

**Financial cycles,
systemic risks associated with housing credit
and macroprudential rules
for mortgage market**

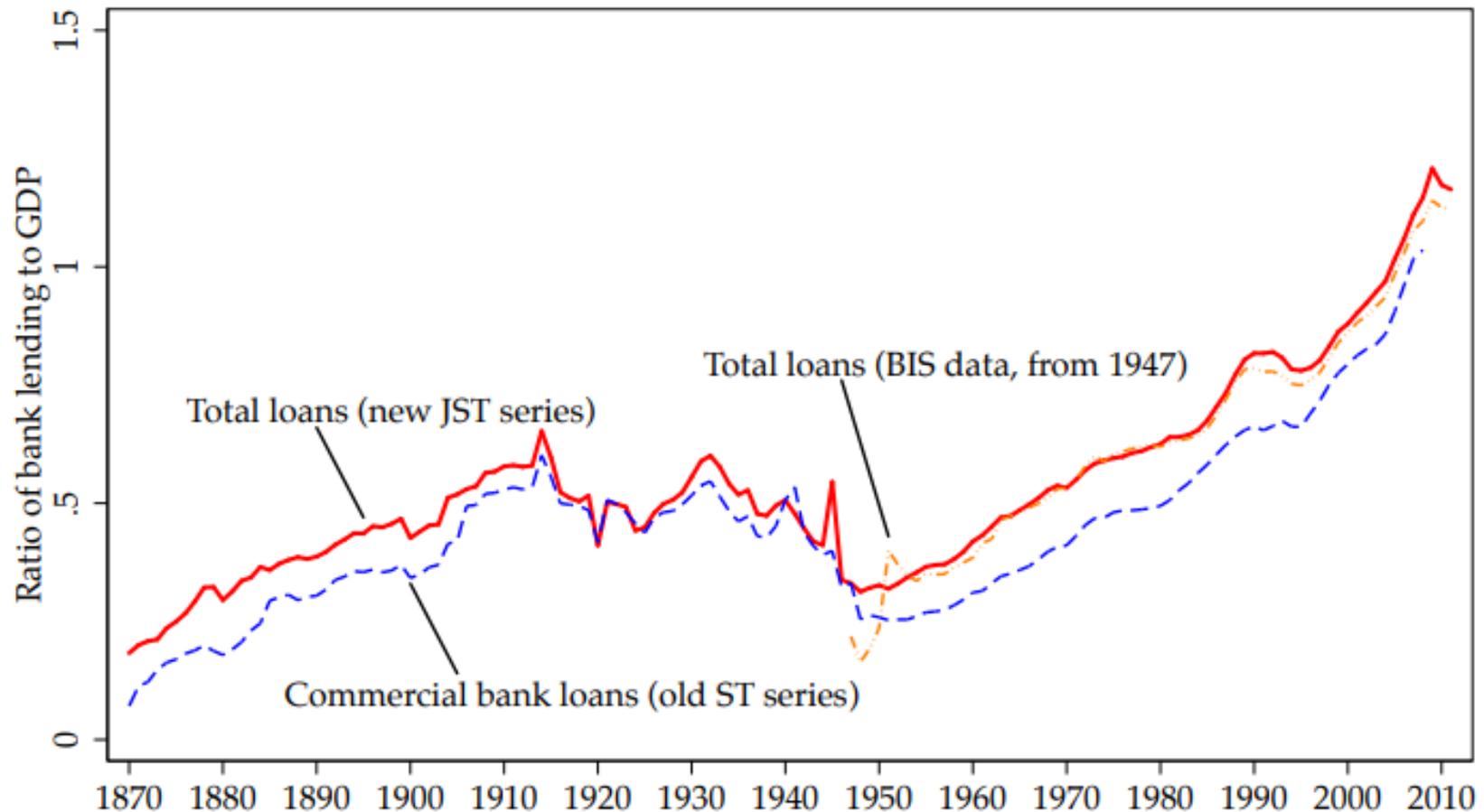
Jan Frait

Executive Director

Financial Stability Department

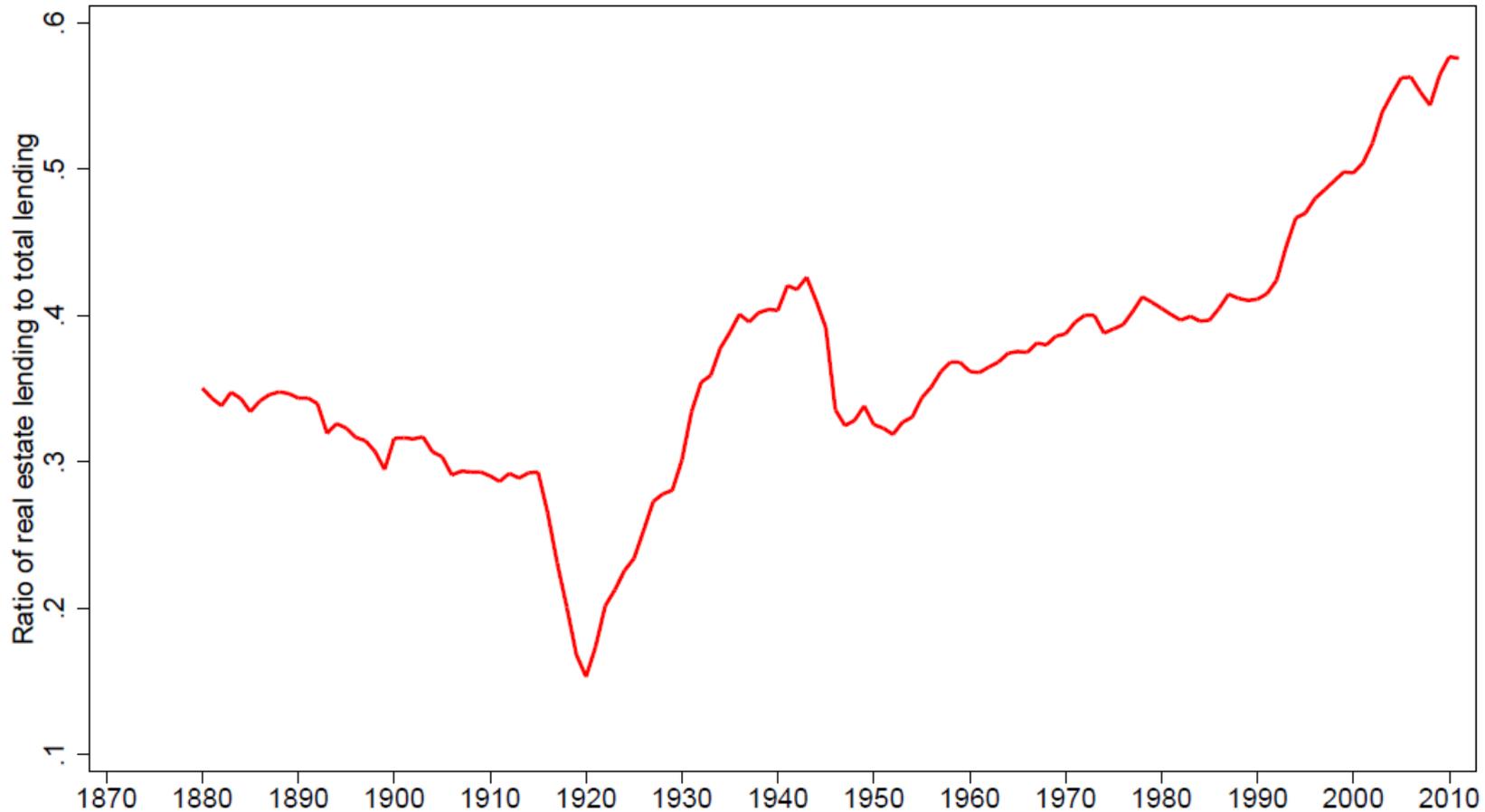
XIXth European Congress of the EFBS
Prague, 18 October 2019

Bank credit to non-financial private sector in advanced economies



Source: Jordá, Schularick and Taylor (2016)

Share of real estate lending on total lending to non-financial sector in advanced economies

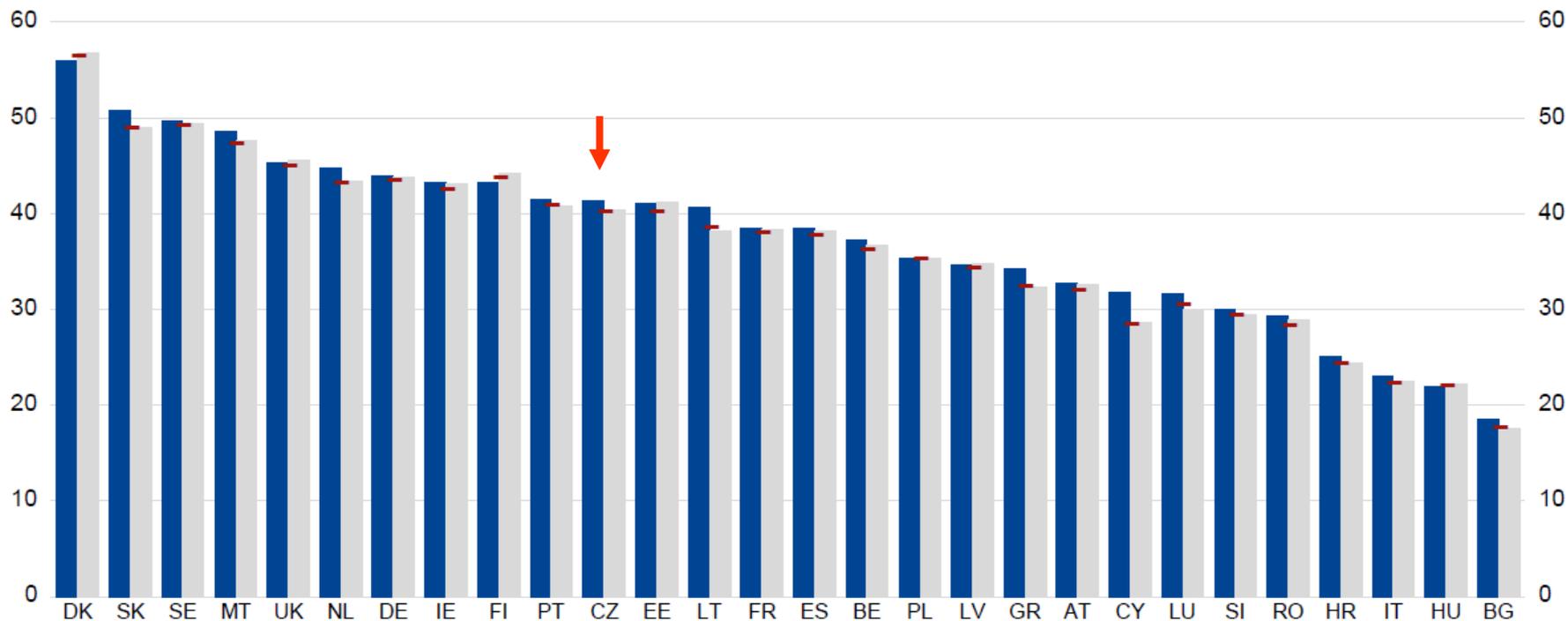


Source: Jordá, Schularick and Taylor (2016)

Bank loans for house purchase

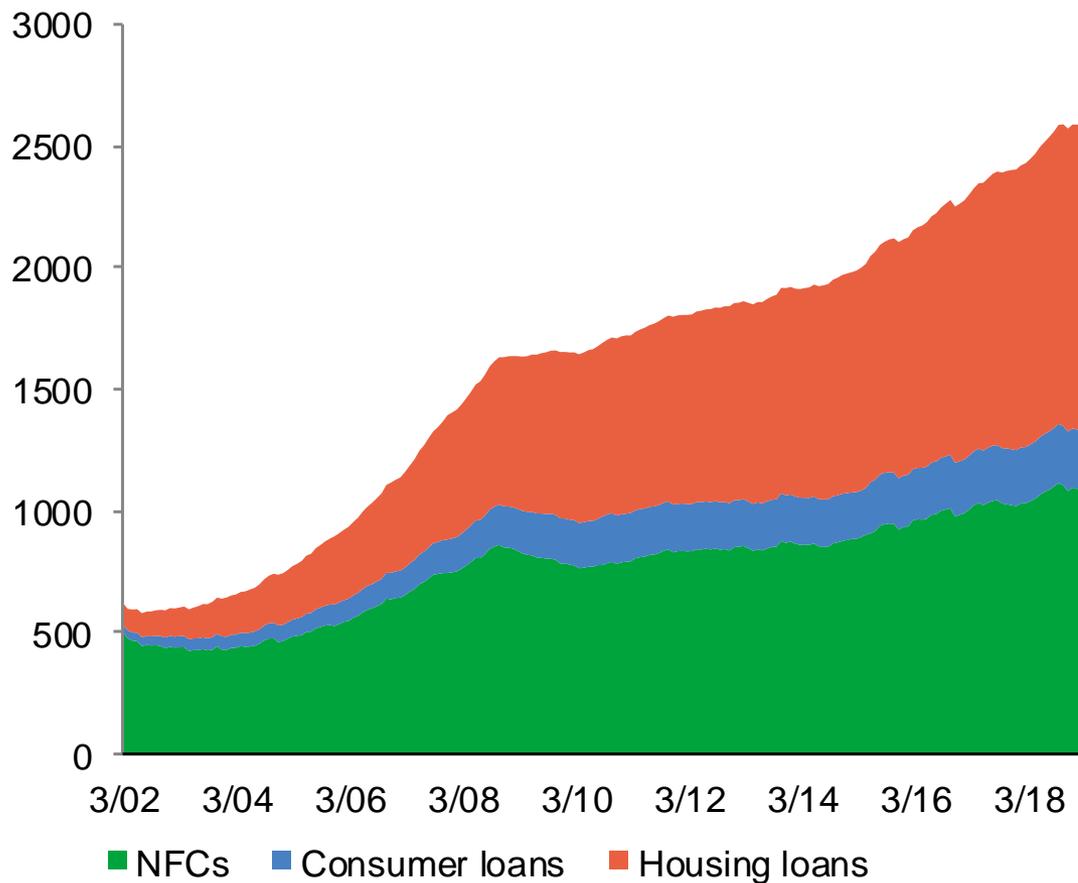
(EU; share of credit to the private sector; percentages)

■ last observation: Jul. 2019
■ Jul. 2018
— three-year average



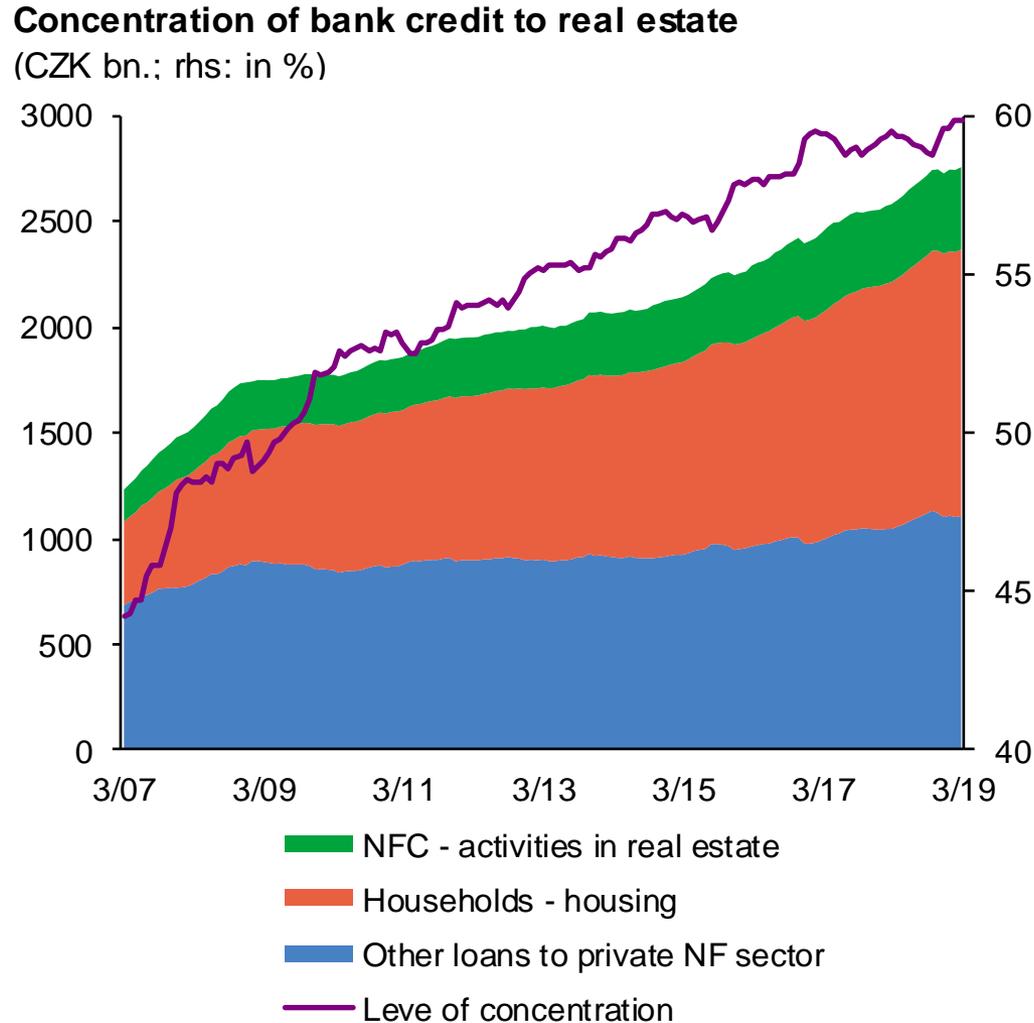
Source: ESRB Risk Dashboard

Structure of private sector loans by purpose
(CZK bil.)

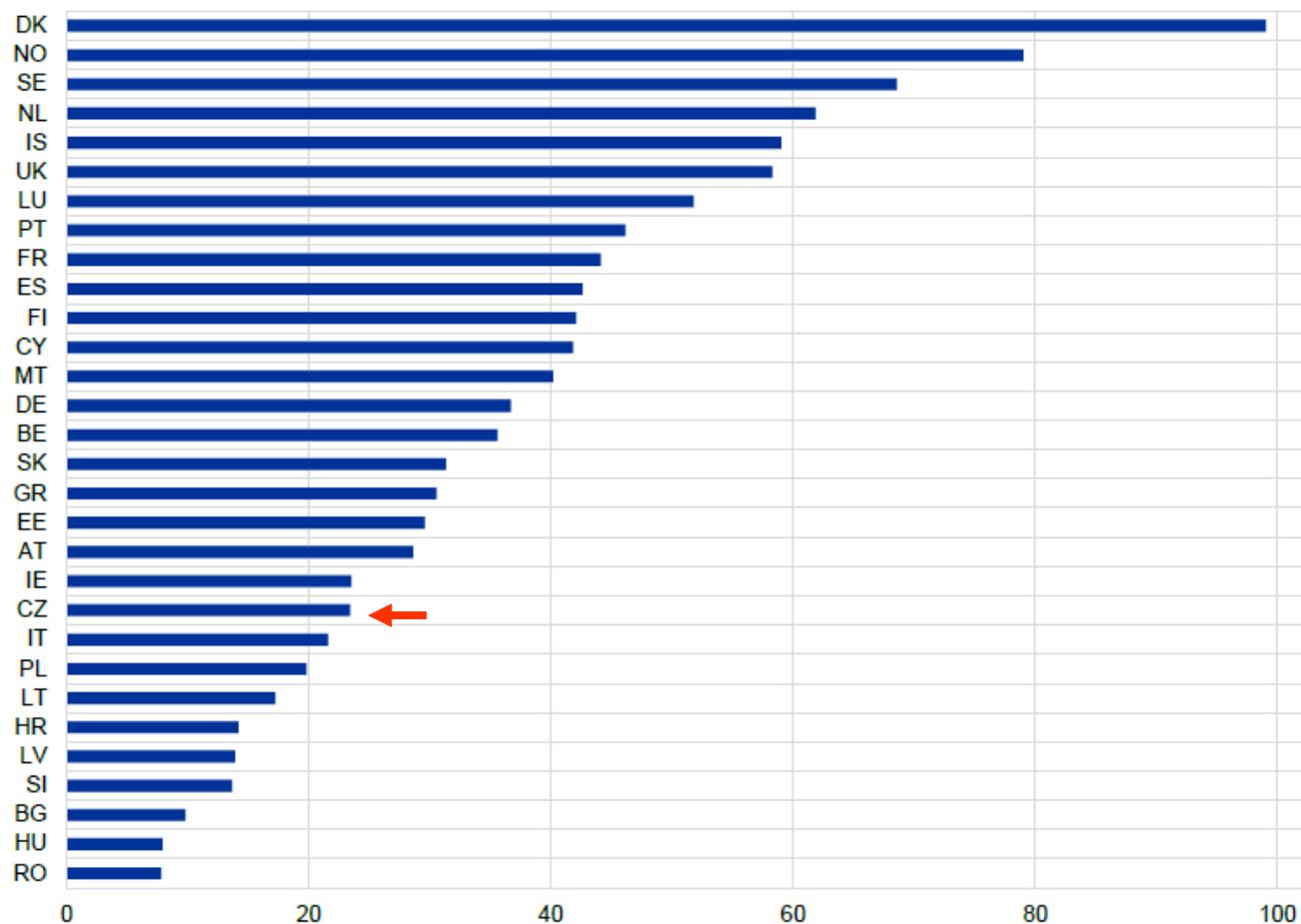


Source: CNB

- 60% of loans are somehow related to real estate sector.



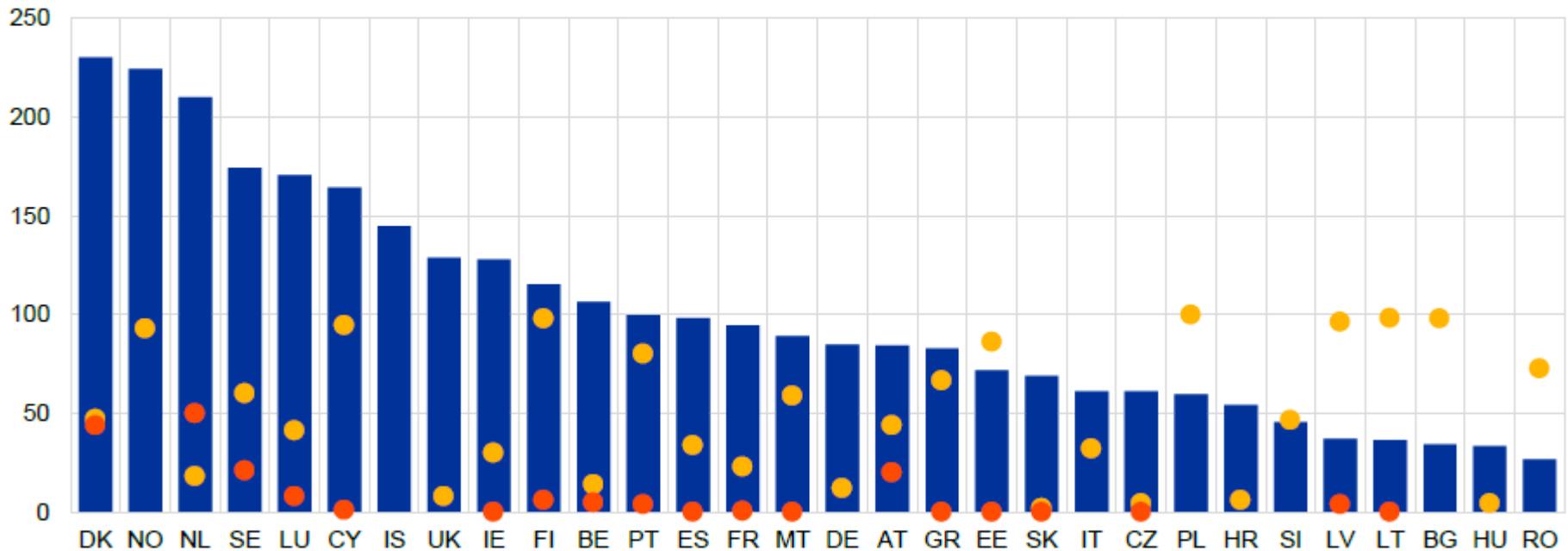
RRE loans as a percentage of GDP (2018)



Source: ESRB

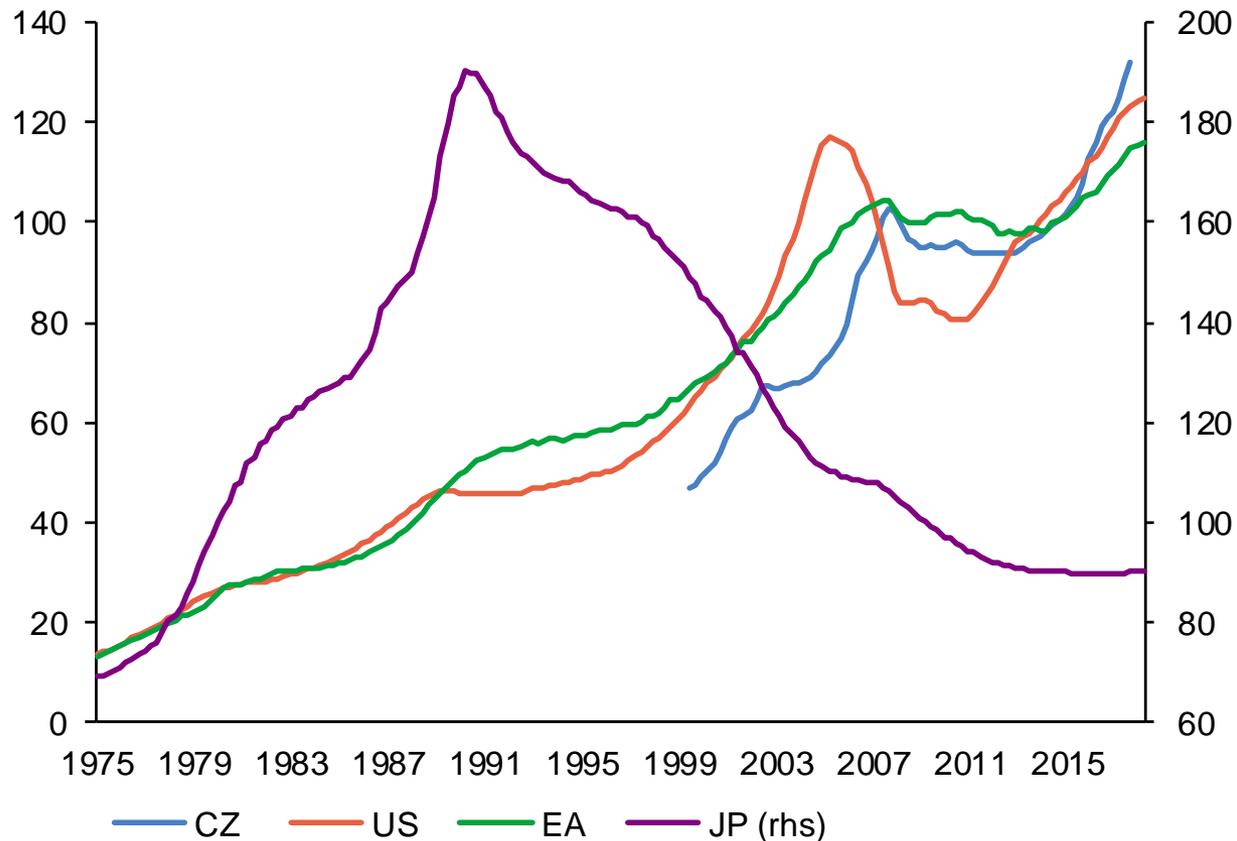
Household debt and loan characteristics (2018)

- Household debt to income
- Share of variable interest rate loans
- Share of non-amortizing loans



Source: ESRB

Residential real estate prices (indices)



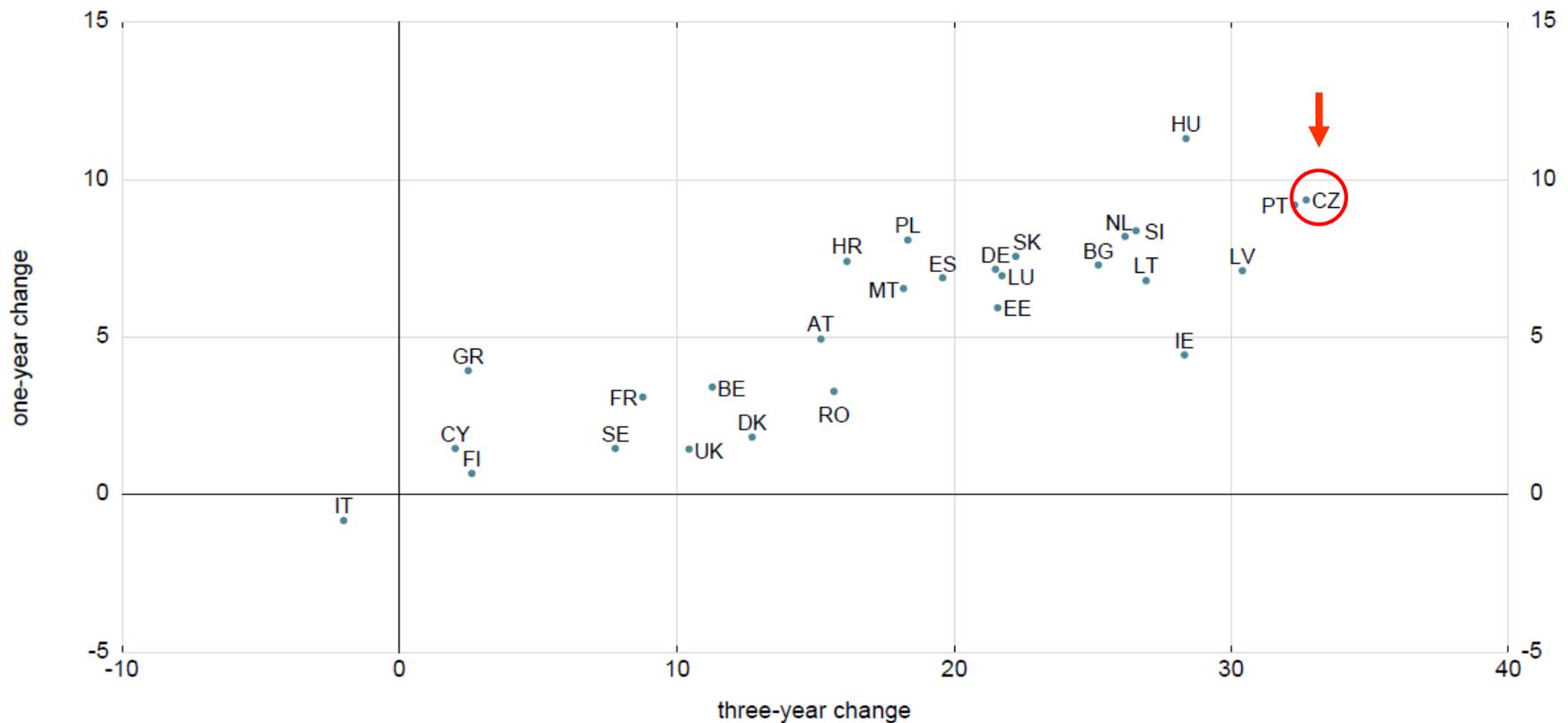
Notes: CZ 100=2008, US 100=2008, EA 100=2007, JP 100=2010 for land

Source: BIS

- Czech house prices are still „best performer“ in the EU as to 3Y growth.

Change in nominal residential property prices

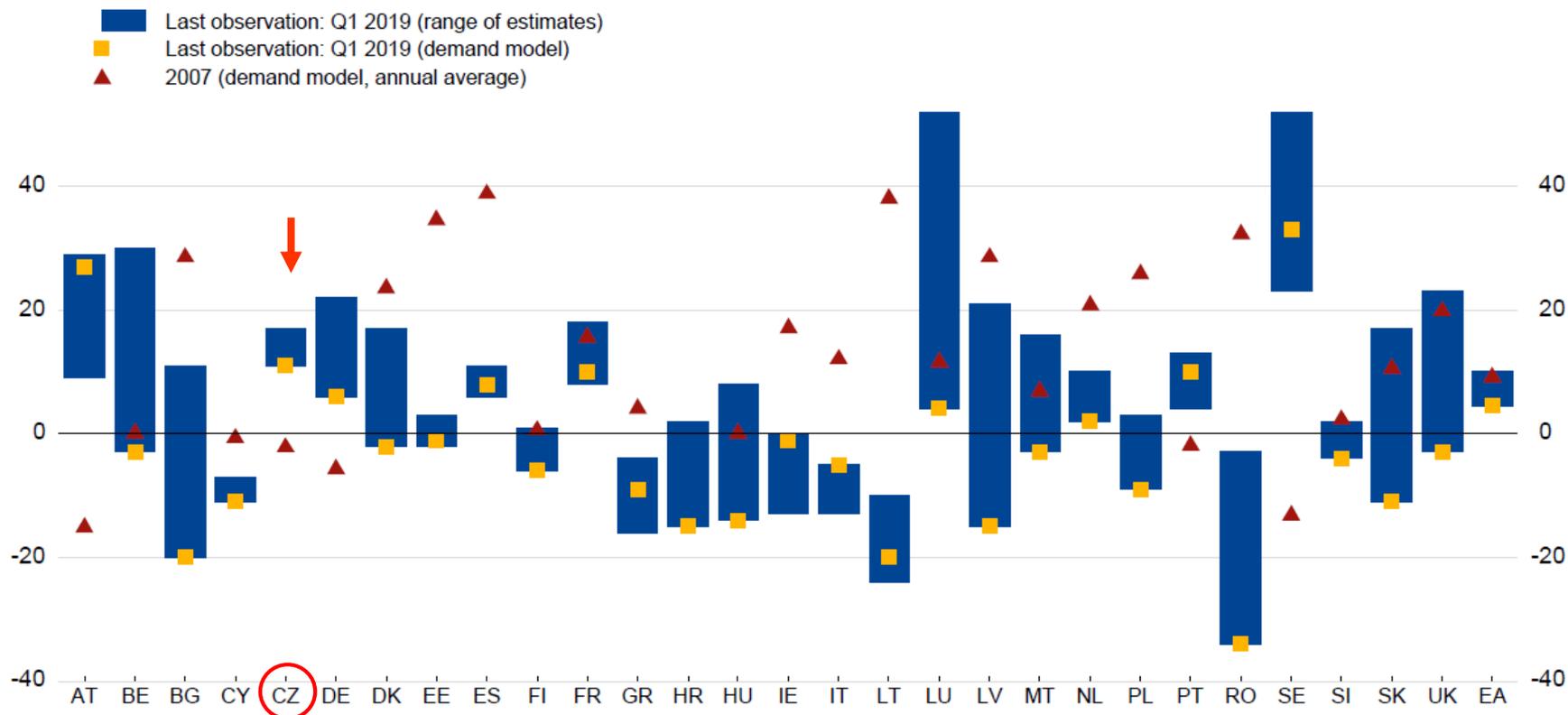
(EU; percentages; last observation: Q1 2019)



- ECB methods view Czech housing as apparently overvalued which is not unique in the EU.

Over/undervaluation of residential property prices

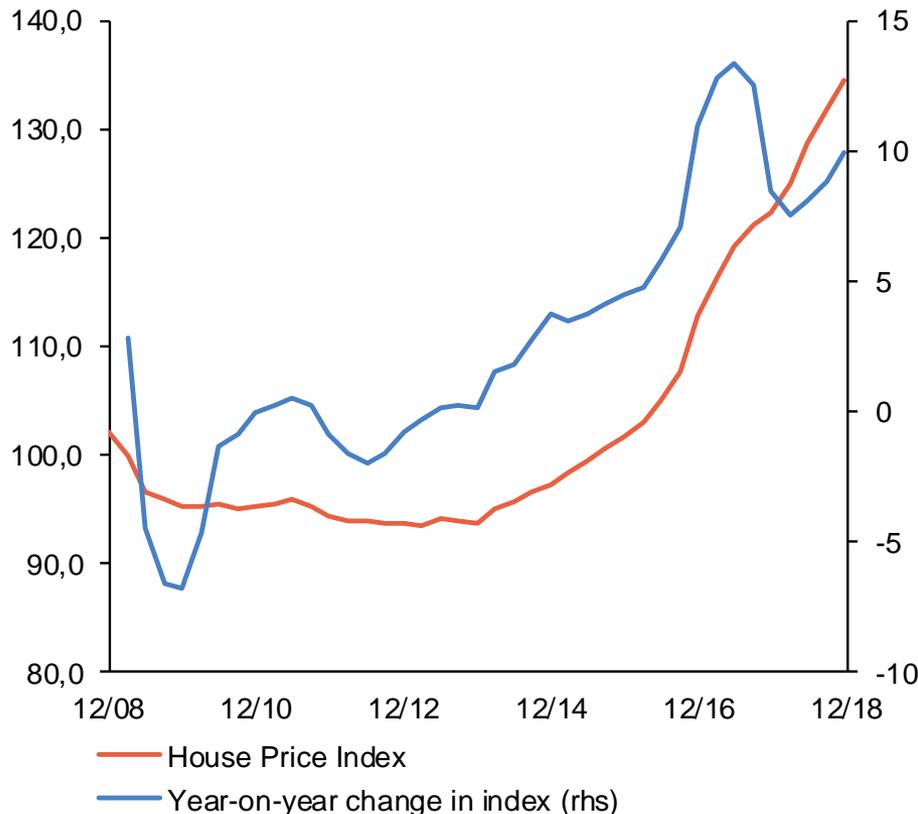
(EU; percentages)



- CNB methods deliver similar results for overvaluation.

Transaction prices of residential property

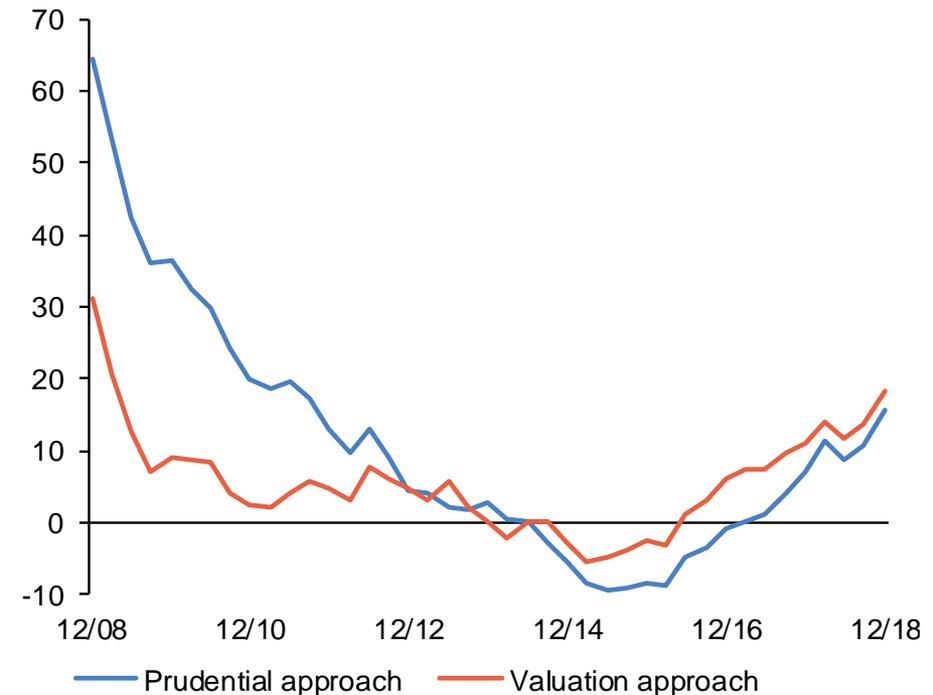
(2015 = 100; right-hand scale: %)



Source: CZSO

Estimated overvaluation of apartment prices

(%)



Source: CNB

Note: The methodology of the indicators is described in detail in Plašil, M., Andrlé, M. (2019): *Assessing House Price Sustainability*, Thematic Article on Financial Stability 1/2019, CNB.

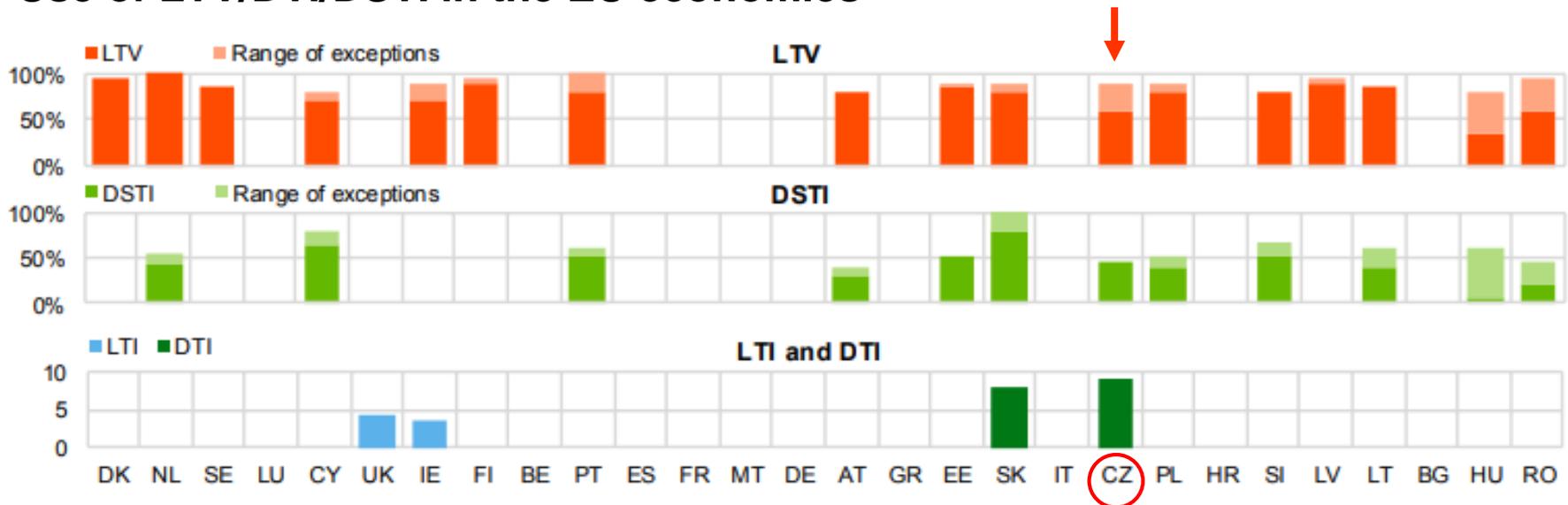
- Banking crises are regularly associated with aftereffects of overly optimistic and loose lending to property market.
- GFC started by mortgage-related issues in UK and US, followed by widespread defaults in IE, GR, NL, ES, HU.
 - Costs were shifted from borrowers to creditors in cases where large number of families were at risk of lost of home (GR, IE, HU ...).
 - Public finance had to step in in some cases.
- Political representations responded by instituting macroprudential policy authorities that were given mandate to set tools that should „make sure that it never happens again“.

- *When the music stops, in terms of liquidity, things will be complicated. But as long as the music is playing, you've got to get up and dance. We're still dancing.*
 - Former Citigroup CEO Chuck Prince, summer, 2007.
- *There was no doubt that the activities of competitors influenced decisions made by AIB...in the area of mortgage lending, ... in order to protect market share, AIB felt compelled to relax its underwriting standards,... over time, in response to aggressive competition.*
 - Jim O'Leary, former Independent Non-Executive Director of Anglo Irish Bank. Report of the Joint Committee of Inquiry into the Banking Crisis.
<https://inquiries.oireachtas.ie/banking/>
- *We entered the 100% mortgage market only reluctantly to protect our franchise.*
 - Brian Goggin, former Group Chief Executive of Bank Of Ireland, ditto.

- *Banks valued loan sales skills above credit analysis and risk... Responding to increased competition and pressure for increased earnings, banks set aggressive targets for profit growth... this implied a partial change in business model and strategy without the corresponding necessary strengthening of governance, procedures and practices. This was accepted partly because future economic developments were trusted to remain benign in Ireland as they already had been for several years.*
- *The common issues (prior to the crisis) identified included: ... the slow slide from lower-risk to higher-risk lending, from cash flow-lending to asset-backed lending and from small to large to enormous loan amounts...*
 - Nyberg Report, Misjudging Risk: Causes of the Systemic Banking Crisis in Ireland, 2011. One of the reports for the Joint Committee of Inquiry into the Banking Crisis.

- Increasing number of national macroprudential authorities use macroprudential mortgage limits.
- Other regulations such as amortization rules, maturity caps, affordability tests, tests for higher lending rates are used as well.

Use of LTV/DTI/DSTI in the EU economies

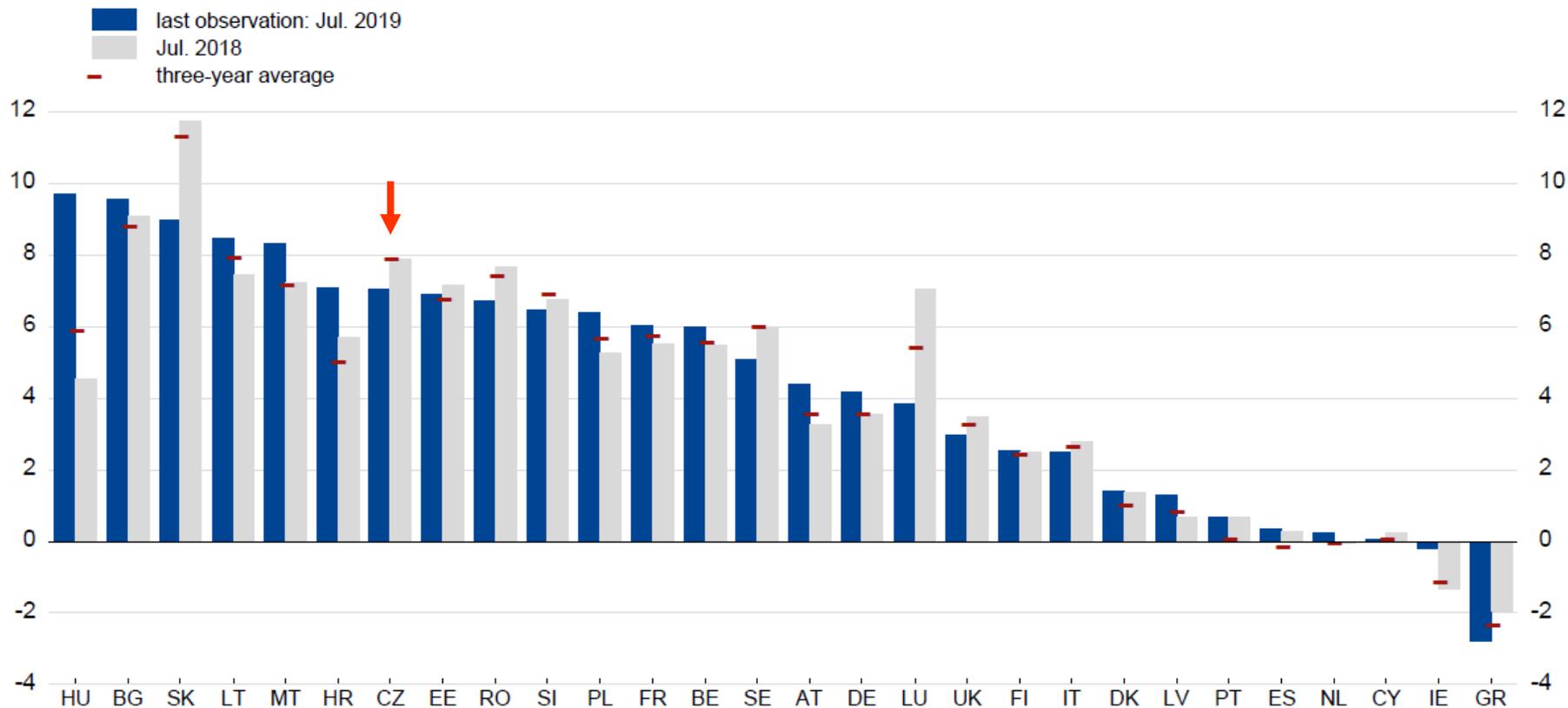


Source: ESRB

- The European Systemic Risk Board (ESRB) published on 23 September 2019 a set of country-specific warnings and recommendations on medium-term vulnerabilities in the residential real estate sector.
 - Systemic risks were identified and warnings sent to authorities in CZ, DE, FR, IC and NO.
 - Insufficient response to 2016 Warnings and thus Recommendations to do more sent to authorities in BE, DK, LU, NL, FI and SE.
 - CZ: ... *From a macroprudential perspective, the ESRB considers the main vulnerabilities to be the high overvaluation of house prices coupled with the high growth in housing credit and loose lending, against the backdrop of the non-legally-binding nature of the borrower-based measures currently available and in place.*

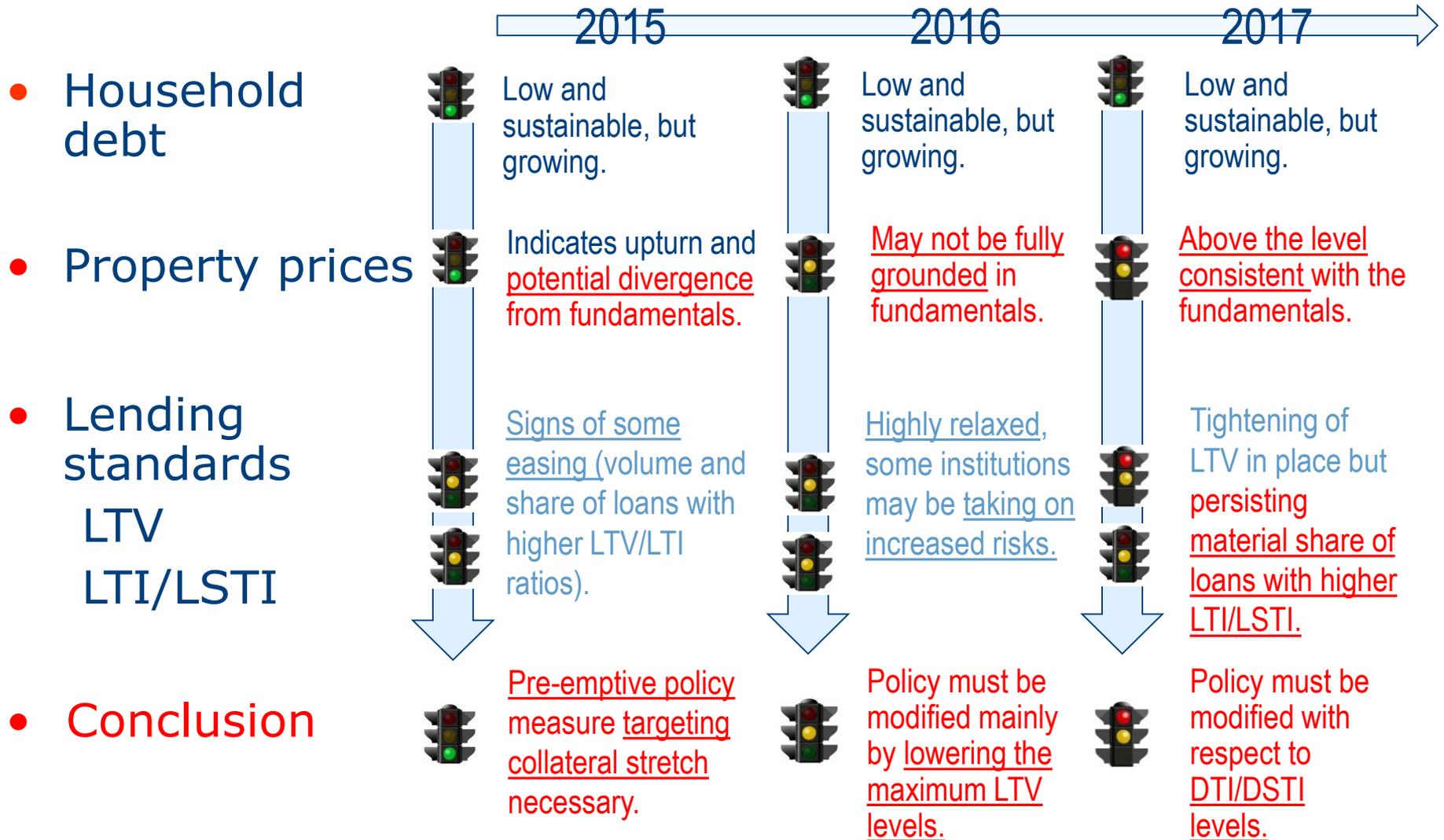
Annual growth rates of MFIs loans to households

(EU; percentages)



Source: ESRB Risk Dashboard

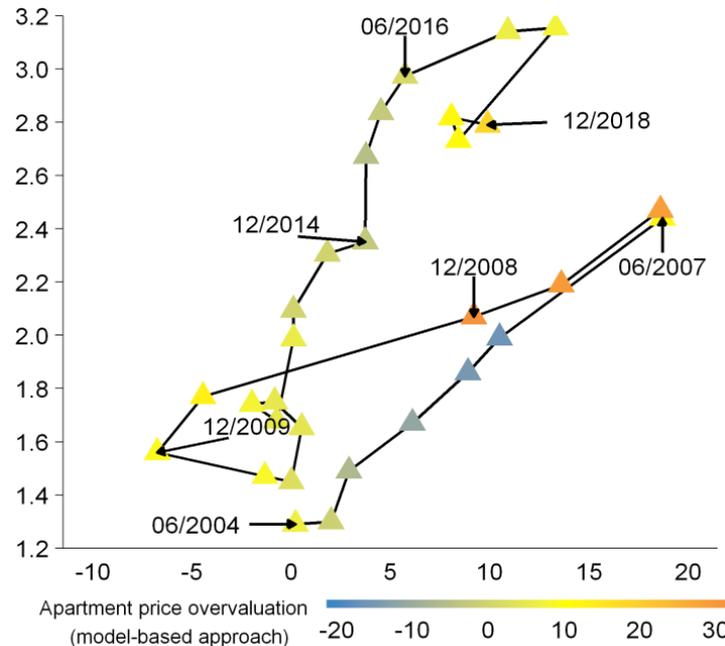
- Policy is pursued through set of recommendations:
 - defines prudent lending procedures and standards,
 - comply or expect supervisory action principle,
 - incremental approach to building up the framework,
 - 1st issue in June 2015, applicable immediately,
 - modified in 2016, 2017 a 2018 always in June, adjustment periods provided,
 - till 1H2017 applicable to banks, branches of foreign banks and credit unions; now to any provider of housing loans or unsecured loans.
- To assess the degree of easing of lending standards, the CNB conducts twice a year a survey about characteristics of each new mortgage loan.
 - since 2018 the providers also report DTI and DSTI levels, purchase prices and valuations of property purchased (not a full coverage so far).



- CNB's policy objective is to prevent a loop between property price growth and growth in loans posing a threat to the financial sector's stability (mainly to banks).

Spiral between apartment price growth and new loans for house purchase in relation to the level of wages

(x-axis: y-o-y growth in apartment transaction prices in %;
y-axis: new loans in relation to wages)



Source: CNB

Note: The spiral is derived on the basis of apartment price growth and the amount of new loans for house purchase in relation to the level of wages.

Banking system stretch – lending standards: LTV

Decision	Valid from	to	Max LTV	Speed limit LTV range		Limit in %
06/2016	10/2016	03/2017	95	85	95	10
	04/2017		90	80	90	15

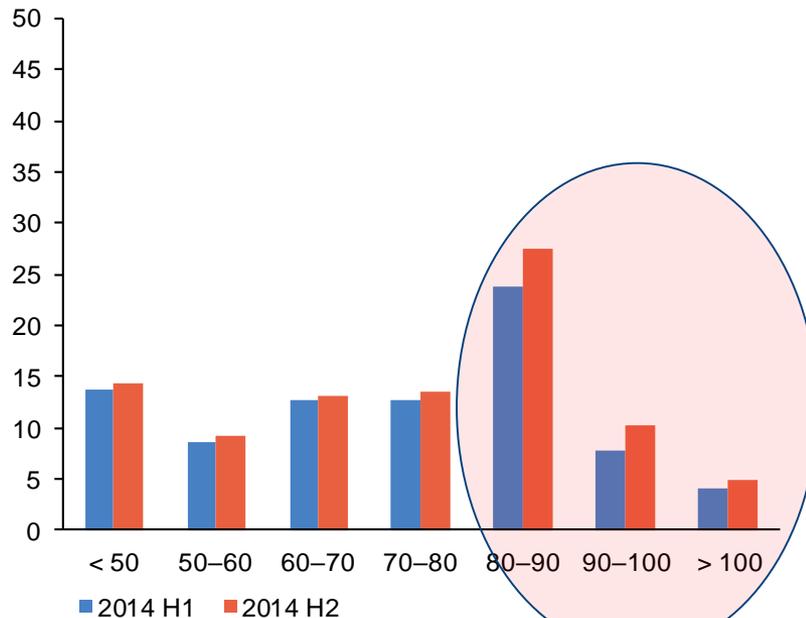
- Collateral standards nominally tightened, loans with restricted LTV shifted into highest allowed LTV buckets.

Known data at the time of 1st decision

Rear mirror view 2017

LTV distribution of new loans

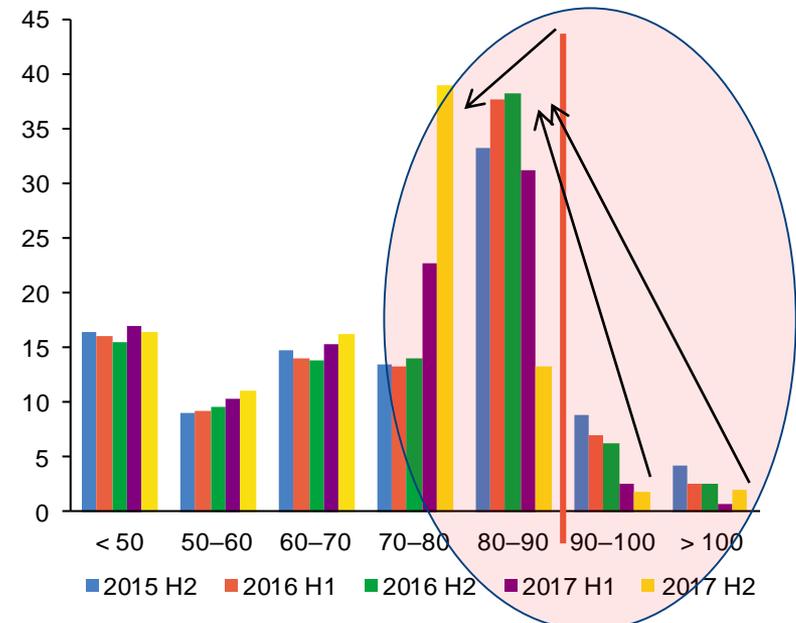
(x-axis: LTV in %; y-axis: amount of loans in bil. CZK)



Source: CNB

LTV distribution of new loans

(x-axis: LTV in %; y-axis: share of loans in %)

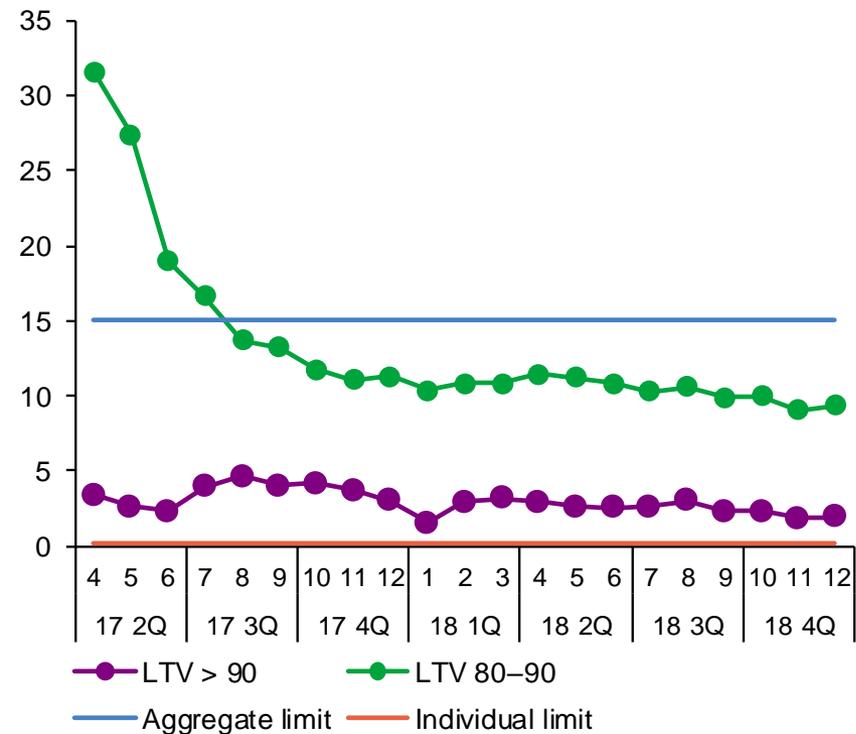


Source: CNB

- On aggregate level, institutions comply with the LTV limits since 2017 H2, although differences between individual institutions persist and some loans with LTV above 90 % are still extended.
- Evidence of reduction in loan activity above limits with rising concentration close to the limits.
- (Overly?) optimistic valuations of collateral.
- Likely co-funding of some mortgages by unsecured loans from other providers outside the groups (so far evidence of small quantities only).

Fulfilment of the recommended LTV limits

(share of loans in volume provided in %)



Source: CNB

- The CNB does not currently consider it necessary to change the applicable LTV limits (the upper LTV limit of 90% and the aggregate limit of 15% for loans with an LTV of 80%–90%).
- The CNB's current measures in the LTV area have a positive effect.
 - Growth in genuinely new mortgages has slowed after the tightening of LTV limits.
 - In year-on-year comparison, banks have started to take greater account of clients' risk characteristics when setting interest rates.
- Given the current overvaluation of housing prices of roughly 15% as indicated by the CNB model, the current LTV caps represent the limit as regards sufficient coverage of potential risks by banks.

- *We feel very comfortable that credit quality won't be an issue at Golden West going forward. Even if housing prices drop fairly dramatically, there is plenty of room in their loan-to-value ratio. Yes.*
 - Former Wachovia CEO Ken Thompson, describing in 2006 the acquisition of Golden West Financial, mortgages of which ruined Wachovia.
- *During the boom period, appraisers had incentives to inflate transaction prices in order to accommodate the financial needs of their clients (banks or financial brokers) and obtain future appraisal assignments.*
 - Montalvo, J. G., Raya, J. (2017): Constraints on LTV as a macroprudential tool: a precautionary tale. Universitat Pompeu Fabra Barcelona Working Paper no. 1592 (survey of empirical evidence).

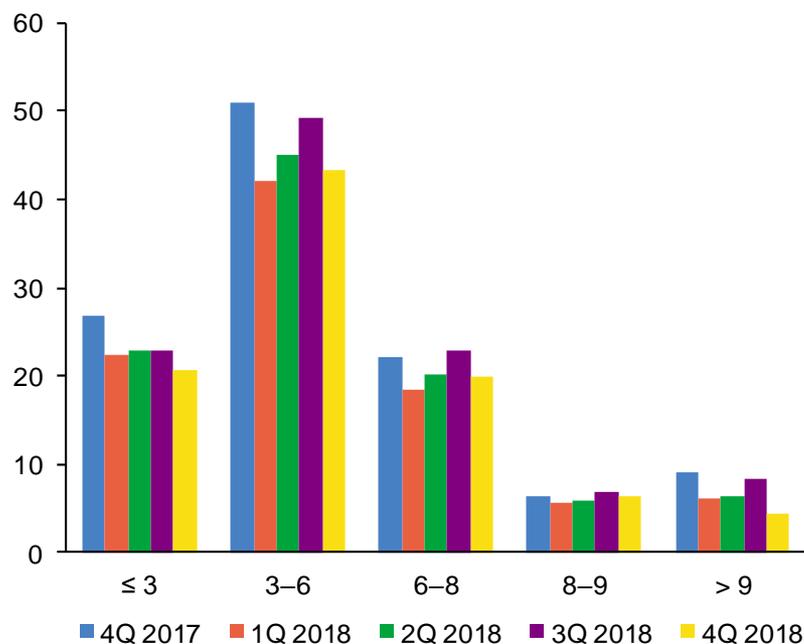
- In 2016, the CNB warned banks that it regarded new loans with a DTI (debt-to-income) ratio of higher than 8 and a DSTI (debt service-to-income) ratio of higher than 40% as highly risky.
- The indicators of borrowers' ability to service loans from their current income are implying growth in potential systemic risks.
 - When limiting loans with an LTV of 80%–90%, banks did not significantly reduce loans with a DSTI > 40% and a DTI > 8.
- Borrowers are becoming more vulnerable due to faster growth in housing prices relative to income.
 - The probability that riskier clients with a greater tendency to take risks will increasingly apply for loans is simultaneously rising.

Borrowers' stretch – lending standards: DTI/DSTI

- Internal rules set by banks were allowing for high LTI and LSTI.
- Volume and share of loans with high LTIs and LSTIs substantial and virtually unchanged in 2017.

LTI distribution of new loans

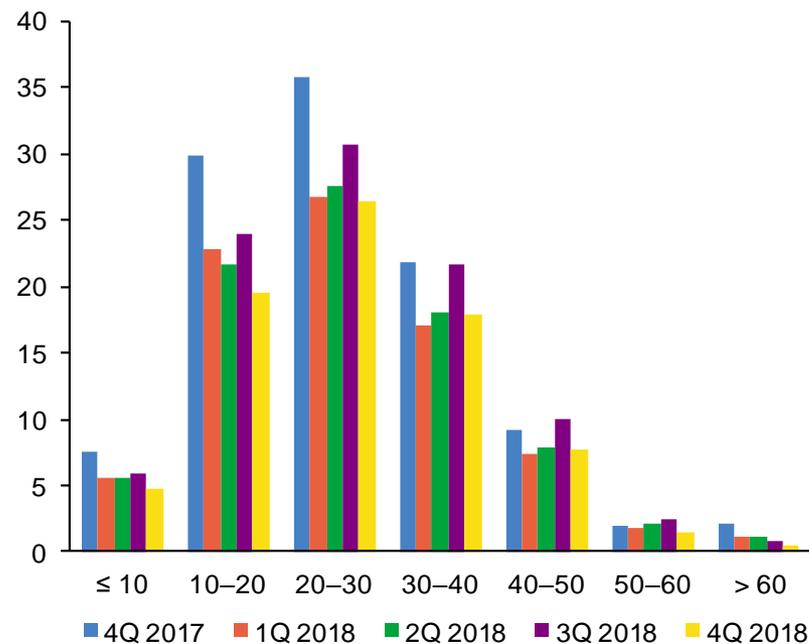
(x-axis: LTI in years; y-axis: share of loans in volume in %)



Source: CNB

LSTI distribution of new loans

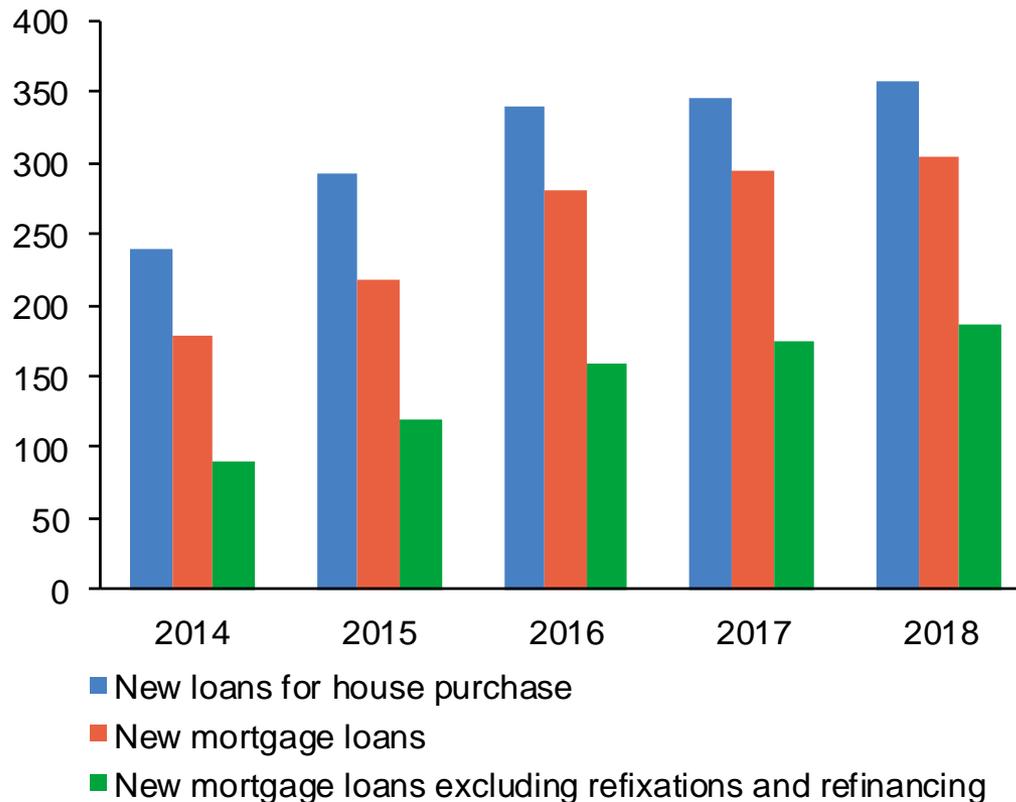
(x-axis: LSTI in %; y-axis: share of loans in volume in %)



Source: CNB

- Banks provided a record amount of new housing loans in several consecutive years.

New housing loans and mortgage loans
(annual totals in CZK billions)



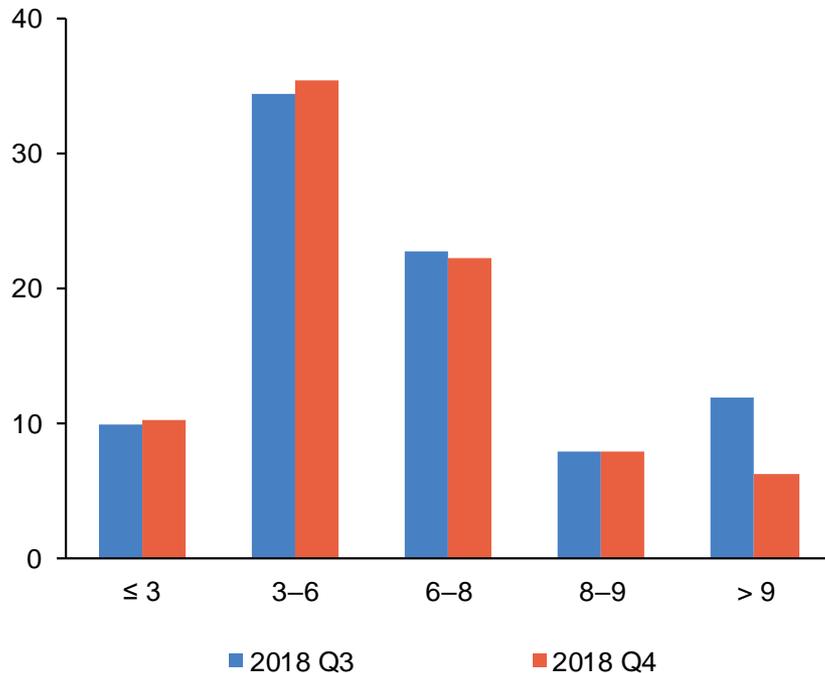
Source: CNB

- The CNB therefore issued a recommendation in June 2018 that banks take account of loan applicants' income as of 1 October 2018 and comply with:
 - an upper DTI limit of 9 times the applicant's net annual income,
 - an upper DSTI limit of 45% of the applicant's net income.
 - The warning to banks regarding risky DTI and DSTI levels remains in effect.
- The CNB respects the fact that a small proportion of loans have specific characteristics and that strict insistence on the application of the caps could lead to excessive regulatory hardship.
 - It is therefore allowing lenders to cover specific cases under a 5% exemption.

- DTI at 9 multiple does not represent a major constraint.

DTI distribution of new loans

(x-axis: DTI in years; y-axis: share of loans in volume in %)

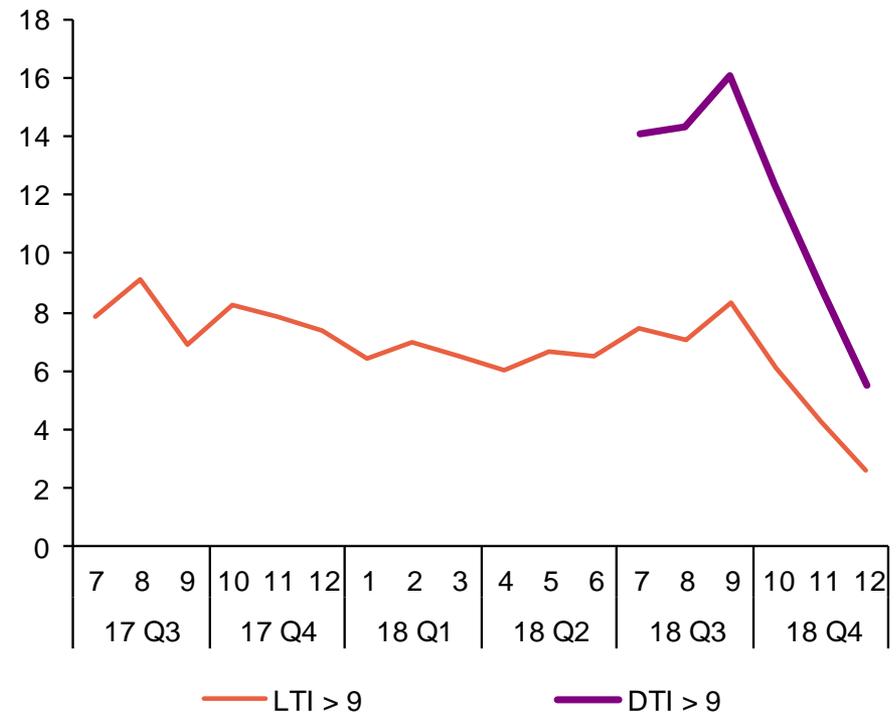


Source: CNB

Note: Relative to the volume of loans provided a quarter earlier.

Fulfilment of the recommended DTI limits

(share of loans in volume provided in %)

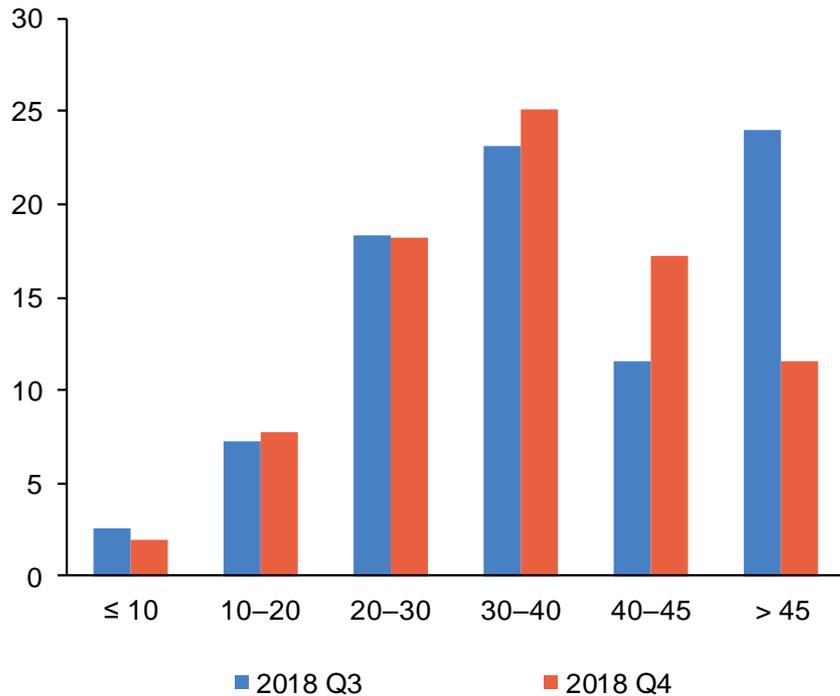


Source: CNB

- The loans with DSTI limit above 45% were used on excessive scale in 2H 2018.

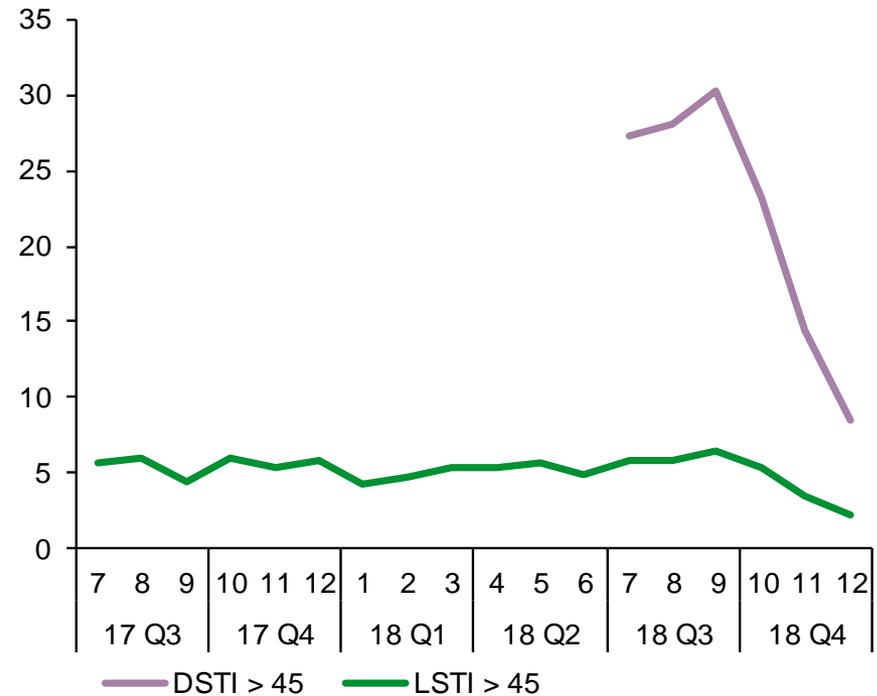
DSTI distribution of new loans

(x-axis: DSTI in %; y-axis: share of loans in volume in %)



Fulfilment of the recommended DSTI limits

(share of loans in volume provided in %)



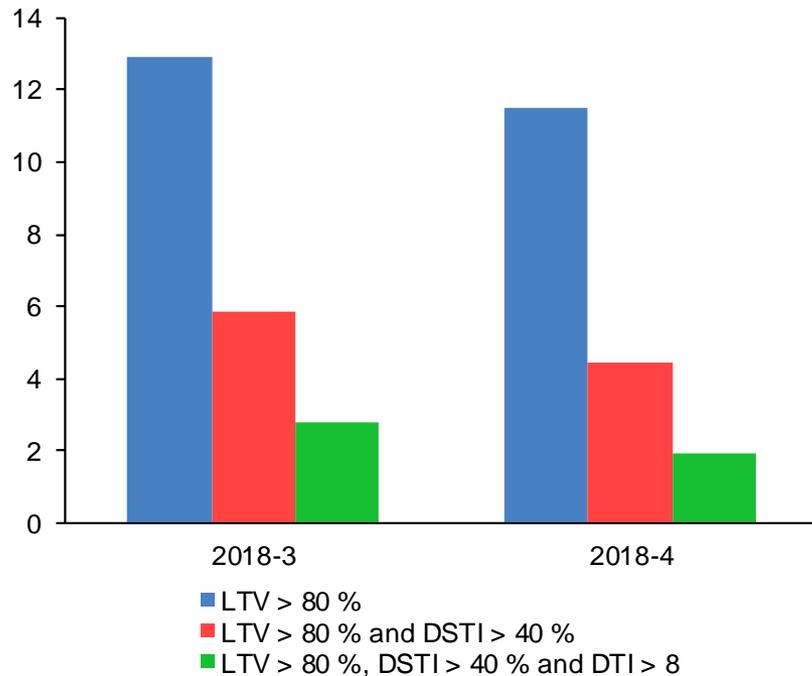
Source: CNB

Note: Relative to the volume of loans provided a quarter earlier.

Source: ČNB

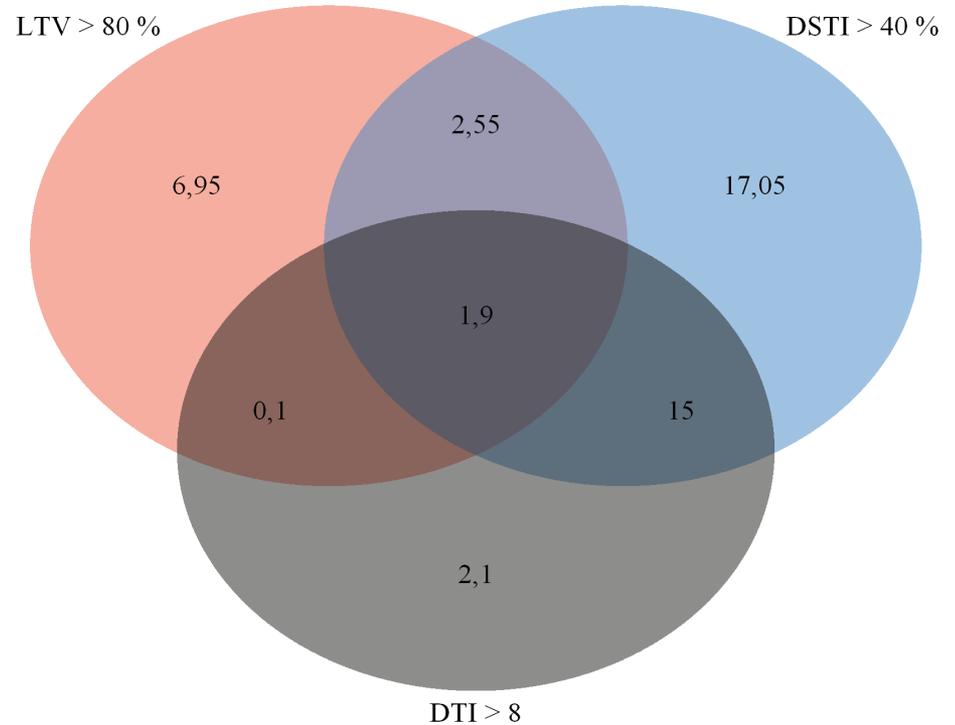
- Number of loans had simultaneously high ratios in Q4/2018.

Distribution of mortgages with LTV > 80%
(in % of volume)



Source: CNB

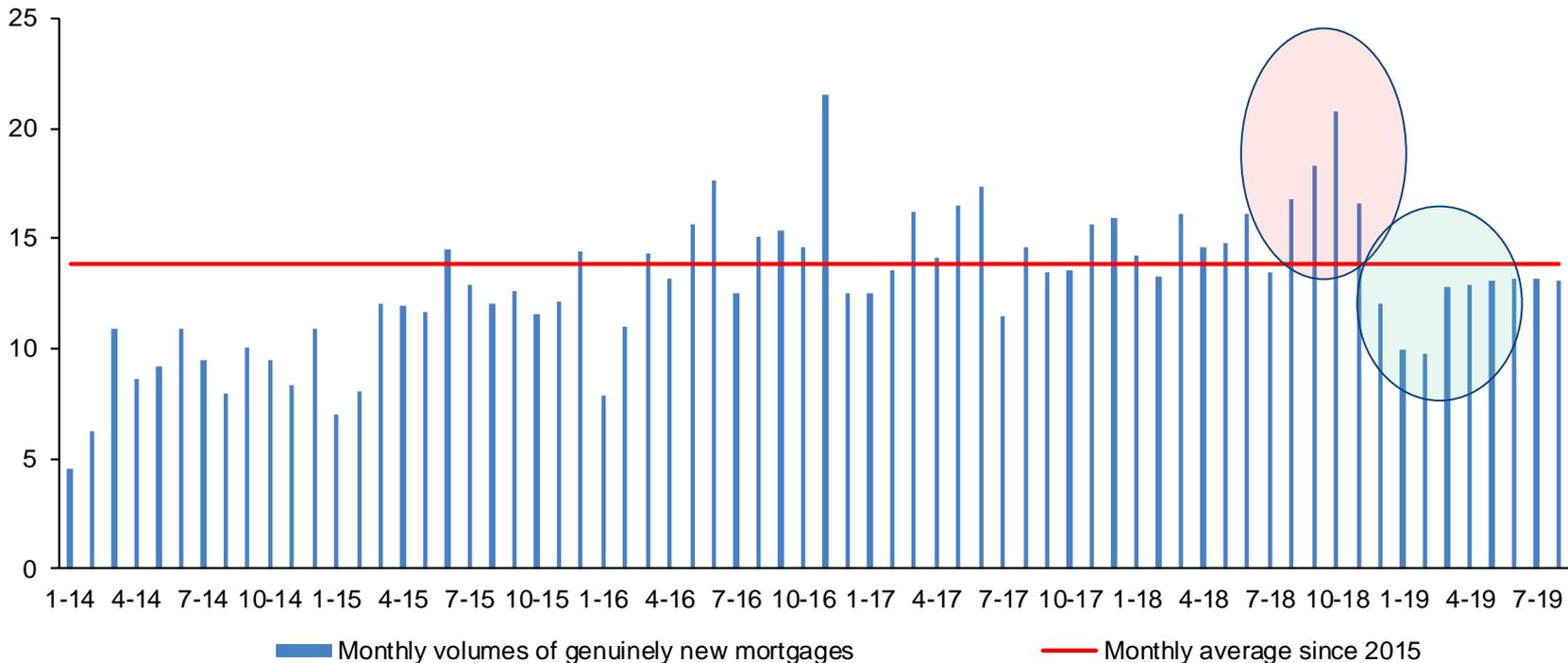
Venn diagram for selected group of loans in Q4/18
(in % of volume)



Source CNB

- Sharp rise in 2H 2019 followed by sharp drop in 1Q 2019.
- CNB expects the impact on volumes from DTI/DSTI (ceteris paribus) of roughly 10%.

Monthly volumes of genuinely new mortgages
(CZK bn.)



- **Forward-looking action key to policy credibility.**
 - Necessary to respond early once potential risks move beyond certain point (before unwelcome practices become “new normal” or generally accepted standard).
- **Effectiveness of current tools will show up in next recession only.**
 - CNB activated most of its tools in good times when banks had plenty of room for expansion in terms of capital and caps provided limited constraint.
- **Mandatory tools should improve effectiveness and create a level playing field.**
 - The CNB and the Ministry of Finance await a joint proposal for binding LTV, DTI and DSTI limits to be discussed by the Parliament soon.

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Jan Frait

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**Financial Stability Department
Czech National Bank
Na Příkopě 28
CZ-11503 Prague**