and depositors from non-financial sectors (enterprises, households) frequently conducted net withdrawals of deposits instead of returning the financial resources from the collapsed stock exchange investments into the banks. The remaining source for the inflow is central bank liquidity. However, this was offered with the wrong instrument and an inappropriate intensity. All major central banks decreased their interest rates almost to zero, hoping that this will encourage banks to undertake additional liquidity from them as well as decrease their active interest rates and thus make it cheaper for the real sector to take out loans. However, the problem is not primarily the price of the primary emission, which was already close to zero. This means that the "liquidity trap" has already been achieved and a further decrease in the interest rates would not increase the demand for central bank liquidity. However, even without the problem of the neglected liquidity trap the reason that banks did not want the central bank liquidity did not lie in its price (enterprises in distress are willing to pay even higher interest rates just to get banking loans for at least the working capital), but in the time scale in which the central banks made these liquidity resources available. They offered an undefined short term central bank liquidity. In the fear of the potential inflationary effect of the supplied liquidity the European Central Bank (ECB) was unwilling to extend the liquidity resources for a period exceeding 6 months and even then it wanted to keep the possibility to close its "liquidity pump" in an instance, if the occasion required such action. Only in May 2009, the ECB extended the available liquidity to 12 months, and even this was not enough. The ECB did not wish to make liquidity available for a longer period not because it was not aware of this problem, but because it feared that with such commitment to a longer term supply of liquidity it would give up the possibility to quickly withdraw excessive liquidity from the system in the event the inflation returned . Apparently, in the considerations of the ECB the fear of inflation prevailed over the fear of deflation caused by a prolonged credit crunch.

- As regards the **disbursement of loans** to the non-financial sectors (enterprises and households) the critical obstacle lies in the ability of repaying these loans. The collapse of the market in the current crisis eliminated all "information capital" that the banks collected on their clients. They became uncertain as to which company will survive, which individuals will keep their jobs, how much individuals and institutions lost in the stock exchange or in the collapse of the prices of the financial derivatives. In such a situation, the only way to support banks in offering new loans is for the Government to give guarantees that they will repay the enterprises' (or, to a lesser extent the households') debts to banks if they were unable to repay them. A similar strong commitment of the Government, means that the Governments undertook the basic credit risk banks are supposed to carry.[5]

5 If fact, similarly to the unlimited guarantees given by the governments for the deposits in banks, which helped to stop »run on banks«, the state guarantees for the repayment of bank loans to enterprises constitutes merely a potential obligation. In the event that everything goes as it is supposed to, these potential guarantees need not be activated, and thus will not cause any cost for the Government. At the same time, their positive effect could be enormous in the form of returning credibility to the system and thus helping the banks and their clients return to business as usual.

At the beginning of the financial crisis (in the autumn of 2008), central banks became not merely "the last resort lenders" but rather "the only resort lenders". The American FED was much more aggressive in pumping liquidity into the system than its European counterpart the ECB. At the same time, the European countries outside of the EMU did not have sufficient reserves to support their domestic currency and as a result the national currencies were placed under attack on a number of occasions. Even strongholds, such as the UK, Sweden and Denmark started considering the option of joining "Euroland". Many smaller and less developed countries found themselves in need of external financial support in order to defend their currencies which depreciated substantially during the crisis.[6] During the crisis ECB supported certain non-Eurozone members, and the EU helped certain non-EU members.

c) The final solution to the **toxic assets** will come from the government budget, forming bad banks (good and bad) and solving the primary cause, i.e. the incapability of house owners to serve their mortgages.

4.1. Mistakes

Mistakes in policy actions include:

- FED was to quick of the mark at helping the large banks, at a time when the prices of bad loans were still above 0 (the dispute between insiders and outsiders). This not only aided the liquidity but also the solvency and thus rescued the bank owners.
- The initial FED measures were clearly against the Bagehot dictum: discretion in the bail-out, relaxation of the collateral, cheap liquidity.
- The monetary stimulus for the non-bank financial institutions in the USA was (until now) not accompanied by an improved regulation and supervision (moral hazard).
- ECB limited the maturity of repurchasing agreements too much, and this was performed despite their extension from 14 to 90 and from 180 to 360 days; instead they should have opted for a two year maturity with a gradual fade-out.
- FED's use of outright purchase makes the exit discretionary and harder, while ECB's use of repurchasing facilities enabled an automatic phasing-out of the excess liquidity. Thus, the **FED made the exit easier for the banks, but harder for itself; ECB applied an opposite strategy: making it easier for itself, and harder for the banks (credit crunch).**

6 The European countries in question are Hungary, Ukraine, Poland, the Baltic States, Serbia, as well as Island and Ireland, which all obtained IMF financial support under the new stand-by arrangement and with it strong support from the G-20 April 2009 meeting in London. Outside of Europe, the story was similar in Asia, Africa and South America. However, despite the request from the G-20 Summit that the IMF should relax its overly hard and anti-social conditionality for these loans, it seems that the IMF staff is unable to change the anti-social criteria it has used until now. The result is either a very strict request of the socially non-sustainable nature for the Government signing the arrangement with the IMF, or reluctance or even rejection of the arrangement with the IMF if the Government is currently able of rejecting external financial support.

- Returning to fiscal soundness: vast amounts of government securities could crowd-out the private lower rated securities, increase the interest rates and decrease investments which will slow the economic activity; at the same time this could prove to be a seed for the next financial crisis.

4.2. Recapitulation

The active approach of the FED was complemented by the somewhat more reactive ECB approach. The monetary and fiscal authorities should coordinate their exit strategies in the same way they coordinated their intervention strategies at the peak of the crisis. However, the centrifugal forces are likely to become stronger than the centripetal forces in the exit, as the immediate danger is avoided. This means that the cooperation across sectors and countries could weaken and become less coordinated in the exit than it was at the height of the crisis.

The execution of the exit strategy in the current crisis could plant the seeds for the next financial crisis (as the solution of the dot.com crisis in 2000 planted the seeds for this crisis). In order to avoid this:

- The monetary institutions should regulate and supervise all financial institutions that were helped by the monetary stimulus.
- the fiscal authorities should carefully plan the deficit financing, as well as the return to fiscal soundness: the explosion.

The recovery could be slow due to: the remaining strains in numerous financial markets, significant additional losses that are still faced by many financial institutions, and the difficulty in obtaining loans faced by many businesses and households.

The US, EMU and UK provisions for capital, loans and guarantees amount to 1/6 of their GDP.

Following the crisis many will assume that banks and other large financial institutions will always be bailed out. The measures against this moral hazard are:

- bolstering (at least doubling) the banks' capital, and using higher standards for provisioning,
- a concerted effort to reduce implicit state guarantees,
- "living wills" that force banks to plan their own collapse,
- forcing banks to finance themselves with the slice of the hybrid debt (retain credit risk).

4.3. Lessons to be learned

1/ The Bagehot dictum continues to provide a useful framework for designing central bank actions to combat crisis,
2/ The problem of the discount window stigma is serious, as it is used by the IMF funds for developing economies in a crisis,
3/ Organise important financial institutions as well as smaller institutions into a group, that will behave like banks (short term liabilities, long term assets); however this requires their extended supervision by the central bank,
4/ A system-wide or macro-prudential regulation and supervision should be implemented within and between countries,
5/ The pro-cyclicality of the financial system needs to be mitigated by a mechanism of built-in stabilizers: one way to achieve this is to increase the capital and reservations in the prosperous times (known as dynamic provisioning and used in Spain),
6/ the transparency of the financial structures needs to be enhanced: the financial innovation cannot be built on or exploit the information asymmetry; enhanced risk disclosures are required,
7/ The short-term of the financial contracts needs to be corrected: a reform of the executive compensation schemes is necessary. An asymmetric risk-award scheme should be replaced by a symmetric one: if high bonuses are paid to managers in the event of profits, high penalties should be repaid by them in case of losses.
8/ Separation principle could be applied in banks, where only the standard commercial banking activities (drawing deposits and extending loans) should be guaranteed by the highest authorities in the last instance, but not the bank activities on capital markets.

5. IMPLICATIONS FOR THE FUTURE OF THE GLOBAL FINANCIAL SYSTEM

Following Ohmae (2008) a systemic approach was finally introduced in developed countries instead of the case-by-case approach (step1), the central bank liquidity measures and government solvency measures solved the financial institutions and the real sector was supported in the exit from the crisis (step 2), thus the final step means dealing with the financial system (step 3).

The final goal of the changes is the creation of a level playing field for all financial and other economic agents around the world. Partial regulation (and supervision) reforms in merely certain parts of the world will last only temporarily, because they will give an unfair advantage to the free riders. Regulation and supervision arbitrage of financial institutions between countries and sectors are bound to make partial interventions unacceptable in the long run. This is why time and time again cries are heard for a global instead of partial solutions in the various fields of financial sector regulation, as was most recently the case, for instance, regarding compensation schemes, hedge funds, etc.

According to Trichet (2009) the new economic paradigm should be based on the following notions:

- Medium and long-term instead of short term sustainability in macroeconomic policies and financial strategies,
- Constant monitoring and resilience within the financial sector instead of complacency,
- A holistic approach: rethinking links between financial behaviour and macroeconomic policies. This would imply a new institutional framework in domestic (unified regulators and supervisors) as well as international macro governance (G-20).

The structural reforms that are necessary in dysfunctional areas relate to: risk management and credit assessment of banks (increasing capital), accounting standards, audit quality, supervision, regulation of tax heavens, supervision of non-bank financial institutions that behave like banks (investment banks), regulation and supervision of hedge and private equity management funds.

Different people have different views on extending the necessary structural changes in the financial system, for example Kashyap and all (2009). However, with a fast recovery from the crisis, enabled by an unprecedented fiscal and monetary intervention, the chances to establish a new system or substantially change the existing one have gone. All that the world authorities (decision makers) are willing to accept is an improvement of the existent system that would be reached through the reformation of the regulation and an increased supervision. But even these corrections are hard to introduce. Now, as the catastrophe has been averted, the opposition to changes from the financial agents (and capital) is strong and the motto “business as usual” prevails within the financial community.

For instance, the proposal of a small systemic change in the form of a global introduction of the Tobin tax, as proposed by Gordon Brown on November 9, was immediately rejected by the USA and other liberal economies. The EU tries to keep this proposal alive.

Regarding regulation, even partial improvements in the existing financial system are difficult to achieve. The reformed regulation that deals with compensation schemes and hedge funds/private funds encountered strong opposition in the USA, as well as in London’s City (in their opinion, the introduction of restrictive measures within the EU would divert financial agents from London to the USA or Switzerland). But, where is the regulation of most financial market gate-keepers (such as for instance tax heavens, rating agencies, audit firms, etc.) which in fact became market mis-users?

In order to improve the supervision, the EU is introducing supra-country supervisors, one for assessing the macroeconomic risks, and one for each of the three financial sub-sectors, i.e. banking, insurance and institutions in the capital market. In the USA the situation is the opposite, for in the States banking - as one of sub-sectors - is supervised by four different agencies. An intense discussion as regards the future role of the FED is currently

underway within the USA legislative bodies. While the Administration backed by the House proposed the strengthening of its role, the Senate wants to take away even the current FED's supervisory competencies, leaving it merely with monetary policy tasks.

In the preparation report for the Istanbul meeting in October 2009 the IMF required that the central banks implement a more complex approach as regards their objectives. Instead of the current focus on price stability, their objective should be on financial stability. The broadening of goals (objectives) is closer to the FED than the ECB approach and this request represents an indirect criticism of the ECB policy. The fact is that broader goals require a broader regulatory and supervisory mandate of the central banks for all financial institutions the behaviour of which is relevant for the stability of the financial system. With this regard, the financial institutions in the USA (especially) strongly object to such intensified control, while the EU is already introducing four new supervisory and regulatory bodies, one responsible for the entire financial system and three for each of its parts: banking, insurance and capital market institutions.

The fact is that at the end of 2009, banks are still going bust (123 so far in the USA alone), or need an additional solvency injection by the Government (for instance in the UK, Austria, Germany). The credit crunch is still present in most of the developed countries, including the USA and the EU. Especially SMEs are cut from the bank credit support while they are unable to raise money directly on the capital markets. State guarantees are needed for bank loans that were given to the enterprise sector. At the same time, the recovery of the real sector is slow at which the lagging labour markets suffer the most.

Both the USA and the EU have introduced proposals for system reforms, however the strong opposition from actors within the financial sector offers little hope that even the proposed moderate reforms will be adopted. In addition to the increasing fiscal "black hole" problem and the newly appearing real estate market bubbles in some parts of the world (China), the rejection of the necessary reforms in the financial sector indicate the next financial (and economic) crisis in making.

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