Macroprudential surveillance in a European context

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## Outline

1. **Macroprudential policy in Europe: The role of the ECB**
   - a. The European framework
   - b. Legal basis and institutional set-up
   - c. Governance structure and decision-making

2. **Macroprudential policy cycle in the ECB**
   - a. Surveillance and assessment
   - b. Policy considerations

3. **Concluding remarks and challenges ahead**
1. Macroprudential policy in Europe: The role of the ECB

Rationale for macroprudential oversight

- **Bank** dimension (e.g. global financial crisis)
  - (Micro)prudential regulation underestimated externalities
    1. System → Bank
    2. Bank → System

- **Country** dimension (e.g. euro area debt crisis)
  - Time series and cross sectional aspects in a cross country setting:
    - Build-up of country-specific vulnerabilities
    - Country spillovers and contagion

<table>
<thead>
<tr>
<th>Policy domain</th>
<th>Objective</th>
<th>Systemic risk treated as</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microprudential supervision and regulation</td>
<td>Ensure soundness of individual financial institutions</td>
<td>exogenous</td>
</tr>
<tr>
<td><strong>Macroprudential oversight</strong></td>
<td>Limit systemic risk</td>
<td>Increase resilience</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lean against the financial cycle</td>
</tr>
<tr>
<td></td>
<td></td>
<td>endogenous</td>
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</table>
1. Macroprudential policy in Europe: The role of the ECB

European Banking Union

Banking Union

SSM
Single Supervisory Mechanism

EDIS
European Deposit Insurance Scheme

SRM
Single Resolution Mechanism

Single Rulebook
(CRR/CRDIV, BRRD, etc.)

EA-19
EU-28
1. Macroprudential policy in Europe: The role of the ECB

Macroprudential surveillance in a European context
1. Macropurodential policy in Europe: The role of the ECB

Multiplication of ECB responsibilities with the banking union

Level

System

Individual institutions

Policy functions

ECB

Country mission work

Lender of last resort

Resolution mechanism

Deposit insurance

Preventive stage

Crisis management stage

Monetary policy

Macro-prudential

Rule-making

Micro-prudential

D. Schoenmaker (2012), „The missing link in Banking Union: Macro-prudential Supervision“, mimeo.
1. Macroprudential policy in Europe: The role of the ECB

Macroprudential mandate

- Primary responsibility rests with national authorities
  - Notification requirements
  - Possibility of the ECB to object

- ECB macroprudential mandate rests on Article 5, para 2 of the SSM Regulation – ‘top-up’ powers

“The ECB may, if deemed necessary, instead of the national competent authorities or national designated authorities of the participating Member State, apply higher requirements for capital buffers than applied by national competent authorities or national designated authorities of participating Member States to be held by credit institutions at the relevant level in accordance with relevant Union law in addition to own funds requirements referred to in point (d) of Article 4(1) of this Regulation, including countercyclical buffer rates, subject to the conditions set out in paragraphs 4 and 5 of this Article, and apply more stringent measures aimed at addressing systemic or macroprudential risks at the level of credit institutions (…)“
## Macroprudential instruments

<table>
<thead>
<tr>
<th>Capital based measures</th>
<th>CRD IV tools</th>
<th>CRR tools</th>
<th>Other tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Countercyclical capital buffer (CCyB)</td>
<td>• Risk weights for selected exposures</td>
<td>• Leverage ratio</td>
<td></td>
</tr>
<tr>
<td>• Systemic risk buffer (SRB)</td>
<td>• Capital conservation buffer (CCB)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• G-SII &amp; O-SII capital buffer</td>
<td>• Own funds level</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Liquidty-based measures
- • Liquidity requirements
- • Large exposure limits (incl. intra-financial sector)

### Borrower-based measures
- • Large exposure limits (incl. intra-financial sector)
- • Disclosure requirements

### Other measures
- • Margin and haircuts requirements

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Can be used by national authorities and the **ECB** (for SSM countries)

Can only be used by national authorities
Cooperation/cooordination with national authorities

- **Notification prior to decision**
  - 10 working days prior to taking a decision, the national authority shall notify its intention to the ECB
  - In case of objection, the ECB shall state its reasons within 5 working days
  - National authority shall consider the ECB's reasons prior to a decision
  - Early interaction ahead of formal notification required to ensure that the deadlines can be met

- **Coordinating body: Financial Stability Committee (FSC)**
  - Two long-term substructures of the FSC
    - *Macro-Prudential Analysis Group (MPAG), focus on analysis*
    - *Macro-Prudential Policy Group (MPPG), focus on support to policy making*
  - Meetings organized on a quarterly basis
  - Co-chairmanship with relevant ESRB sub-structures (AWG and IWG)

**Macroprudential surveillance in a European context**
# Macroprudential measures in the EU since 2014

<table>
<thead>
<tr>
<th>Year</th>
<th>Euro area</th>
<th>Non-euro area EU</th>
<th>European Union</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CRR/CRD IV</td>
<td>National law</td>
<td>CRR/CRD IV</td>
<td>National law</td>
</tr>
<tr>
<td>2014</td>
<td>21</td>
<td>27</td>
<td>34</td>
<td>22</td>
</tr>
<tr>
<td>2015</td>
<td>79</td>
<td>4</td>
<td>41</td>
<td>7</td>
</tr>
<tr>
<td>H1 2016</td>
<td>30</td>
<td>0</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>130</td>
<td>31</td>
<td>82</td>
<td>30</td>
</tr>
</tbody>
</table>

Source: ESRB.

- Focus on the banking sector
- Measures of neutral/procedural or a tightening nature
- Majority of measures was taken under the CRD/CRR framework
- Large number of notifications on countercyclical capital buffer
2. Macroprudential policy cycle in the ECB: Surveillance and assessment

Analytical dimension

Risk identification

Surveillance
Identification of potential sources of systemic risk requires an encompassing view of the financial sector
Potential for missing an important source of systemic risk

Vulnerability

Risk assessment

Assessment
Tools need to take into account cross-sectoral and cross-border linkages and different propagation channels
Potential for under-/overestimating the severity of identified risks and the banking system’s ability to absorb shocks

Material risk

Instrument selection / calibration

Policy response
Risk of misguided policy conclusions
Need for policy action?
Which type of instrument to use?
Adequacy of calibration?

Communication & implementation

Effectiveness
Risk mitigated and objective achieved?
Risk of policy action triggering further boundary and leakage effects
How to close loopholes?

Policy evaluation / effectiveness

Feedback to risk monitoring, identification and assessment
Risk identification
2. Macroprudential policy cycle in the ECB: Surveillance and assessment

Information set

**Expert knowledge**
- DG-Macroprudential Policy and Financial Stability
- Financial Stability Matrix across ECB business areas
- Financial Stability Committee
- Country missions

**Market intelligence**
- Market missions
- Financial Stability Dialogue
- Meetings with market participants

**Contacts with IFIs**
- Financial Stability Board (FSB)
- Bank for International Settlements (+ committees)
- International Monetary Fund

**Analytical tools**
- Analytical (systemic risk) indicators
- Financial cycle and asset valuation measures
- Uni-/bivariate signalling
- Multivariate logit models (country, bank)
- Machine learning tools (random forest)
2. Macroprudential policy cycle in the ECB: Surveillance and assessment

Analytical (systemic risk) indicators

- Probability of default of two or more large and complex banking groups
- Composite indicator of systemic stress (CISS)
- Composite indicator of systemic stress in sovereign bond markets (SovCISS)
- Financial Stress Index (FSI)
- Distance to distress indicators (sectoral imbalances)

Sources: Bloomberg and ECB calculations.

Notes: “Probability of default of two or more LCBGs” refers to the probability of simultaneous defaults in the sample of 15 large and complex banking groups (LCBGs) over a one-year horizon. The financial stress index measures stress in financial markets at the country level based on three market segments (equity, bond and foreign exchange) and the cross-correlation among them. For details, see Duprey, T., Klaus, B. and Peltonen, T., “Dating systemic financial stress episodes in the EU countries”, Working Paper Series, No 1873, ECB, December 2015.

Notes: Financial cycle estimates exist for 10 euro area countries. The grey-shaded area represents the min-max range across these 10 countries. Time-varying weights are used to aggregate individual cycle components into the composite financial cycle estimate.
Residential and commercial real estate valuations

Valuation estimates of residential and prime commercial property prices at the euro area level
(percentages; average and minimum-maximum range of valuation estimates)

- RRE valuations based on two statistical indicators and two model-based approaches
- CRE valuations focus on prime segment
- High degree of uncertainty surrounding these estimates
- Alongside prices/valuations a broader set of indicator indicators monitored
- Considerable data gaps in the area of commercial real estate

Sources: ECB and ECB calculations.

Notes: Valuation estimates for residential property prices are based on four different valuation methods: the price-to-rent ratio, price-to-income ratio and two model-based methods, i.e. an asset pricing model and a new model-based estimate (BVAR). For details of the methodology, see Box 3 in Financial Stability Review, ECB, June 2011, as well as Box 3 in Financial Stability Review, ECB, November 2015. For details on valuation estimates for prime commercial property, see Box 6 in Financial Stability Review, ECB, December 2011.
ECB Early Warning Models

- **Univariate signalling**: One indicator above threshold
  - Credit gaps and growth rates, house price indicators, equity price growth

- **Bivariate signalling**: Two indicators above threshold at same time
  - Bank credit-to-GDP gap, 2-year real equity price growth

- **Logit early warning model**: Logit probability used as indicator
  - 4 indicators in the model: Bank credit-to-GDP gap, residential property price-to-income ratio, 3-year real equity price growth, debt service-to-income ratio

- **Random forest**: Random forest probability used as indicator
  - 38 indicators, including global liquidity

- **Bank early warning model**: Aggregation of bank-level logit model
  - 11 risk drivers: leverage ratio, reserves to assets, interest expenses to liabilities, pre-tax income to assets, short-term investments to liabilities, financial assets to GDP, loans to deposits, issued debt to liabilities, house price gap, 10-year yield
2. Macroprudential policy cycle in the ECB: Surveillance and assessment

Forward-looking solvency analysis (stress test) tool – support of macroprudential risk identification

1. Map risks identified by risk surveillance to macro-financial shocks
2. Calibrate macro-financial scenarios
3. Produce risk parameters (credit, interest rate, market risk)
4. Calculate impact on bank solvency with the top-down stress test tool
5. Create composite indicator of impact to help determine risk exposure
2. Macroprudential policy cycle in the ECB: Surveillance and assessment

Macroprudential surveillance in a European context

STEP 1
- Surveillance
  - Qualitative and quantitative evidence
    - Exposed
    - Non-Exposed
    - Impact assessment
      - At risk
      - No risk
  - Risk exposure
    - No significant exposure
    - Low exposure
    - Medium-level exposure
    - Pronounced exposure

STEP 2
- Assessment
  - Policy stance
    - No further measures proposed
    - Further measures could be considered
    - Further measures are proposed
2. Macroprudential policy cycle in the ECB: Policy considerations

Selection of instruments

- **Objective**: Address identified risks with most effective instruments

- More than one instrument available for each objective

- **Multiple dimensions** come into play when selecting instruments
  - Economic aspects
  - Cross-border spillovers
  - Legal aspects

- **Role of the ECB**
  - Help coordinate national policies
  - Consider cross-border spillovers
  - Act as collective mechanism to overcome inaction bias
2. Macroprudential policy cycle in the ECB: Policy considerations

Policy evaluation

- Are enacted policies appropriate and adequate to counter systemic risk?
  - Appropriate when conceptually able to address existing vulnerabilities
  - Adequate when also quantitatively able to counteract systemic risk

- Ex-post quantitative assessment of the effectiveness of macroprudential measures
  - Did the policies achieve the intended effects?
  - Unintended consequences? Further action needed?
  - Tools similar to those employed to select/calibrate policy instruments

Feedback to risk monitoring, identification and assessment
3. Concluding remarks and challenges ahead

- **Specific macroprudential powers conferred on the ECB**
- **Institutions/processes in place; ongoing implementation, but challenges remain**
- **Limited practical experience**
  - How do the various instruments interact? How effective are they?
  - Potential for and scope of boundary and leakage effects?
- **Interaction with other policy areas?**
  - Trade-offs, complementarities and/or conflicts of interest?
- **Strengthen macroprudential framework further**
  - Improve data availability/granularity and further develop analytical tools
  - Increase instrument granularity (e.g. asset side measures)
  - Extend the perimeter of instruments to non-banks
Thank you for your attention!

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