The rising significance of Central Banks' commitments relative to their balance sheet, Instruments and Administrative Autonomy

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ntroduction

- Throughout the world, CBs are recognised as important players in the financial markets
- Their actions affect interest rates, the amount of credit, and the money supply all of which have direct impacts not only on financial markets, but also on aggregate output and inflation
- The role of central banks came to the fore again in the crisis of 2007-2009 as for the first time since the 1930s, central banks were forced to lend to nonbanks and even to nonfinancial companies

ntroduction

ome of the questions we will explore in this session include:

- What are the commitments of the central bank and how do they interact? How have these commitments evolved over the years?
- What are the assets and liabilities on CB balance sheets?
- How do they engage those assets and liabilities to meet their commitments?
- How is the central bank's balance sheet connected to the instruments utilized to ensure money and credit flow through the economy? How have these instruments evolved over time?
- What is the effect of the balance sheet and its changing roles on the independence of the CB?

Commitments of the Central Bank

- The list of CBs commitments is open-ended and dynamic. We can identify the more general ones as:
- Low and stable inflation
 - Most important goal of monetary policy
 - Might affect the social fabric of society-could result in conflict as different groups clamor for higher incomes that keep up with rising level of prices

In a BIS (2008) self assessment survey of 41 CBs on the functions that they discharge in order of importance, all respondents identified monetary policy aimed at lowering prices as the most important.

Commitments of the Central Bank

ligh level of employment

- Desirable goal for a number of reasons
- Not the same as zero unemployment
- No CB in the sample considered this as a main commitment

conomic Growth

 specific policies could target growth by encouraging firms to invest or encouraging people to save

Commitments of the CB

tability of financial markets

• Financial crises inhibit the ability of financial firms to channel funds to productive investment opportunities

nterest rate stability

 fluctuations in interest rates create uncertainty and make investment decisions difficult to make

tability in foreign exchange markets

 Both appreciation and depreciation of the domestic currency have implications for the economy

Conflicts, Lags in Policy Implementation

- Conflicts among mandates and implication for ordering responsibilities
 - Hierarchical and dual mandates
 - Should CBs pursue dual mandates?

Lags dictate that we understand the structure of the economy and the transmission process of MP

- Central banks' self-assessments on the functions that they discharge in order of importance (41 central banks)
 - Monetary Policy (All central banks)
 - Financial stability and regulatory functions (90%)
 - The tendency to bring financial stability under the purview of the central bank even when banking supervision is delegated to another authority outside the central bank

- Policy operation functions
 - Foreign exchange intervention (80%)
 - Foreign reserves (75%)
 - Liquidity management (100%)
 - Lender of last resort (80%)

- Provision of infrastructure for the financial system
 - Currency provision (less than 50% design, print and mint; 75 % manage circulation)
 - Banking/Account management services (100%)
 - Settlement system for central bank money (100%)
 - Other settlement systems (75-100%)
 - Registry provision-securities (25%)

Services to government

- Maintain accounts
 - Hold main treasury account (50-75%)
 - Maintain several treasury accounts (50-75%)
 - Maintain all treasury accounts(25-50%)
- Make and receive payments
 - Payments to suppliers (75%)
 - Social security (50-75%)
 - In relation to domestic borrowing (50-75%)
 - In relation to foreign exchange(50%)
 - In relation to external borrowing (50%)
 - With other levels of government (50%)
 - Tax receipts and refunds(25%)
 - Public pension plans (25%)
 - Civil service pay (<25%)

Responsibility for debt and asset management and other public good functions

- Debt management
 - Foreign (<25%)
 - Domestic(wholesale) –(<25%)
 - Retail-(<25%)
- Asset Management
 - Public/Government pension fund(5%)
 - Public wealth funds (5%)
 - Special funds(5%)

- Development Functions
 - Financial sector (<25%); Emerging financial markets (50%)
 - Non-financial sector(0%); Emerging financial markets (25%)
- General Research (25%); Emerging financial markets (50%)
- Statistics (Public/financial) (50%); Emerging financial markets (100%)
- Consumer Services financial education, consumer protection, consumer debt resolution (>10%); Emerging financial markets (50%)

The range of central bank commitments relative to the stage of Financial Development



mplications of CB commitments for their Balance sheet

- There are numerous financial transactions leading to changes in the central bank's balance sheet.
- The structure of the balance sheet gives us a window through which we can study how the institution operates.

Table 1: Basic balance Sheet of a central bank

ssets

- let Foreign Assets (BG)
- let Domestic Assets
 - Claims on government and public enterprises (BG)
 - Claims on private sector(AC)
 - Claims on domestic money banks (BC)
 - Claims on other financial sectors (AC)

Liabilities

Reserve Money

Currency in circulation (BG)

Reserves of commercial banks (BC)

Nonmonetary liabilities

Central Bank Securities (BG)

Others

Equity Capital

Central Banks balance sheet after the global inancial crisis

- The response of CBs to the crisis of 2007-2009 transformed the size and composition of its assets and liabilities in unprecedented fashion.
- The intervention was meant to prevent a plunge of the money supply and nominal GDP in many countries after the crisis

Central bank balance sheets after the global inancial crisis

- The items marked AC (after crisis) in our balance sheet started to feature more prominently in most CB balance sheets
 - Claims by CBs on the private sector (households and firms)
 - Claims on non-financial public enterprises-"government-owned and/or controlled units which either sell industrial or commercial goods & services to the public on a large scale, and/or they are corporates

• Claims on Other Banking Institutions (line 12f), and Claims on Nonbank Financial Institutions (line 12g).

Observations on Assets of Central Banks in Africa

. Assets of central banks have increased rapidly after the global financial crisis

mplications for financial stability

- . Foreign exchange reserves in many countries increased rapidly compared o the pre-crisis levels. Accumulation of reserves as deliberate policies by CB
 - having sufficient reserves to use when there is a run on their currencies against the background of the massive depreciations in their exchange rates in the 70s and 80s.
 - Reserve adequacy also helped to assure markets that the exchange rate regime was sound. Credit rating agencies took reserve holdings as one of the key factors determining an economy's credit rating, thus influencing the cost of local currency borrowing.

mplications for exchange rate stability

Observations on trends in Assets

Another major development is the growing importance of new programs under which the Central Bank became a direct lender to ertain sectors of the economy (as aftermath of the global financial risis new sources such as claims on the private sector and claims on he non-financial public enterprises grew the balance sheet of central panks).

- Is CB credit policy a substitute for interest rate policy or should it be directed to different goals than those toward which interest-rate policy is directed?
- Implications for monetary policy-QE

Central Banks balance sheets in Africa

CB balance sheets take on additional roles in developing economies because of the need to perform developmental functions additional to their traditional function of stabilising the level of prices.

Trends in Asset growth (\$m)











iabilities build-up after the financial crisis

- The build-up of the asset side of central bank balance sheets also required a comparable increase in domestic liabilities after the crisis.
- Currency and reserve money have risen sharply across most of the continent, reflecting the strong economic growth in some economies
 - The growth in reserves may have resulted from the growth in commercial bank deposits with central banks in some countries
- Greater issuance of central bank paper and the use of deposit facilities at central banks also showed up significantly.

iabilities build-up after crisis

- The trends in liabilities growth may also reflect the historical use of particular tools in a given jurisdiction and the relative costs of the various tools in the toolkit.
- For example, monetary targeting frameworks are still very popular among CBs in Africa.

Equity capital

Appreciating exchange rates and quasi-fiscal financing and implications of optimum capital base for central banks. The need for sound recapitalisation plans and implication for central bank independence. Will short term, opportunistic pressures influence central bank policy when the central bank is dependent on government support? Trends in Liabilities growth









mplications for Central Bank commitments

- The expansion of central bank balance sheets raises concerns about three types of risks: inflation risks, financial stability risks, and credibility and independence risks. We briefly highlight each of these in turn.
- **Monetary Policy**
 - Monetary policy frameworks in SSA

Monetary Policy Framework



Typology of "de jure" monetary policy frameworks in SSA

Type of	Main Policy	Intermediate	Operational	Main
framework and	Objective	Target	target	iinstruments
number of				
countries				
Exchange rate	Stability of		Exchange rate	OMOs
pegs (23)	exchange rate			FX sales
	regime			
Monetary	Price stability	Monetary	Reserve money	OMOs
targets (18)		aggregates		FX sales
Inflation	Price stability	Inflation	Interest rate	OMOs
targeting (4)		forecast		FX sales

Source IMF 2008; Kasekende and Brownbridge (2011)
Monetary Policy Frameworks in SSA

- Approximately half of the countries in SSA anchor monetary policy on an exchange rate peg (an external target). Monetary policy cannot be used independently to target output or inflation.
- For 18 non-pegging countries, domestic anchor, (money supply or its variants) constitute the intermediate target and reserve money as operating target.
- 4 countries have adopted IT using a short term interest rate as the operating target and an inflation forecast as the key guide to monetary policy decisions.
- A few countries have a hybrid
- Most of these models abstract from the Central bank balance sheet

nflation risks

The rapid expansion of central bank balance sheets may push up growth of monetary aggregates with implication for inflation. Coupled with strong depreciation in most of the currencies in the region, the inflation risk stands tall in the wake of expectations of a tightening of monetary policy by the US

Thus far, the expected correlation between broad money growth, credit growth and inflation have not been observed except in a few countries where persistent currency depreciation and fall in government receipts have dented growth forecasts.

To be closely monitored: Monetary Base/GDP growth; rising government debt (implications for sovereign debt and fiscal dominance), appreciating currencies and sterilization.

Financial stability risks

- Excessive credit expansion fuelled by increases in CB local currency assets/ increase in foreign currency reserves.
 - Evidence of some correlation between credit growth and foreign exchange asset accumulation in recent years
- The threat to financial stability from an increase in bank lending is greater when credit growth is already robust and inflation pressures are picking up.

Financial stability risks

- Financial stability risks resulting from tools employed by the CB for draining liquidity
 - Reserve requirements as tax on the banking system. Will remunerated reserves help?
 - Issuance of higher-yielding, longer-term debt central bank papers, "lazy assets" for sterilization purposes. Will this crowd out bank loans to the private sector and stifle investment?
 - Implications for retail deposits rates
 - May eventually encourage banks to take excessive risks

Credibility of the Central bank

- Sustained, large balance sheet losses and credibility and independence risks
- Other Issues
- Sovereign debt management issues
- Financial market distortions-Quantitative Easing and functioning of money and capital markets

Commitments of the Central Bank and nstruments of Monetary Policy

- Instruments Before the Crisis
 - Reserve requirements
 - Short term interest rates (central bank policy rate)
- Generally most economies recognised the inadequacy of monetary targeting, hence a shift to interest rate targeting.
- The zero-lower-bound problem

Jnconventional Monetary Policy (UMP)

- UMP measures may be warranted even when the policy interest rate is above zero if the monetary policy transmission process is significantly impaired
- Under these circumstances, central banks have two (not necessarily mutually exclusive) alternatives, namely
 - (i) to reduce the short term nominal interest rate even further than in normal conditions, and
 - (ii) to act directly on the transmission process by using non-conventional measures

JMP or "MP-Plus"

The combination of exceptionally low policy interest rates and unconventional policy measures are referred to as **"MP-Plus"** to indicate that these policies go beyond conventional monetary policy in terms of tools and objectives.

Objectives of MP-Plus

- MP-Plus benefits the macroeconomy and strengthens financial stability
 - Mitigates short-term instability in financial markets by providing liquidity to banks and buying specific assets
 - MP-Plus also indirectly limits stress in the financial sector to the extent that it succeeds in preventing a sharper economic downturn.

Four main categories of MP-Plus

- *Prolonged periods of very low interest rates,* sometimes combined with forward guidance on the length of time for which rates are expected to remain low
 - In order to cement expectations of low rates for an extended period, the Fed, the BoE and later the BoJ made specific conditional commitments on the future path of their policy rate. These were at times time-linked, or data-linked (they would not be hiked until specific inflation and/or unemployment levels had been reached).

Categories of MP-Plus

Quantitative easing (QE), which involves direct purchases in government bond markets to reduce yield levels or term spreads when the policy rate is at or close to the lower bound;

Categories of MP-Plus

- *Indirect credit easing* (ICE), in which central banks provide long-term liquidity to banks (sometimes with a relaxation in access conditions), with the objective of promoting bank lending; and
- *Direct credit easing* (DCE), when central banks directly intervene in credit markets—such as through purchases of corporate bonds or mortgage- backed securities—to lower interest rates and ease financing conditions (and possibly mitigate dysfunction) in these markets.

Others Include

- Easing of collateral rules. This went hand in hand with the extension of refinancing operations, but also aimed at making i easier for banks facing specific difficulties to access central ban refinancing and avoid a potential liquidity crisis.
- Purchases of foreign exchange. Used by the Swiss National Ban (SNB) in response to upward pressure on the franc and deflationary pressures. The SNB later introduced a cap on the EUR-CHF exchange rate, committing to unlimited FX purchase (and a corresponding increase in the balance-sheet, which led to rise in excess liquidity, as most purchases were not sterilized) in order to enforce that cap.

- Unconventional policies did experience a fairly quick success in reducing money market distortions and lowering the excessive risk premiums that had emerged in several segments of financia markets in the wake of the Lehman Brothers default in late 2008 For example:
- The three-month US Libor-OIS spread, which had spiked to more than 300 basis points in late 2008 (as interbank loans froze returned to very low levels as early as 2H2009;

- Corporate and mortgage credit spreads also narrowed from the highs reached at the time of the Lehman default. This meant that overall financial conditions, which had tightened sharply up to late 2008 even as the Fed reduced interest rates, eased back from that time onwards and returned to neutral levels by early 2010;
- Cascading bank failures were avoided, staving off a repeat of the string of banking collapses in the early 1930s that set off the Great Depression.

- Several economic studies have also suggested that the mix of asse purchases and forward guidance have been successful in lowering the term premium in longer-term interest rates, and in compressing credit spreads across a wide range of assets. IMF review of existing literature pointed out to a cumulative effect on US Treasury yields of between 90 and 200 basis points due to the various bond purchase programme (see "Global Impact and Challenges of Unconventional Monetar Policies", IMF Policy Paper, September 2013). For the UK, estimate ranged from 45 to 160 basis points.
- However, the impact of unconventional policies seems uneven acros different markets. The IMF paper points out that in the US, MBS and agency debt purchases did seem to have a noticeable depressing impact on mortgage yields. In the euro zone and the UK, there is plent of evidence that the financial system remains fragmented.

- Furthermore, in the case of the UK and the euro zone, the impact of unconventional policies on "kick-starting" credit to the private sector remains in doubt, at least when it comes to the non housing corporate sector.
- This is particularly acute in the Euro zone, where credit to the non-financial private sector is continuing to contract – prompting the ECB (in June 2014) to introduce Targeted Long-Term Repo Operations (TLTROs) to ensure that additional liquidity injection do end up flowing through the real economy..

Overall though, empirical studies suggest that **on balance unconventional monetary policies have had a positive impact on growth and inflation**. The IMF research also concludes that other countries – which did not implement these policies – benefitted from a positive spill-over effect early on in the aftermath of the financial crisis, though subsequent benefits were more difficult to ascertain

Relevance of UMP to Africa?

Objectives of Central bank Operations

- 1. <u>Pre-crisis</u>:
- Central bank operations concentrated around delivery of the policy rate to the money market.
- Policy implementation is achieved via maintaining a "shortage" ("structural deficit") of funds that is filled via repo transactions – had the effect of keeping money market rates broadly in line with policy rates.
- Some attempts to refine the system via introduction of "corridors" around implementation rates in order to help reduce volatility of overnight rates to support financial stability objectives.

Relevance for Africa

Preconditions for using MP-Plus

- It appears that the pre-conditions for using unconventional policy tools are:
 - > Interest rates at or near the zero lower bound;
 - ➢ Risks of excessively low inflation or deflation;
 - > Failure of the monetary policy transmission mechanism;
 - > Sharp spikes in risk aversion amid huge financial and economic uncertainty
- In theory, of course, there is nothing barring African central banks from usin unconventional measures even in normal circumstances. However, in norma circumstances they are not really needed – the central bank can use it interest rate tool instead

Commitments of the Central bank and Administrative autonomy of the Central bank

- ndependence of the CB
- How free is the Central Bank from presidential and legislative pressure in pursuing its goals?
- The question is whether politicians should be free to choose the direction of monetary policy or whether this decision should be delegated to an independent authority

Central Bank Independence

Instrument Independence: the ability of the central bank to set monetary policy instruments.

Goal Independence: the ability of the central bank to set the goals of monetary policy.

Case for Independence

- The strongest argument for independence is the view that political pressure will tend to add an inflationary bias to monetary policy.
- This stems from short-sighted goals of politicians. For exampl in the short-run, high money growth does lead to lower interest rates. In the long-run, however, this also leads to higher inflation.

Case for Independence

- The notion of the *political business cycle* stems from the previous argument.
- Expansionary monetary policy leads to lower unemployment and lower interest rates—a good idea just before elections.
- Post-election, this policy leads to higher inflation, and therefore, higher interest rates—effects that hopefully disappear (or are forgotten) by the next election.

Case for Independence

- Other arguments include:
- The Treasury may seek to finance the government through bonds purchased by the CB. This may lead to an inflationary bias.
- Politicians have repeatedly shown an inability to make hard choices for the goo of the economy that may adversely affect their own well-being.
- Its independence allows the CB to pursue policies that are politically unpopular yet in the best interest of the public.

Case Against Independence

- Some view CB independence as "undemocratic"—an elite group controlling an important aspect of the economy but accountable in few ways.
- If this argument seems unfounded, then ask why we don't let the other aspects of the country be controlled by an elite few. Are military issues, for example, any less complex?
- Indeed, we hold the President and Parliament accountable for the state of the economy, yet they have little control over one of the most important tools to direct the economy.

Implications of central Bank Independence for Financial Stability and Price Stability

According to (Borio,2011), prior to the global financial crisis, the central banks defined the relationship between financial stability and monetary policy based on four statements:

— The price stability is a sufficient condition for macroeconomic stability - if the central bank manages to ensure the price stability on the short-term (two years), in the absence of the exogenous shocks, then the economy can operate without any disturbances, considering that the price stability represents the best contribution of monetary policy to macroeconomic stability. This concept was specific to the "Great Moderation" period and it underpinned the adoption of inflation targeting strategy. Central Bank Independence and Macroeconomic Performance Throughout the World

- Empirical work suggests that countries with the most independent central banks do the best job controlling inflation.
- Evidence also shows that this is achieved without negative impacts on the real economy.

Financial Stability and Price Stability

- There is a distinct separation between the financial stability and monetary stability functions.
- The CB as the lender of last resort and liquidity provider, is considered the "treasurer" if the financial crises occurred, but
- There is a decoupling of these two functions regarding the crises prevention: monetary policy would ensure the price stability while the regulation and supervision policies would ensure the financial stability.

Central bank subordination to treasuryexperience of LDCs

- Many LDCs ran persistent fiscal deficits
- Lacked adequate capital markets to finance the deficits
- Resulted to the finance of deficits through an expansion of the monetary base-sale of government bonds to the central bank
- Sub-serves the central bank to the needs of the fiscal authorities
 - Loss of control by the central bank over monetary control and hence inflation
 - Allocative efficiency suffers and crowds out more efficient private sector project

Central Bank Independence in Africaempirical evidence

- Nhavira (2014) using the Cukierman, Webb and Nyapathi Index (CWNI) extended Mpofu (2012) to evaluate the degree of legal independence of 18 charters of SSA central banks out of a sample of 47.
- Findings
 - 35 % of CBs in SSA are of average statutory independence (indices between 0.51-0.60), 28% are above average and 23 % below average
 - There has been a positive change in the statutory independence of CBs. Mean before reforms was 0.3367 and after reforms 0.5661.
 - CB independence has become a major issue in SSA evolved with multi-party democracy
 - Legislated independence does not in many cases lead to factual independenceessential difference lies in the rule of law. Where laws are enforce selectively, statutory independence may be sacrificed in favour of expediency

egal Variables based on the CMN Index

arameter	Variables
nief Executive Officer	Term of Office
	Who appoints
	Provision for dismissal
olicy formulation	Who formulates Monetary Policy
	Resolution of conflict
bjectives of the Central Bank	What is the objective of the Central Bank
	Limitations on non-securitised lending
mitations on lending	Who decides on terms of lending
	How wide is the circle of potential borrowers
	Types of limits on borrowing if I does exist
	Maturity of loans
	Restriction on interest rates
	Prohibition on lending in primary market

egal vs. factual independence

- In legal independence, a country formally legislates the independence of its central bank from the government. Also includes:
 - Mode of appointment of the directors
 - Duration and terms of appointment
 - Relationship with those in the legislature and the government
- Legal independence has been shown to come with low inflation coefficient in many industrialised countries

actual Independence

- Legal independence does not always ensure factual independence
- Factual independence depends on the acceptance of the central bank by the main political parties and substantive support by the public. This depends on:
 - The rule of law in the country
 - The belief in the integrity and commitment of the central bank directors and governors
 - Past record of the central bank
 - Transparency of its policies –disclosure requirements
 - Accountability-explicit goals of monetary policy

Central bank independence, price stability and the loss ratio

- If effective, makes commitment to price stability credible and lowers inflation
- No evidence that it lowers unemployment or the "loss ratio"
 - Defined as " the number of extra man-years of unemployment necessary to lower inflation by one percent"
- Empirical evidence do not support the fact that central bank independence increases growth
- Higher disinflation costs are associated with independent central banks-the sacrifice ratio are high

Relevance of central bank autonomy outside nonetary policy

There are countries which do not have the problem of managing their own monetary policy, but still have a central bank performing a variety of functions. Is central bank autonomy still relevant for these countries?

Central bank autonomy outside of monetary policy

- In contexts lacking a national currency, insufficient financing would impede it from carrying out its functions.
- In these cases legal provisions relating to the central bank's finances should provide sufficient resources to ensure that the central bank does not become subject to indirect influence from the government;
- Central bankers who can independently decide about their budgets according to their objectives are better equipped—on one hand—to withstand political pressure and interference, and— on the other—to organise and allocate appropriate resources to fund their activities.

Central bank autonomy outside of monetary policy

- Moreover, to ensure that losses do not deplete the central bank's capital and make it financially dependent on the government, the central bank law should contain provisions that obligate the government to recapitalize the central bank in case of need.
- Finally, it is important that the central bank first make prudent allocations to general reserves, and only afterwards **transfer any profits to its owners**; this is particularly true where the central bank has limited sources of income.

Financial stability and administrative autonomy of the CB

- The commitment problem with regards to monetary policy is well settled. An independent central bank is better able to deliver stable and low inflation.
- Which Institutional arrangement performs better in terms of preventing financial crisis. Is assigning banking supervision to the CB a poor arrangement?
- Will administrative autonomy of the CB guarantee financial stability?

Issues with CBs and the conduct of financial stability

- The possible trade-offs between monetary policy and financial stability.
- "Regulatory and supervisory independence" is important for financial stability for the same reasons that central bank independence is important for monetary stability.
- Independence from the political process as a remedy for the risk of capture by the government
 - Budgetary freedom

ssues with CB and the conduct of financial stability

- Independence from the industry they supervise to prevent the risk of capture by regulated firms. CBGs come under severe pressures during crisis to bail out firms or cut interest rates
 - Limiting revolving doors arrangements
 - Limiting post employment possibilities
- Should financial supervision be allocated to separate, specialized agency rather than to the central bank?
 - Risk of regulatory capture
 - Trade-off between price and financial stability
 - Functions separated but within the CB -could enhance monetary policy

Vhy central banks should conduct monetary polic and financial stability

- Monetary policy and asset price bubbles
- MP should lean against asset price bubbles
- Greenspan: "monetary policy should not lean but should clean" after the bubble bursts
- Bubbles are hard to detect
- MP may be ineffective in stopping bubbles
- MP is too blunt a tool
- Picking a bubble may be too costly
- Cleaning up after bubble not too costly

Lean Vs. Clean debate

- Two types of asset-price bubbles
- Irrational exuberance
- Credit-driven bubbles
- Suggests debate on lean Vs. clean is miscast
- Strong arguments for leaning against credit bubbles

Lean Vs. Clean

- Macroprudential regulation and supervision should be the firm line of defense
- Macropru focusses on system rather than individual institutions
- Countercyclical capital requirements-capital buffers
- Countercyclical measures to reign in credit booms: impose low loan to-value ratios, restrict foreign borrowing, etc.

Concluding remarks

- An independent CB capable of implementing micro- and macroprudential regulation and ensuring monetary stability remains a major bulwark against financial crisis.
- Central Banks in Africa must continue to focus on monetary policy that delivers low and stable inflation. Monetary stability focusing on inflation targeting with wider scope should deliver low and stable prices and consequently economic growth

Concluding remarks

- No matter how strong the commitment of a central bank to a flation target, fiscal dominance can override it. Without longn fiscal sustainability, no central bank will be able to keep flation low and stable. This calls for greater monetary-fiscal ordination. "Central bankers must lobby both in public and in ivate to encourage their governments to put fiscal policy on a stainable path" (Mishkin, 2013).
- UMP was necessary to stabilize the economy: CBs must now gin to think of how to clean up.