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“Does the current macroprudential toolkit allow for effective targeting of real estate market imbalances?”

A policy perspective through case studies

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Disclaimer

The views expressed in this presentation are mine and do not necessarily reflect those of the Banque de France / the Eurosystem.

- 1. Detecting real-estate market imbalances**
- 2. Macroprudential toolkit**
- 3. Policy perspective – case studies:**
 - 2 case studies from the 2016 CGFS report “Experiences with the ex-ante appraisal of macroprudential instruments”**
 - The commercial real estate sector in France**

1. Detecting real-estate imbalances

Detecting real estate market imbalances

Which indicators?

Several indicators can be used to reveal real-estate “imbalances”:

- **Prices** : the most common view is that a RE market imbalance means overvalued RE prices. Different metrics are possible to detect the overvaluation of prices:
 - ✓ **Price Level** : persistent deviations of the prices levels from fundamentals may signal RE imbalances.
 - Should the assessment of deviations from fundamentals be country-specific?
 - ✓ **Price Growth** : unusual dynamics in prices may signal RE imbalances.

Detecting real estate market imbalances

Which indicators ? (2)

- ✓ **Ratio RE prices / income (PTI)** : a high or increasing PTI ratio characterizes a divergence between RE prices and household income, a key fundamental of housing demand.
- ✓ **Ratio RE prices / other prices** : a high or increasing ratio –if the current ratio is far away from its long-term average- may signal an imbalance of the RE market by comparison with other markets (example : goods market).
- **Return** : detecting RE imbalances may be based on comparing (i) the profitability of RE properties with profitability of other assets or (ii) the current profitability with its long-term average.
 - ✓ RRE: return = ratio RE prices / rent (PTR)
 - ✓ CRE: return = rental yield
 - ✓ Does it always make sense ? Are properties totally akin to a financial asset ?

Detecting real estate market imbalances

Which indicators? (3)

- **Volume of transactions** : unusually low / high number of transactions may suggest a mismatch between supply and demand and may signal an imbalanced RE market.
- **Construction** : an unusual activity in construction may signal an imbalanced RE market.
- **Ratio households' indebtedness / GDP or income** : a high or increasing level of HH indebtedness may signal systemic risk build-up.
- **Credit standards (LTV ratios, DTI/DSTI ratios, maturity)**: high or increasing levels of these indicators may signal systemic risk build-up.
- **Importance of RE for banks**: credit for RE compared to banks CET1 capital or as a proportion of GDP.

Detecting real estate market imbalances

Cautiousness in interpreting

- RE markets are often (highly) heterogeneous (i) between countries and (ii) inside a given country ⇒ Vey aggregated Indicators may not account for local characteristics and not properly relay imbalances (Himmelberg et al., 2005)
- **Country-specific characteristics** when assessing price fundamentals:
 - ✓ “*Fluctuations [of RE prices from their LT fundamentals] arise not only due to cyclical movements in economic fundamentals, interest rates and risk premium, but also as a result of the intrinsic characteristics of the property market itself*” (supply lags, substantial cost to get knowledge of local markets...). (Zhu, 2003)
 - ✓ The responsiveness of the supply varies across countries, depending on:
 - land availability and local land planning system;
 - housing financing system: ST vs. LT interest rates anchoring mortgage rates; fixed vs. variable mortgage rates; penalties on early repayments; collateral valuation practices; transaction costs; tax policy;
 - liquidity of the housing market (constrained by transaction costs like VAT, registration fees, RE taxes).

2. Macroprudential toolkit

“Boom-bust cycles in real estate markets have been major factors in systemic financial crises and therefore need to be at the forefront of macroprudential policy. The geographically differentiated nature of real estate market fluctuations implies that these policies need to be granular across regions and countries” (Hartmann, 2015).

The existing macroprudential toolkit

Europe and France

Measure	EU legal basis	Authority in charge in France	Pros	Cons
<p>Increased RWs</p> <p>Increased minimum LGDs for exposures collateralized with real estate</p>	<p>Art. 124 CRR</p> <p>Art. 164 CRR</p>	ACPR	<p>Targeted measures</p> <p>Direct effect on banks' resilience</p> <p>Mandatory reciprocity</p>	<p>Limited effect in case of «voluntary» buffers</p> <p>Uncertain impact on credit</p>
<p>Increased RWs to counter the build-up of real estate booms</p>	<p>Art. 458 CRR</p>	HCSF	<p>Targeted measures</p> <p>Direct effect on banks' resilience</p>	<p>Same as above +</p> <p>Burdensome procedure (measures of last resort)</p> <p>No mandatory reciprocity</p>

The existing macroprudential toolkit (2)

Europe and France

Measure	EU legal basis	Authority in charge in France	Pros	Cons
Additional own funds requirements « Pillar 2 »	Art. 103 CRD	SSM (for SI banks) / ACPR	Direct effect on banks' resilience Targeted measure	Microprudential instrument not specifically defined for real estate risks No reciprocity
Capital buffers	CCyB 136 CRD or SRB 133 CRD	HCSF	Direct effect on banks' resilience CCyB expected to dampen credit growth Mandatory reciprocity for CCyB	Broad measures, not targeted for real estate risks

The existing macroprudential toolkit (3)

Europe and France

Measure	EU legal basis	Authority in charge in France	Pros	Cons
LTV caps	<p>No EU legal basis</p> <p>Legal basis in France, apply to all lenders (banks / nonbanks)</p>	HCSF	<p>Strengthen the resilience of lenders and borrowers (reduce LGD)</p> <p>May dampen excessive credit growth</p> <p>Can be applied to all institutions authorized to provide credit (banks and nonbanks in France)</p>	<p>Apply only to new credit flows</p> <p>Procyclical: higher prices mean a renewed / higher capacity of indebtedness, if possible in the jurisdiction (not in France)</p> <p>Can be bypassed by recourse to uncollateralized loans</p> <p>Politically sensitive</p>

The existing macroprudential toolkit (4)

Europe and France

Measure	EU legal basis	Authority in charge in France	Pros	Cons
<p>LTI, DTI, DSTI caps</p> <p>(DSCR/ICR floors for CRE)</p>	<p>No EU legal basis</p> <p>Legal basis in France, apply to all lenders (banks / nonbanks)</p>	HCSF	<p>Strengthen the resilience of lenders and borrowers (reduce PD)</p> <p>May dampen excessive credit growth</p> <p>Can be applied to all institutions authorized to provide credit (banks and nonbanks in France)</p>	<p>Apply only to new credit flows</p> <p>DSTI can be bypassed by increasing maturity</p> <p>DSTI can turn out to be insufficient if variable rates in a low IR environment</p> <p>Politically sensitive</p> <p>Lack of reliable data on the distribution of DSCR / ICR</p>

Macroprudential tools: what about their effectiveness?

- Borrower-based tools (such as LTV and DTI caps) are effective in limiting credit growth (Lim et al., 2011; Cizel et al., 2016; Kuttner and Shim, 2013) and procyclicality (Cerutti et al., 2015)
- More precisely, DSTI cap seems more effective than LTV cap to limit credit growth (Kuttner and Shim, 2013)
- Borrower-based measures seem more effective when tightened and when prices are high (to limit credit expansion) than when loosened (McDonald, 2015)
- Quantity-based measures (caps on LTV, DTI...) seem more effective in curbing bank credit growth than price-based measures (capital buffers...): (Cizel et al., 2016;
- None of these measures seem to have a significant impact on RE prices (Kuttner and Shim, 2013) vs. macroprudential policy measures can have an impact on RE prices dynamics (Igan and Kang, 2011; Kelly et al., 2015; Vandebussche et al., 2015; McDonald, 2015);
- When macroprudential measures apply only to banks, they may be circumvented by nonbank lending, hence the necessity to extend macroprudential policy beyond banking (Cizel et al., 2016).

3. Cases studies:

- **2 case studies from the 2016 CGFS report “Experiences with the ex-ante appraisal of macroprudential instruments”**
- **The commercial real estate sector in France**

Macroprudential policy case studies: General approach

Risk assessment

1. Detection of risk



2. Assessment of risk:

- Exposures
- Probability of materialization



3. Quantification of risk
(e.g. stress tests...)



Policy action

Necessary: Yes / No



If Yes:

1. Which measure(s)?

Sélection

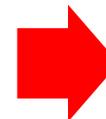
2. When?

Activation

3. To what level?

Calibration

4. Communication



Ex-post evaluation

- Were the measures adequate?

- Sufficiently calibrated?

- Need to complement them?

- Continue / stop?

2 study cases from 2016 CGFS report

CGFS report “ex-ante appraisal of macroprudential instruments” (1)

- Report of the CGFS study group on “Experiences with the ex ante appraisal of macroprudential instruments” (2016)
 - ✓ Goal: overview of experiences of central banks with macroprudential approaches and methods and how they are used for decision-making
 - ✓ Main conclusions:
 - governance arrangements should promote wider cooperation in conducting appraisals because these exercises require a diverse set of skills and depend on the setting of other policies
 - macroprudential policymaking relies increasingly on quantitative analysis, but this does not obviate the reliance on judgment
 - often policy has to devise new analytical methodologies and explore (or create) novel data sources to conduct appraisals => no single preferred approach has (yet) emerged
 - ✓ Case studies → focus here on 2 case studies related to real-estate:
(i) LTV cap in Netherlands and (ii) DSTI cap in Singapore

CGFS report “ex-ante appraisal of macroprudential instruments”. 1st case study: LTV cap in Netherlands

- Risk assessment: high household debt combined with relatively low collateralization (many mortgage owners have debt levels > value of their home)
- Introduction of an LTV cap on mortgages set at 106%, planned to be reach 100% in 2018; then consider further tightening; seen as a structural measure to improve financial stability;
- Objectives:
 - ✓ primarily, enhance resilience of banks and households;
 - ✓ possibly, dampen real-estate prices and volatility in consumption expenditure
- Activation: very gradual tightening speed of 1 p.p. / year: easy to communicate + possible further tightening would appear as continuation + front-running not seen as a risk
- Calibration of LTV cap:
 - ✓ Analysis based on both costs and benefits
 - ✓ Had a 80% LTV cap been in place for 1st time buyers in 2004-12, none would have been in negative equity; with a 90% cap, 15% in negative equity
 - ✓ HH consumption held back by 1.5% after 2007-09 crisis ⇒ beneficial to reduce house price volatility
 - ✓ Several models used to assess the LTV cap impact on macroeconomic variables
- Communication: assessment published by DNB (detailed appraisal, press release, interview) + recommendation to further tighten LTV to 90%

CGFS report “ex-ante appraisal of macroprudential instruments”. 2nd case study: DSTI cap in Singapore

- Risk assessment: uneven practices by lenders for calculation of DSTI + rising HH debt + strong growth of housing loans
- Introduction in 2013 of a unified standard for calculation of the debt service ratio for property loans granted by financial institutions: Total Debt Servicing Ratio (TDSR) + set a maximum threshold
- TDSR: all outstanding debt obligations included (property & non property related)
- Objectives:
 - ✓ Increase resilience of households (prudence)
 - ✓ Increase resilience of financial institutions by standardizing and strengthening standards for mortgage loans
- Activation: structural tool, complements other tools such as LTV caps
- Calibration: TSDR threshold set at 60% + specify computation (calculation of debt, of income, haircuts depending on riskiness of income...); the calibration used thematic review by supervisors

Commercial real-estate in France

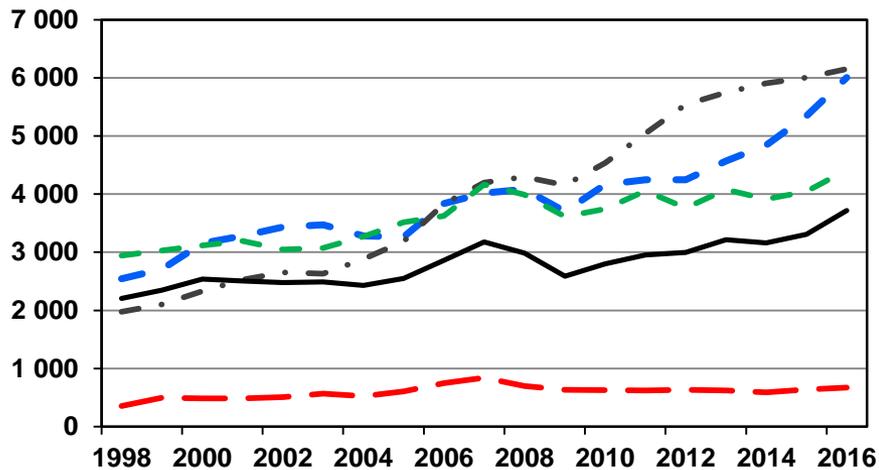
Commercial real-estate in France: diagnosis

- Some concerns in 2016 about the situation of CRE market in France:
 - ✓ Buoyant market:
 - Strong demand and persistent investors' appetite: a lot of transactions since 2014, foreign investors
 - Low interest rate environment → search for yield + CRE assets perceived as a way to diversify portfolio with safer investments
 - High and rising CRE prices
 - Heterogeneity between market segments: transaction volumes and/or price increase higher in certain sub-sectors: e.g. Paris' offices
 - ✓ Reassuring:
 - Investors mostly target “quality assets”
 - No overheating observed in the construction sector
 - ✓ Less reassuring:
 - High price increase in French CRE since 2010, particularly in certain segments; much higher than its neighbors (Germany, Spain, Italy, Belgium)
 - Profitability (rental yields) eroded and is lower than for neighbors (DE, IT, ES, BE)

Commercial real-estate in France: diagnosis (2)

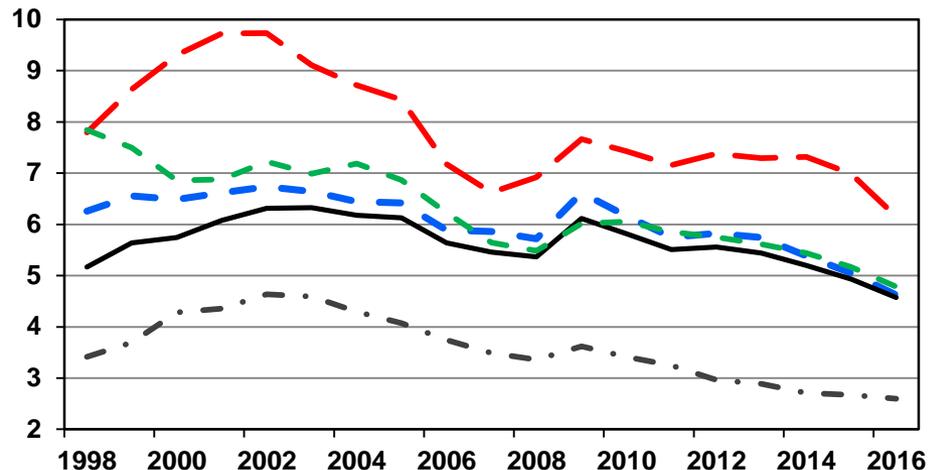
- Prices are on a very positive trend, in contradiction with a drop in rental yields.

France: CRE prices (€/m²)



— CRE_office
— CRE_industrial
— CRE_retail
- . - CRE_residential
— CRE_all sectors

France: CRE cost-adjusted rental yields (%)

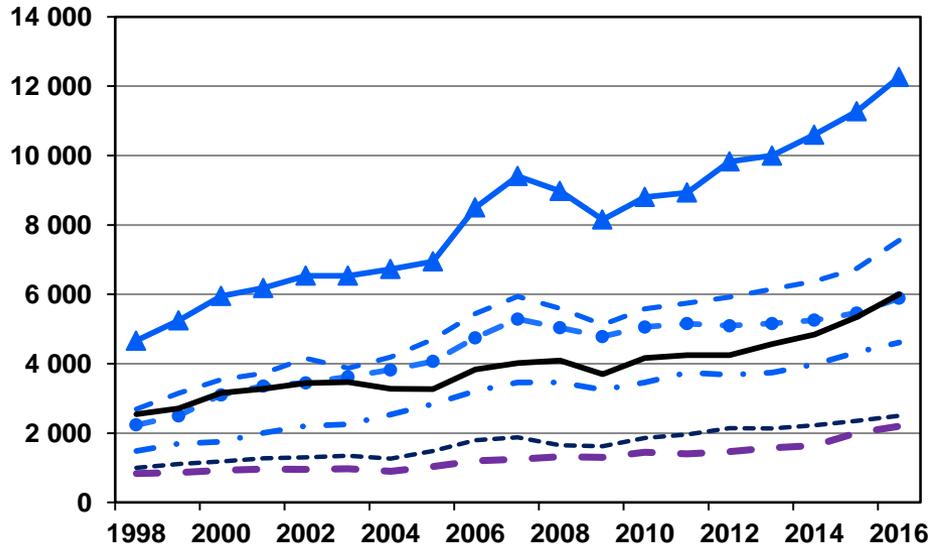


— CRE_office
— CRE_industrial
— CRE_retail
- . - CRE_residential
— CRE_all sectors

Commercial real-estate in France: diagnosis (3)

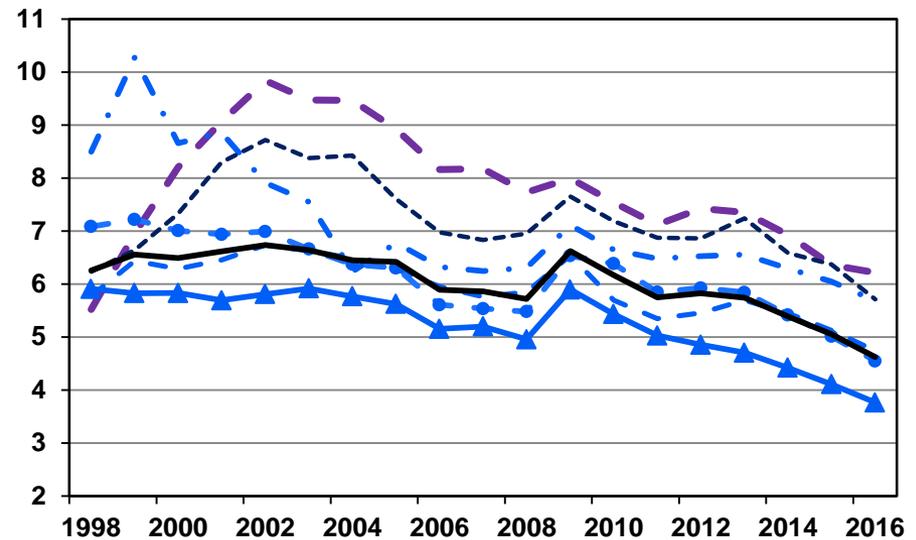
- Offices are investors' preferred CRE assets: end-2016, this sector represented almost 60% of total investment in CRE.

French Offices sector: prices (€/m²)



- Province
- · - Reste de la Petite Couronne
- ▲ Paris Quartier Central des Affaires (QCA)
- - - Ile de France hors Petite Couronne
- - - Paris Hors Quartier Central des Affaires
- La Defense et croissant ouest
- Bureaux - moyenne nationale

French Offices sector: cost-adjusted rental yields (%)



- Province
- · - Reste de la Petite Couronne
- ▲ Paris Quartier Central des Affaires (QCA)
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- La Defense et croissant ouest
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Commercial real-estate in France: action plan (1)

- 2 main risk scenarios identified, both leading to decrease in CRE prices
 - ✓ IR rise ⇒ CRE rental yield less attractive compared to LT sovereign bonds
 - ✓ Excess supply in rental market ⇒ higher stocks ⇒ increase in vacancy rates
- The High Council for Financial Stability (HCSF) published mid-April 2016 an analysis of the CRE market for consultation and to raise market participants' awareness of risks: communication as a macroprudential instrument ("soft" instrument).
- Several meetings with CRE professionals, CRE data providers, Bank and Insurance associations.
- The HCSF coordinated stress tests conducted by ACPR and AMF based on scenarios prepared by BdF
- An updated analysis of the CRE market and the results of the stress tests were published by the HCSF end-March 2017.

Commercial real-estate in France: exposures

➤ Exposures to CRE rather limited:

- ✓ End June 2016, total exposure of French banks to CRE was of 166 bn€, i.e. 2.5% of their total assets (of which 97 bn€ in France, of which 18 bn€ for Offices in Paris Area)
- ✓ end-2015, the real estate investment of insurers represented 83 bn€, i.e. 4.9% of their total investment
- ✓ end-2015, the outstanding value of assets in real estate funds represented 4% of the total value of assets owned by French funds

➤ Perimeter of the stress tests:

- ✓ 5 main French banking groups
- ✓ 19 insurance companies (2/3 of the RE assets held by this sector)
- ✓ Funds (OPCI) hold by 8 asset managers (96% of the OPCI « grand public », i.e. open-ended retail funds)

Commercial real-estate in France: stress tests scenarios

- 3 scenarios of an immediate decrease in CRE prices and over a 2Y horizon:
 - ✓ Scenario 1: -15% in prices for all the CRE sectors (except offices in Paris Area) and -30% for the offices in Paris Area, corresponding to cancellation of price overvaluation measured by HCSF;
 - ✓ Scenario 2: -30% in prices for the offices in Paris Area, in line with historical experience (fall in prices observed during the French RE crisis in early 1990s);
 - ✓ Scenario 3: -60% in prices for the offices in Paris Area, corresponding to cancellation of ECB estimated overvaluation of French prime CRE assets.
- Stress tests conducted on FR banks and insurers (ACPR) and funds (AMF).
- Additional hypotheses for funds :
 - for scenarios 1 and 2 – outflows of 40% of initial liabilities, linearly distributed over 2 months;
 - for scenario 3 – outflows of 50% of initial liabilities

Commercial real estate in France: stress tests results and follow-up

- Assessment: limited impact of the scenarios on the actors and **no systemic risk for the CRE market in France:**
 - ✓ French banks: average impact of the most severe scenario (scenario 1) on their core equity tier 1 (CET1) is 2 to 3 b.p. of their RWA
 - ✓ French insurers: only one institution has a small shortage of capital (coverage ratio of its SCR of 99.3%) in the most severe scenario (scenario 3); before the ST, this institution had the lowest coverage ratio and a higher exposure to CRE compared to others
 - ✓ French funds (OPCI): the 3 scenarios of price decrease combined with the strong outflows hypothesis do not affect their capacity to respond to the simulated outflows; however, temporary liquidity & diversification requirements may become binding for some of the OPCI.
 - ⇒ **Binding macroprudential measures not considered necessary**

Commercial real estate in France: stress tests results and follow-up (2)

➤ **Non-binding measures taken:**

✓ **Communication:**

- Publication of updated diagnosis
- Publication of stress test results
- Publication of HCSF communiqué
- Publication of joint ACPR-AMF statement underlining necessity of “good practices” when commercializing / marketing RE products to retail customers
- Publication of joint AMF-ANC statement underlining importance of rigorous valuation method for RE assets

✓ **Monitoring: bi-annual meetings with market participants**

✓ **Promotion of data sharing and clarification of methods and concepts**

✓ **Promotion of academic research on CRE topics**

✓ **Reflections on how to contain imbalances between RRE and CRE and improve territorial planning**

Thank you for your attention !

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Background slides

Why do real estate market imbalances matter?

Real-estate and financial stability

- *“The boom-bust nature of property price fluctuations is believed to have played a role in past business cycles, fuelling the upswing and magnifying the downswing” (Zhu, 2003).*
- *“A multidirectional link exists between money, credit, house prices and the wider economy” (Goodhart and Hofmann, 2008).*
- *“Credit-financed housing price bubbles have emerged as a particularly dangerous phenomenon” (Jorda, Schularick and Taylor, 2015).*
- *“Boom-bust cycles in real estate markets have been major factors in systemic financial crises” (Hartmann, 2015).*

Why do real estate market imbalances matter? (2)

Real-estate and financial stability

- Past financial crises have often been preceded by corrections of real estate prices => policymakers often assess financial sector vulnerability on the basis of property prices among other indicators (BIS and IMF, 2005).
- Sustained imbalances in real estate markets can jeopardize the soundness of the financial sector, given the central role played by banks as mortgage lenders and the frequent use of real estate as collateral (Goodhart and Hofmann, 2008).
- *“Financial crises relating to housing are relatively frequent and have severe repercussions. RRE busts are common causes of banking crises and occur at relatively high frequency. The consequences following an RRE bust are typically severe, not least given the importance of real estate in the balance sheets of households and credit institutions” (ESRB, 2016).*

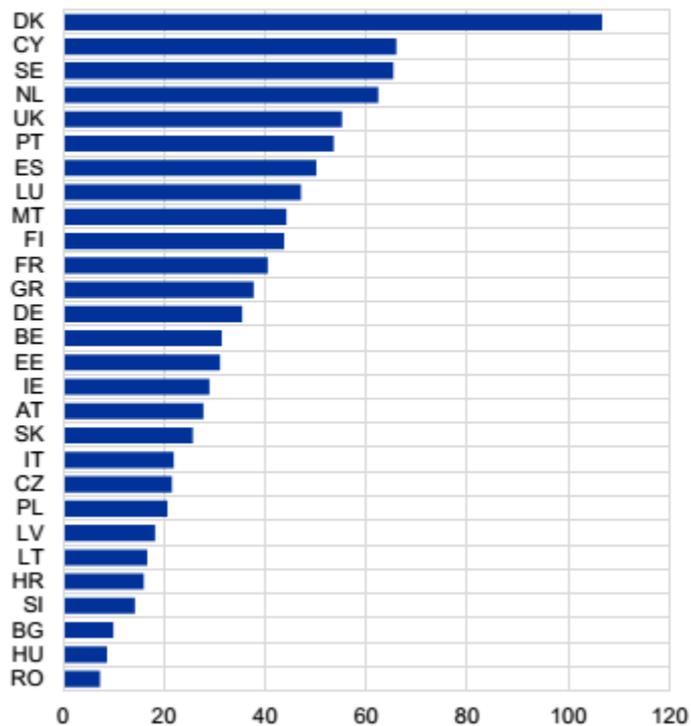
Why do real estate market imbalances matter?

Importance of RRE (source: ESRB, 2016)

Importance of RRE for banks and the real economy

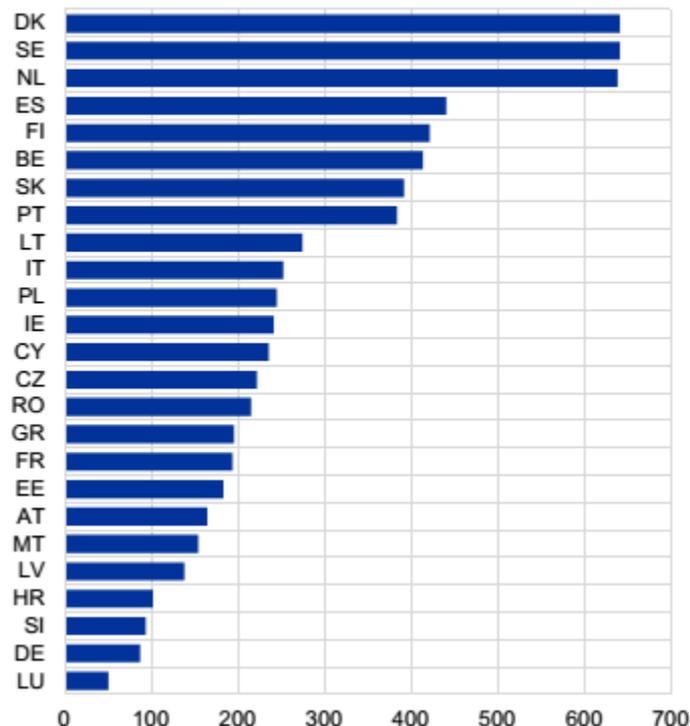
a) Credit for house purchase

(% of annual nominal GDP, Q1 2016)



b) Mortgage loans

(% of banks' Common Equity Tier 1, Q4 2015)



Detecting real estate market imbalances

Timing and magnitude

- Rise in RE prices could carry both positive and negative effects for financial stability, depending on time horizon and magnitude of the rise:
 - ✓ **Higher house prices can enhance financial stability (in the short run):**
 - increase in the value of collateral and net wealth of borrowers, thus reducing the LGD for banks;
 - boost in bank capital through the increase in the value of RE assets owned by banks.
 - ✓ **But soaring RE prices increase banks' PDs (in the medium run):**
 - adverse selection of risky creditors by banks seeking to expand their loan portfolios: excessive lending in a context of rising house prices and lower (perceived) risk of real estate financing;
 - reversals in fundamentals increase the odds of financial distress in the banking system.