Macroprudential policy and monetary policy

Some lessons from experience in the euro area

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Disclaimer

The views expressed in this presentation are those of the author and not necessarily those of the ECB or the Eurosystem.
What are the relationships?

• In the ‘long-run’,

  ➢ using monetary policy to maintain price stability is **fully consistent** with providing support to financial stability …
  ➢ stability-oriented monetary policy is **necessary, not sufficient** ⇒ role for regulatory policy;
  ➢ monetary and macroprudential policies are **natural complements**.

  ‘**Truism**’ – we don’t have much to say on this …
What are the relationships?

- In the ‘short-run’,
  - recent experience suggests that the complementarities are perhaps greater than pre-crisis ‘conventional wisdom’ would have foreseen …
  - e.g. non-standard measures to “maintain effectiveness of monetary policy transmission” ⇒ “support market functioning” (which serves financial stability) …
  - … at the same time as stabilising macroeconomy and price developments

We explore this issue using the euro area experience after the collapse of Lehman as a case study -- ‘exercise I’
What are the relationships?

- In the ‘medium-run’ / transition …
  - This is perhaps where challenges may emerge …
    - Possibility that monetary policy ‘support’ to financial markets / institutions in the form of non-standard measures morphs into ‘dependence’ …
    - Possibility that macroprudential measures have (substantial) macroeconomic impact and/or change the (effectiveness of the) transmission mechanism of monetary policy
  
  - These are the issues currently being faced by policy authorities …
What are the relationships?

- To address these issues, we need a better understanding of macro-financial interactions …

  ➢ Draw on experience with ECB’s monetary analysis and the analytical progress made in pursuing it …
    - Attempt to ‘get the facts straight’ (role of bank balance sheets ≡ money and credit aggregates) …
    - Both in pre-crisis period (“normal times”)
      And during the crisis itself.

We attempt to: (a) establish some ‘stylised facts’ about euro area monetary variables; and (b) explore their evolution against this benchmark after the collapse of Lehman – ‘exercise 2’
Euro money market rates and spreads

lhs: percent per annum; rhs: basis points

3-month repo rate
secured, lhs

3-month EURIBOR
unsecured, lhs

Source: Bloomberg
**Preliminaries**

**Diagnosis:**

- Failure of Lehman increased perceived counterparty risk.
- **Adverse selection** led to a freezing of the interbank money market (cf. Haider et al., 2009): heterogeneity, ‘red-lining’ of some banks in interbank market
- Banks are unable to refinance positions and maintain flow of loans to the private sector.
- Governments take various actions:
  - Fiscal stimulus
  - Support for financial sector (re-capitalisation, guarantees for bank bonds, etc.)
- Conventional monetary policy response – lower interest rates
Monetary policy response: Non-standard measures

• Aim at *restoring market functioning* …

• In the money market, *replace interbank transactions* with transactions across the central bank balance sheet (i.e. act as an ‘intermediary-of-last-resort’);

• Improve the *availability of bank funding*, facilitating securitization and improve functioning of covered bond market …
• **Expand central bank intermediation** …
  
  – **Liquidity transformation** – accept broad range of collateral in fixed rate / full allotment operations;
  
  – **Maturity transformation** – lengthen maturity of operations out to 1 year (*absorbing at the* (overnight) *deposit facility)*;
  
  – **Facilitate payments** – conduct operations with a large set of counterparties;
  
  – **Manage information issues** – Eurosystem operations are anonymous, no stigma attached.

• **Key elements:**
  
  • fixed rate tenders with full allotment (FRFA) in Eurosystem monetary policy operations
Eurosystem balance sheet

Source: ECB
Intra-MFI (bank) sector credit
as a percentage of credit to the non-financial sector

Source: ECB
Euro money market rates and spreads

lhs: percent per annum; rhs: basis points

3-month repo rate
secured, lhs

3-month EURIBOR
unsecured, lhs

spread
rhs

Source: Bloomberg
With FRFA, excess liquidity conditions emerged in the overnight money market, and the EONIA dropped systematically to the deposit facility rate.
Exercise 1

Lenza et al., 2010

• Characterize the effect of the introduction of non-standard measures in terms of its impact on a variety of money market spreads:
  – Narrowing of the spread between secured and unsecured term rates;
  – Reduction of market overnight rate relative to the “policy” MRO rate;
  – Flattening of the money market yield curve through 1-year LTRO.

• Characterize the (partial) macroeconomic impact of non-standard measures as the difference between two counter-factual exercises (conditional forecasts) constructed using a model of the euro area economy, based on different interest rate assumptions
The model

• Developed and evaluated by Giannone et al (2010): establishes and documents ‘stylised facts’ about monetary dynamics in the euro area.

• The model is a Bayesian vector autoregressive model (B-VAR), estimated over the sample period January 1991 to August 2008 using monthly data.

• The model consists of 32 macroeconomic variables:
  • Macro variables – economic activity (IP); prices (HICP); unemployment; etc.
  • Monetary and credit variables – monetary aggregates; sectoral credit by use / maturity; and
  • Money market rates and bond yields …

• We avoid the “curse of dimensionality” by using Bayesian shrinkage techniques *(particularly convenient for euro area, where time series are short)*
Exercise 1

Policy scenario \((P)\) with non-standard measures

- Euribor 3 and 12 month rates as observed between November 2008 and August 2009
- Simulation \(\rightarrow E_{A(L)}(X_{t\ldots T} | X_{0\ldots t-1}; P)\)

No Policy scenario \((NP)\) without non-standard measures

- Euribor 3m = MRO + [Spread Euribor 3m/MRO(10/08)] + [Spread MRO/EONIA from 11/08 to 08/09]
- Euribor 12m = MRO + [Spread Euribor 12m/MRO(10/08)] + Flattening of the yield curve due to non-standard policy
- Simulation \(\rightarrow E_{A(L)}(X_{t\ldots T} | X_{0\ldots t-1}; NP)\)

➤ Effect of non-standard measures

\[\text{Impact}_{ns} = E_{A(L)}(X_{t\ldots T} | X_{0\ldots t-1}; P) - E_{A(L)}(X_{t\ldots T} | X_{0\ldots t-1}; NP)\]

Of course, this all assumes model is \textit{stable} (we come back to that) …
Exercise 1 - Results

Impact of non-standard measures \( (EA(L)(X_{t \ldots T} | X_{0 \ldots t-1}; P) - EA(L)(X_{t \ldots T} | X_{0 \ldots t-1}; NP) \), percentage points on annual growth rates (excl. unemployment)

Source: Lenza et al, 2010
Exercise 1 - Results

impact of non-standard measures \( \text{EA(L)}(X_t \ldots T \mid X_0 \ldots t_i; P) - \text{EA(L)}(X_t \ldots T \mid X_0 \ldots t_i; NP) \), percentage points on annual growth rates

Source: Lenza et al, 2010
Giannone et al., 2010

• Compare actual path of macroeconomic variables with those of model forecasts conditional on the observed path of economic activity (as captured in the evolution of the IP series);

• Addresses question: Have the non-standard measures prevented a “breakdown” / disruption to the pre-crisis regularities seen in the data (and, by implication, the behaviour of the economy)?

• Conditional forecasts start in Jan. 1999 (but the model is estimated using sample to August 2008) …
Exercise 2 – Results

annual growth rates, sa; 68% confidence interval

Short-term loans to NFCs

MI

Source: Lenza et al, 2010; Giannone et al, 2010
Exercise 2 – Results

annual growth rates, sa; 68% confidence interval

for house purchase

for consumption

Source: Lenza et al, 2010; Giannone et al, 2010
Exercise 2 – Results

annual growth rates, sa; 68% confidence interval

![Graph of M3 Simulated vs Actual]

- Simulated
- Actual

![Graph of (M3-M1) versus slope of yield curve]

10yr – 2yr percentage points, rhs
M3 - M1 annual growth rate, percent, lhs

Source: Lenza et al, 2010; Giannone et al, 2010
Discussion

• So in the aftermath of Lehman’s failure, non-standard monetary policy measures (among other policy initiatives) supported:
  • macroeconomic stability;
  • financial market functioning.

• But this is not a ‘free lunch’ (e.g. communication / institutional issues)

• Evidence that a number of key macro and financial variables have been “insulated” from financial market freeze, once conditioning on economic activity …

• … but not all …

• “aberrant” behaviour of M3 (and term spread) relative to historical benchmark requires further investigation …
Evolution of securitisation instrument use in Europe
(in EUR Billions, 2002-20010Q1)

Securitisation peaks at time of crisis (Lehman failure) ...
Retained securitisation

ABS/MBS securitisation in the euro area retained by the issuer
(in percentages of total securitisation)

… but this is overwhelmingly retained by issuer (for possible use in mon pol operations)

Source: Dealogic and ECB calculations
Intra-MFI (bank) sector credit

as a percentage of credit to the non-financial sector

Source: ECB
Concluding remarks

• **Looking back**, recent experience points to complementarities between monetary policy and macroprudential / financial stability policy during crisis period …

• **Looking forward**, challenges are likely to emerge:
  • Banks and other agents respond to incentives created by exceptional measures;
  • interrelationship among: (1) managing remaining tensions; (2) exiting from exceptional crisis measures; and (3) building a new, more robust regime needs to be managed carefully.

• In trying to address these challenges, we need to get the facts and the data straight …

• Our results point to need: (1) to take bank heterogeneity seriously; and (2) to come to better explanations of \((M3 - M1)\) and term spread – bank funding conditions …