

MNB FINANCIAL STABILITY CONFERENCE

TAMING THE HOUSING ROLLER COASTER: STABILITY GAINS AND DISTRIBUTIONAL TRADE-OFFS

Adrian Carro

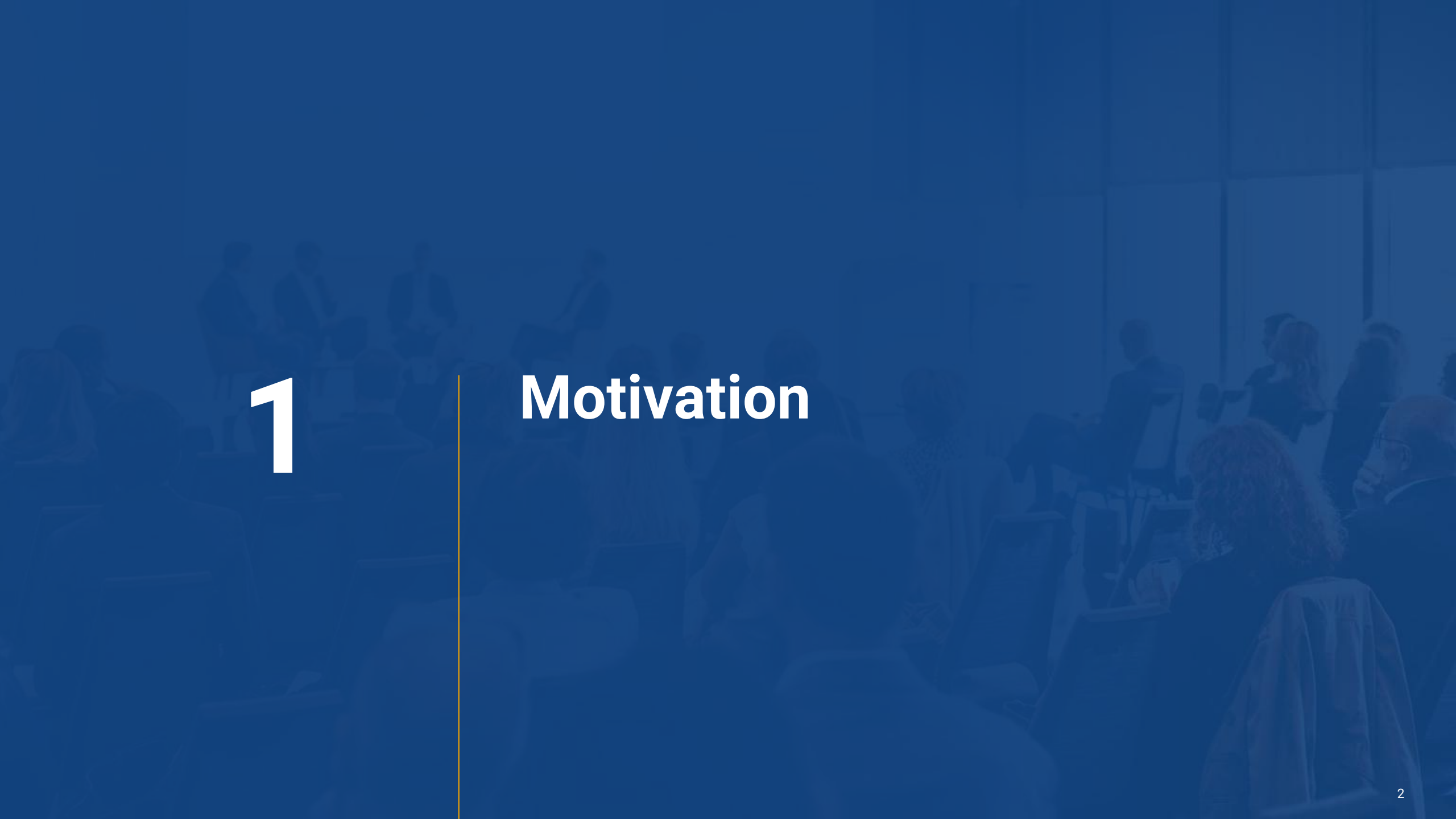
**Financial Stability and Macroprudential Policy
Department, Banco de España**

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BANCODE **ESPAÑA**
Eurosistema

* The views expressed in this presentation are those of the author and do not necessarily reflect the views of the Banco de España or the Eurosystem.





1

Motivation

HOUSE PRICE STABILITY AND HOUSEHOLD RESILIENCE ARE KEY MACROPRUDENTIAL GOALS, BUT ENTAIL DISTRIBUTIONAL TRADE-OFFS

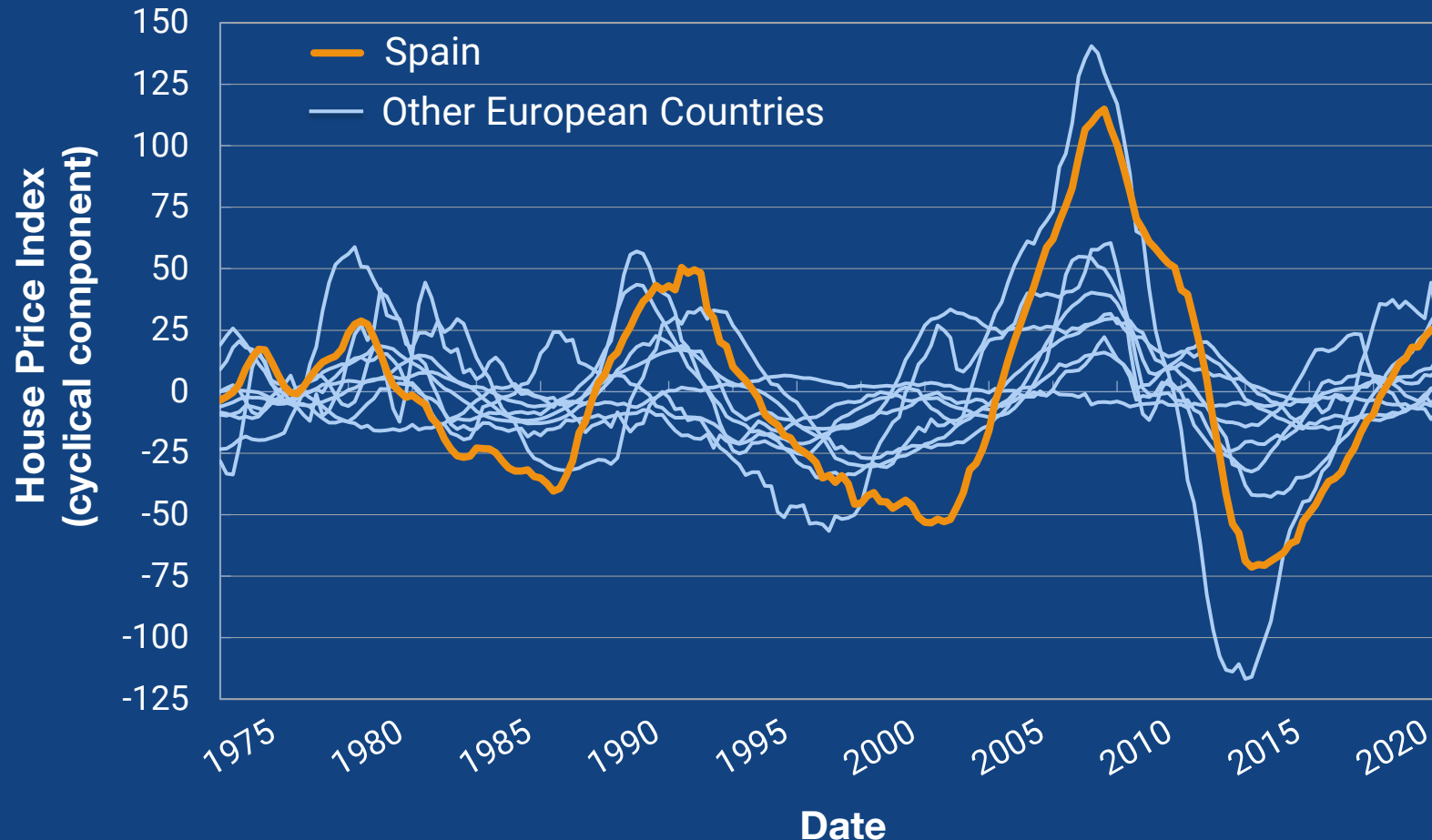
- Macroeconomic stability $\leftrightarrow$ Financial stability $\leftrightarrow$ House price stability:
 - House prices strongly co-move with GDP, consumption, investment, hours worked, real wages, and housing investment (Lambertini et al., 2017).
 - 9 of 11 US recessions since 1985 preceded by housing investment decline (Leamer, 2015).
 - Housing market exuberance strongly linked to easy credit conditions (Pavlidis et al., 2016), while house-price downturns often precede major recessions (Haavio et al., 2014).
 - Moderating house-price fluctuations has become one of the main *intermediate* targets of macroprudential policy (Galati & Moessner, 2017).

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 - Moderating house-price fluctuations has become one of the main *intermediate* targets of macroprudential policy (Galati & Moessner, 2017).
- Borrower-based measures (BBM) strengthen household financial resilience, but may entail important distributional trade-offs:
 - Disproportionate effects on lower-income (Peydró et al., 2024), lower-wealth (Park and Kim, 2023), younger (Acharya et al., 2022), and first-time buyer households (Caloia, 2024).
 - Dampen house-price growth but increase rental-price growth, benefiting landlords at the expense of younger, lower- and middle-income households (Castellanos et al., 2024).

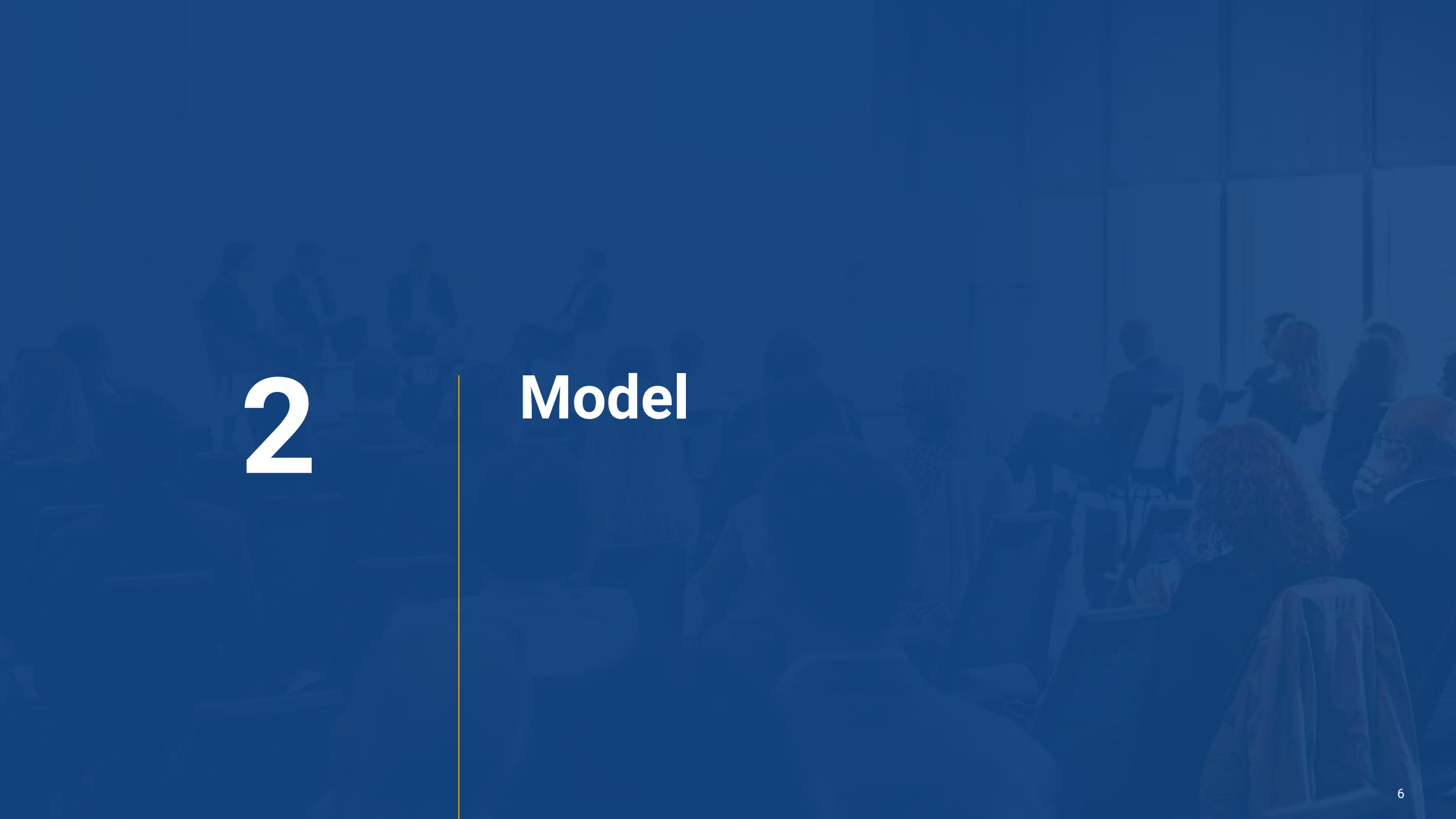
SPAIN HAS EXPERIENCED SOME OF EUROPE'S STRONGEST CYCLES

House-price cycles: Spain vs European countries



How does Spain fare?

- Among countries with strongest cycles.
- Particularly during the Great Financial Crisis (GFC).
- At the peak of the pre-GFC housing boom, direct bank exposures to the housing sector exceeded 100% of GDP (Akin et al., 2014).



2

Model

WHY AN AGENT-BASED MODEL?

Given our interest in both the effects of BBMs on the house-price cycle and their potential distributional trade-offs, we need a model capable of:

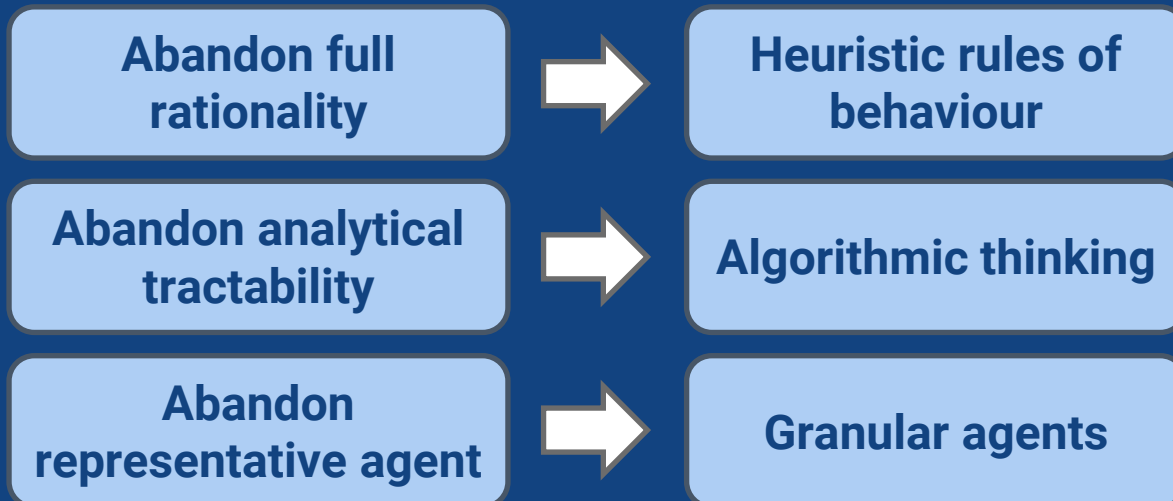
- Generating realistic **house-price cycles** endogenously.
- Capturing household **heterogeneity** across multiple dimensions.
- Accommodate **complex policy mixes** (simultaneously binding constraints, exemptions, differentiated limits for specific household groups).

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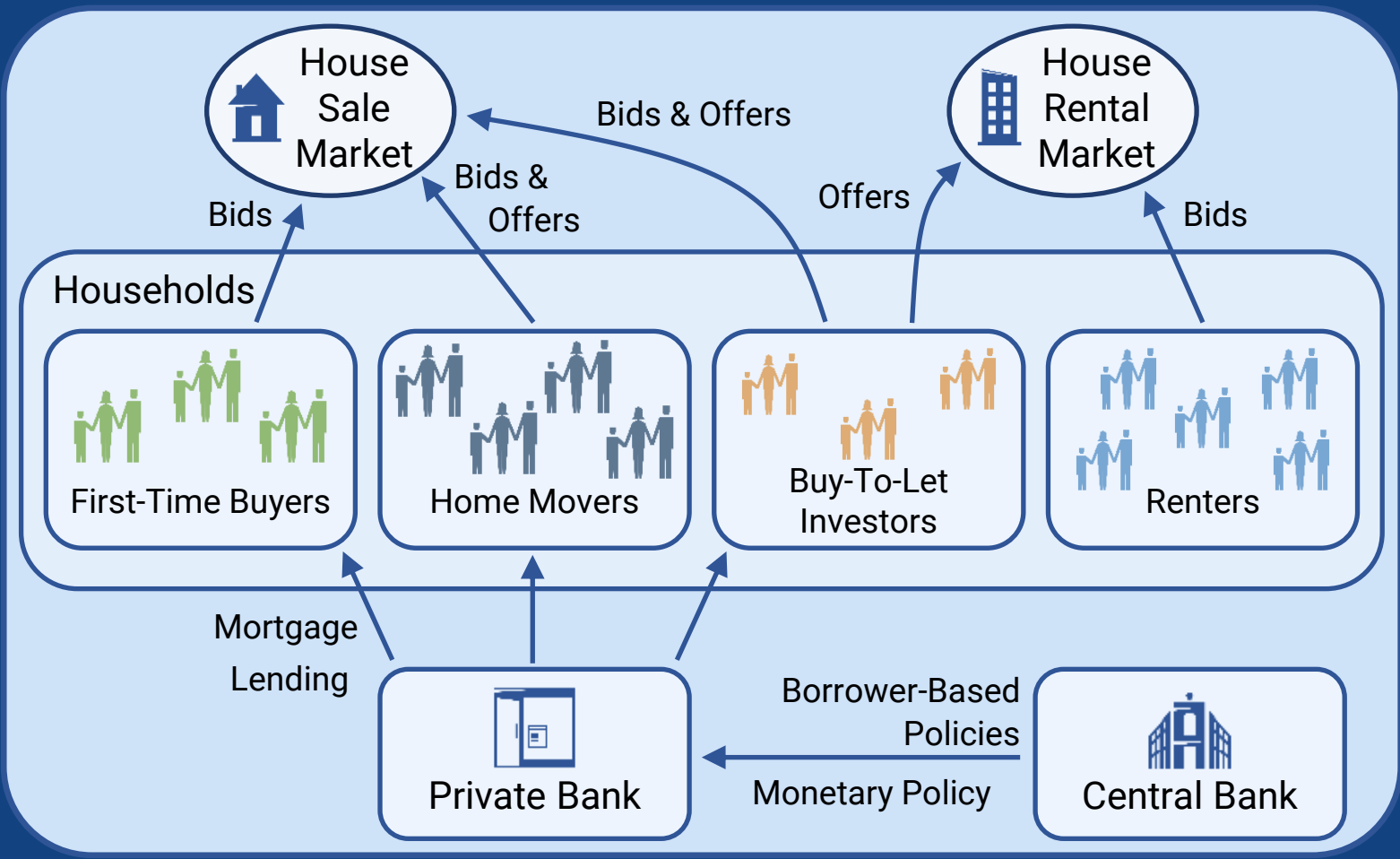
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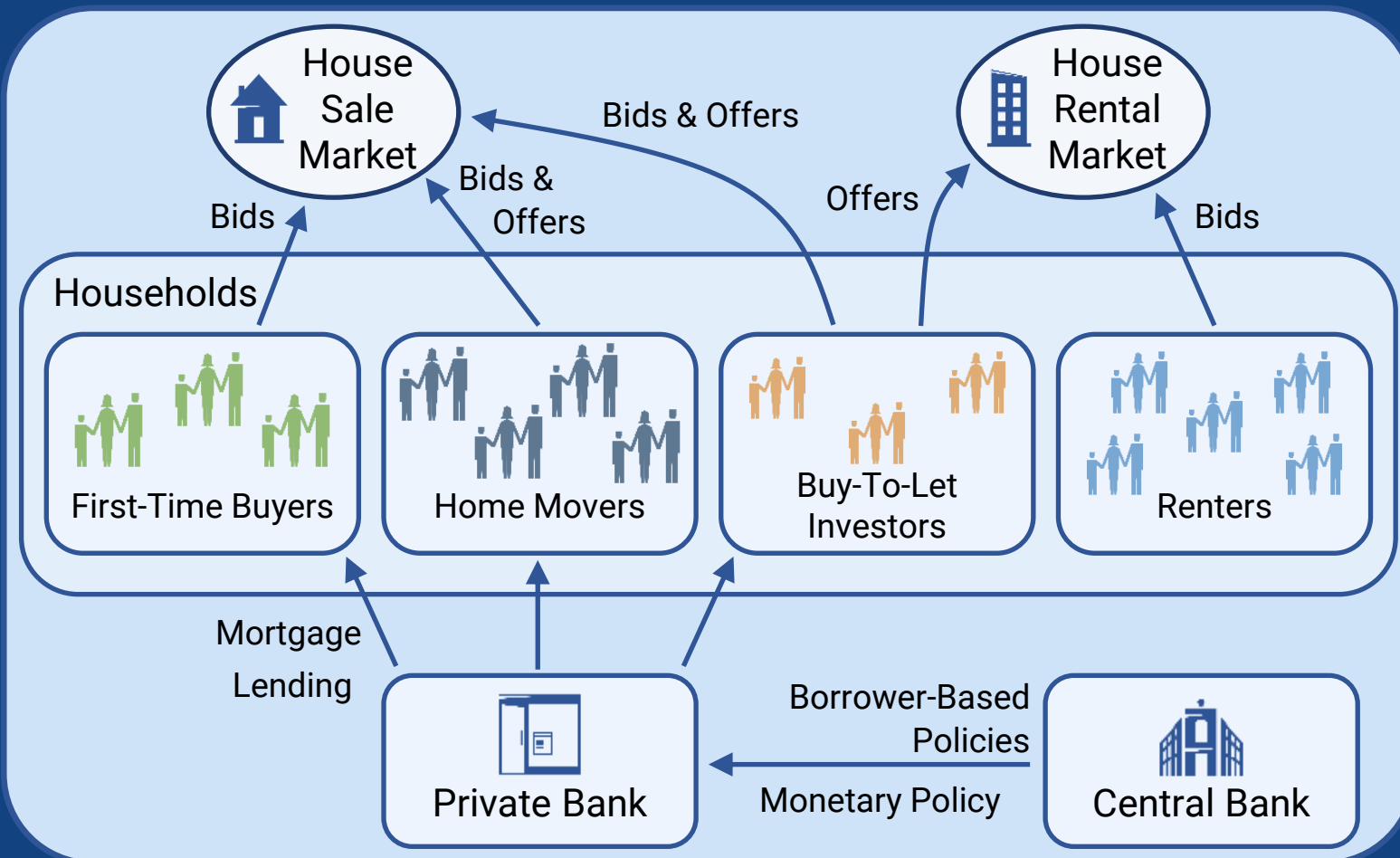
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MAIN MODEL CHARACTERISTICS



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Households:

- Life cycle
- Heterogeneous in age, income, financial wealth, MPCs, housing tenure and housing wealth, etc.

Expectations:

- Adaptative, based on past prices.

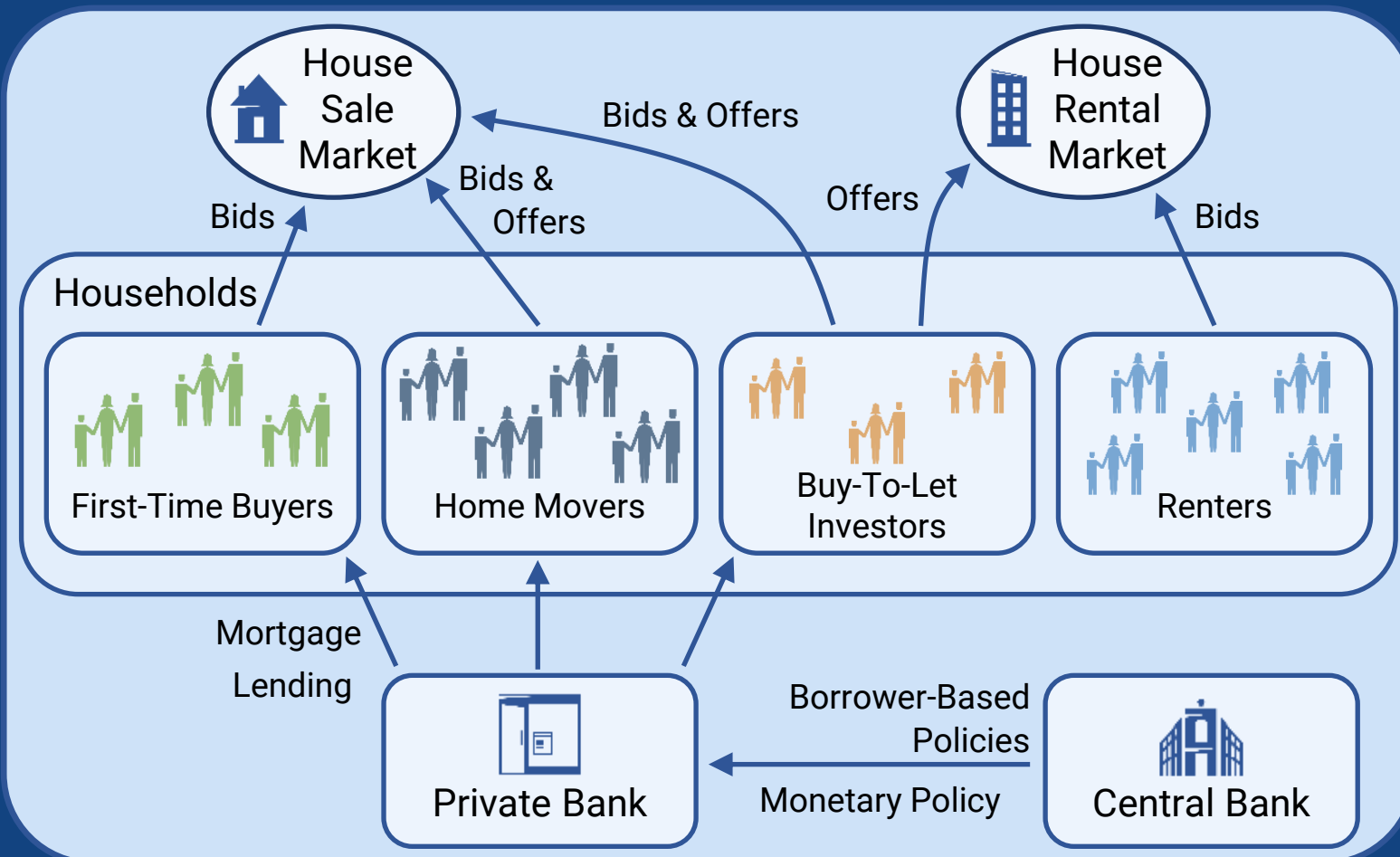
Decision rules:

- Bounded rationality: cost comparison.

Housing market:

- Granular, indivisible houses.
- Housing stock is fixed.
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- Buy-to-let investors are households, subject to same lending constraints.

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Adaptive
expectations

+

Feedback
loops

+

Heterogeneity

→

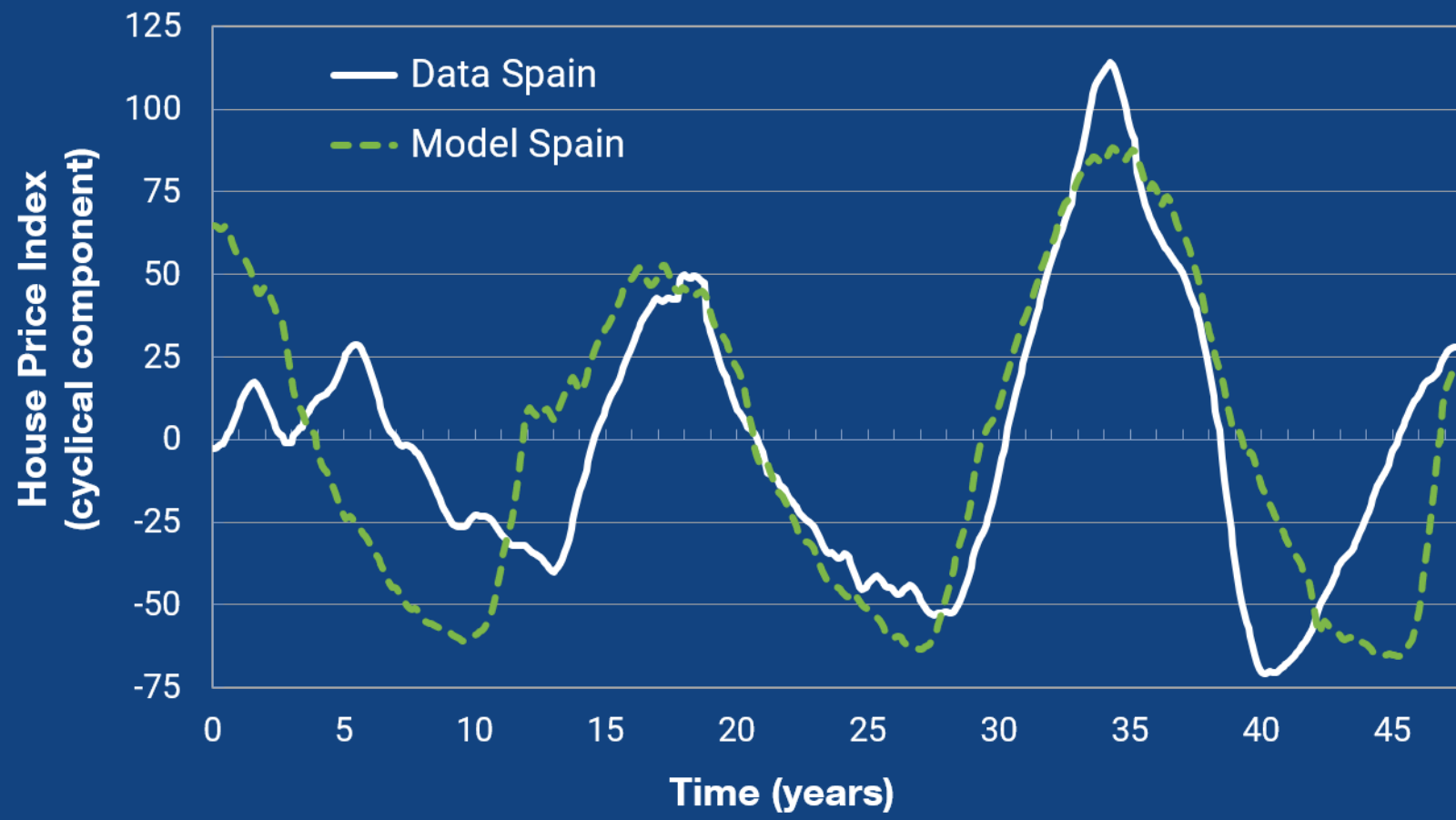
Endogenous
cycles

3

Validation

THE MODEL ENDOGENOUSLY GENERATES REALISTIC HOUSE-PRICE CYCLES, MATCHING THE EMPIRICAL AMPLITUDE AND PERIOD

Single realisation

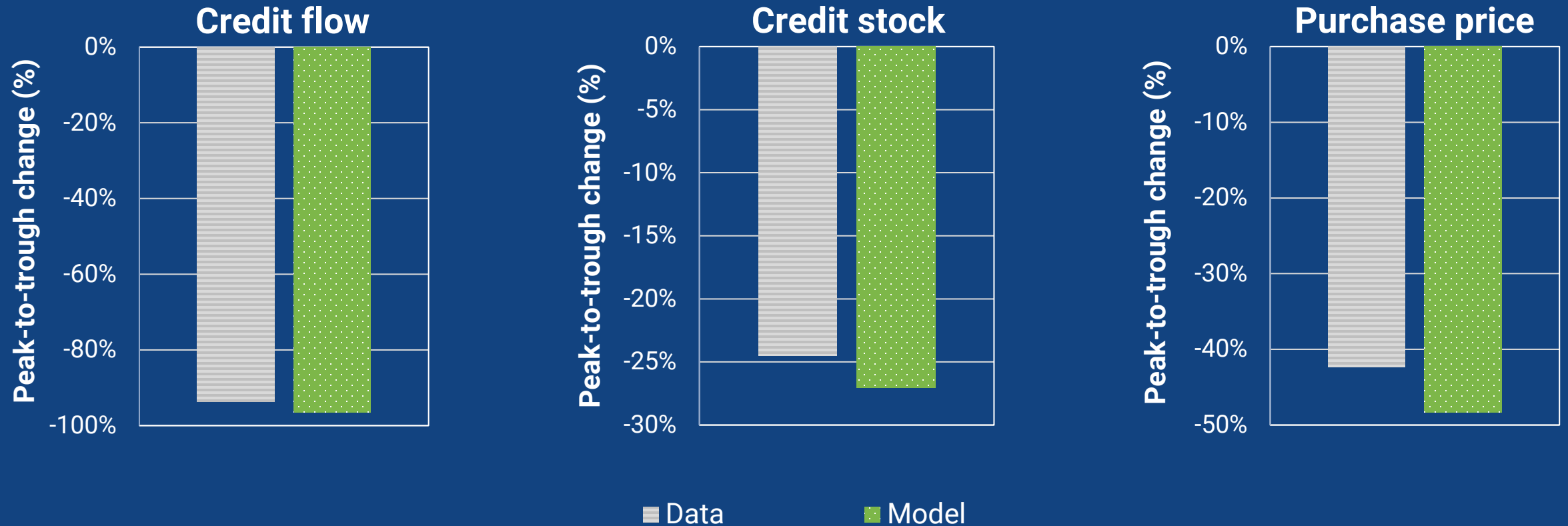


Mean across realisations

	Data	Model
HPI standard deviation	40.1	40.3
HPI period	201.0	202.5

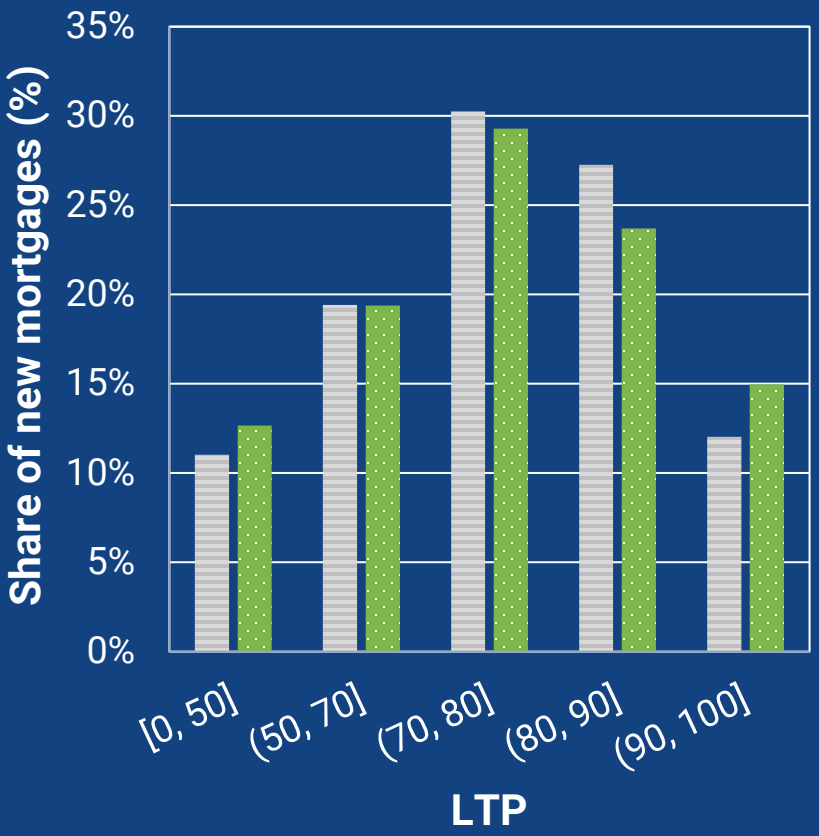
The model correctly captures general statistical properties of real house-price cycles, such as their amplitude and period.

THE MODEL CLOSELY MATCHES THE PEAK-TO-TROUGH DECLINE IN CREDIT AND HOUSE PRICES OBSERVED IN SPAIN DURING THE GFC

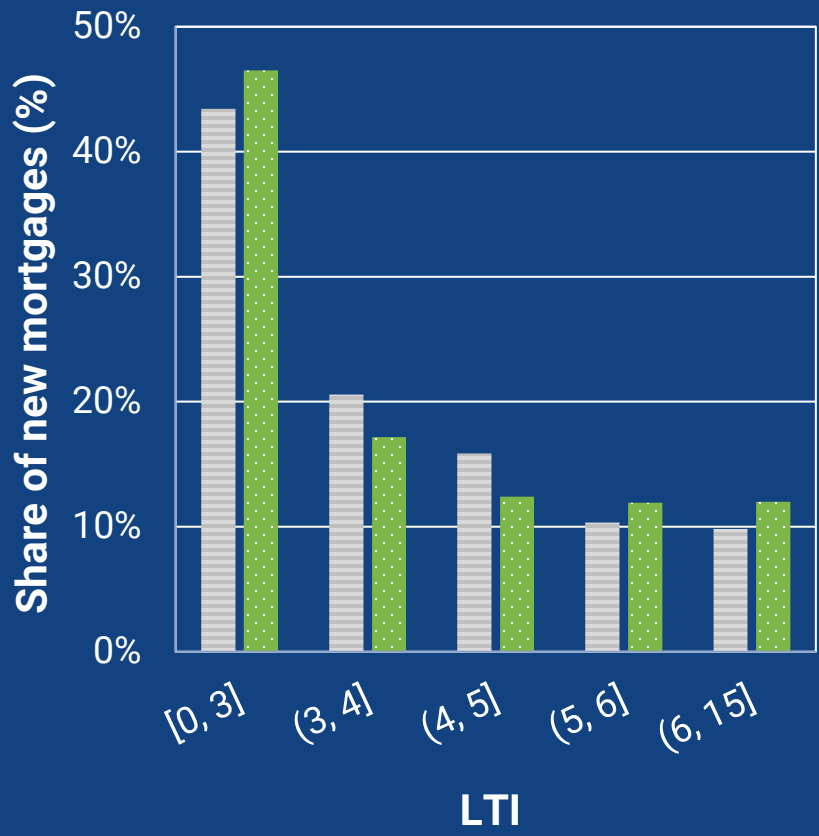


THE MODEL ACCURATELY REPRODUCES MORTGAGE RISK DISTRIBUTIONS, INCLUDING THEIR UPPER TAIL

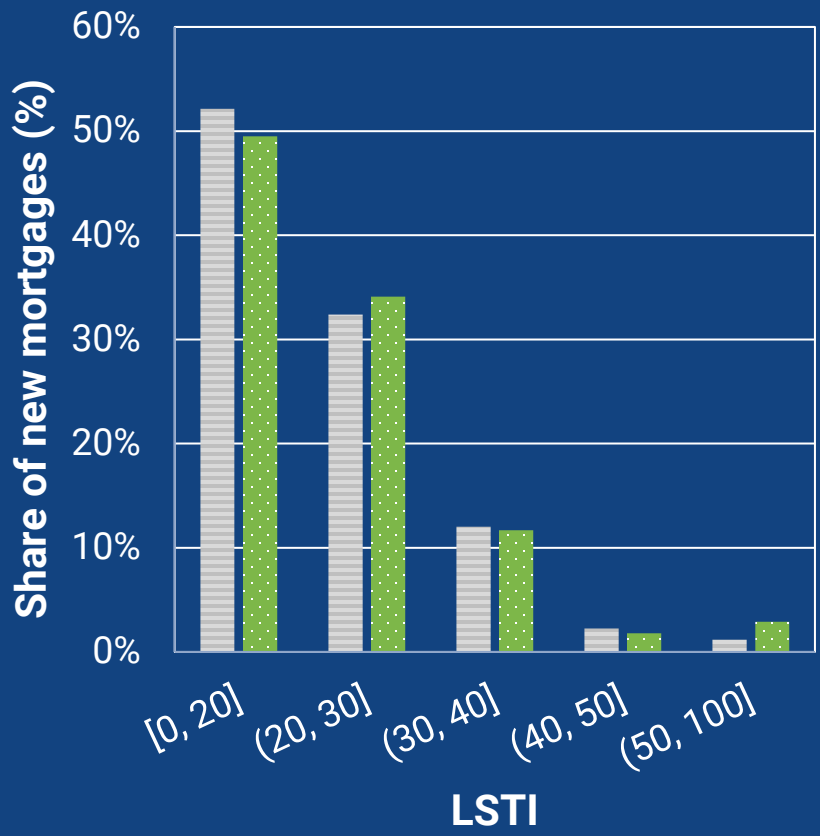
LTP Distribution



LTi Distribution



LSTI Distribution



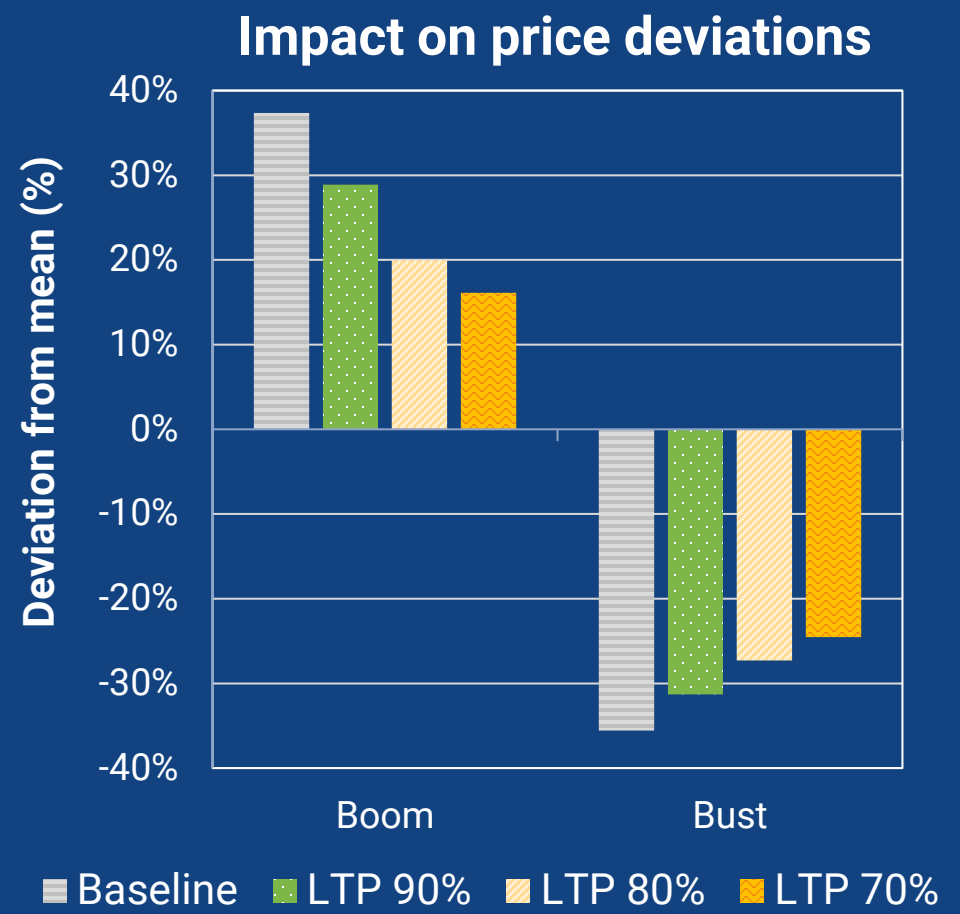
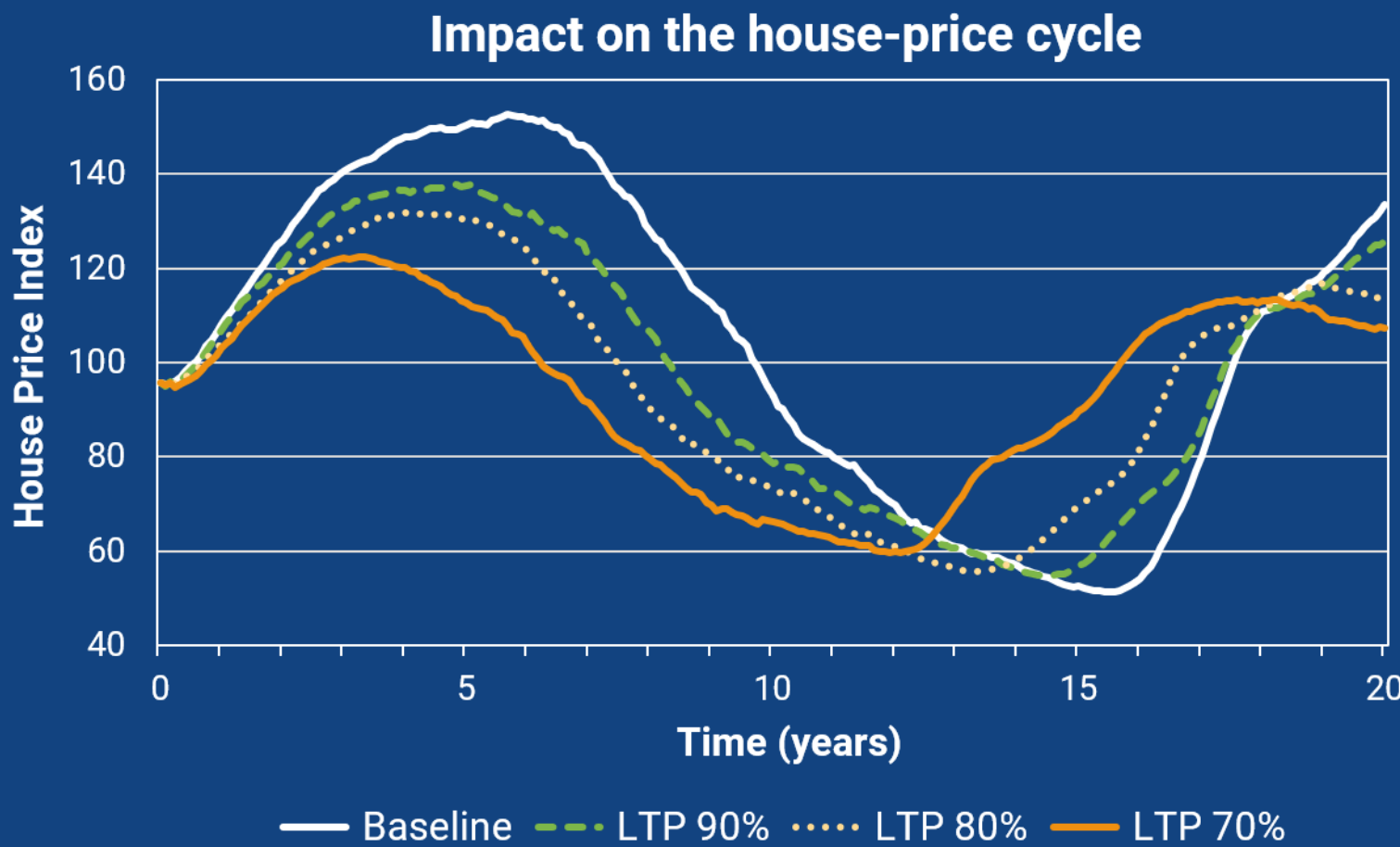
■ Data

■ Model

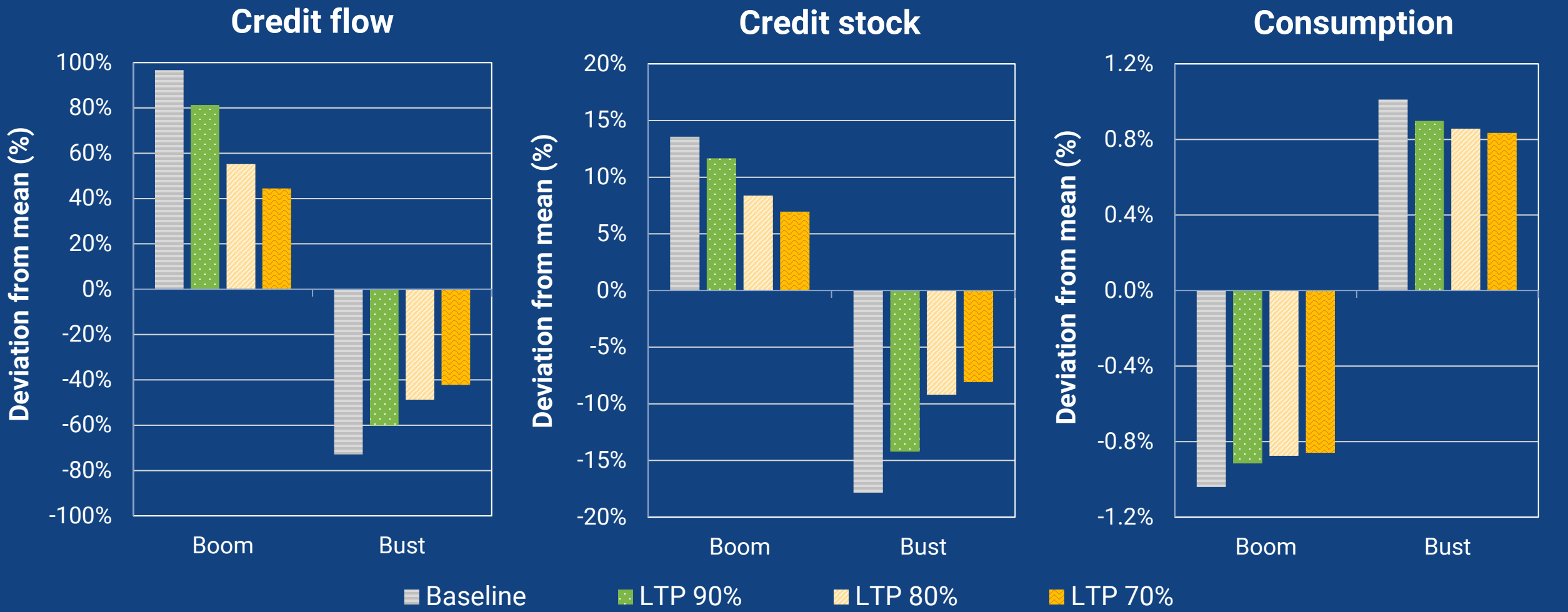
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Results

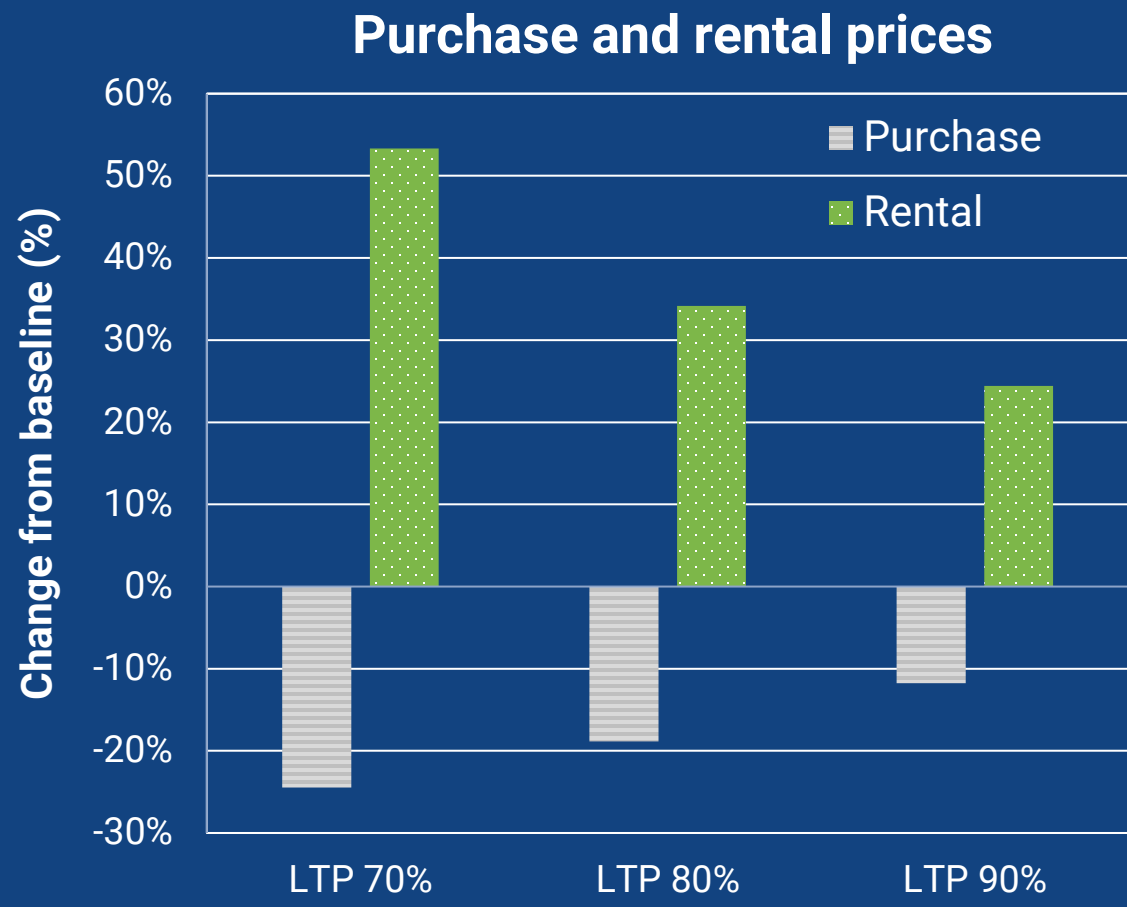
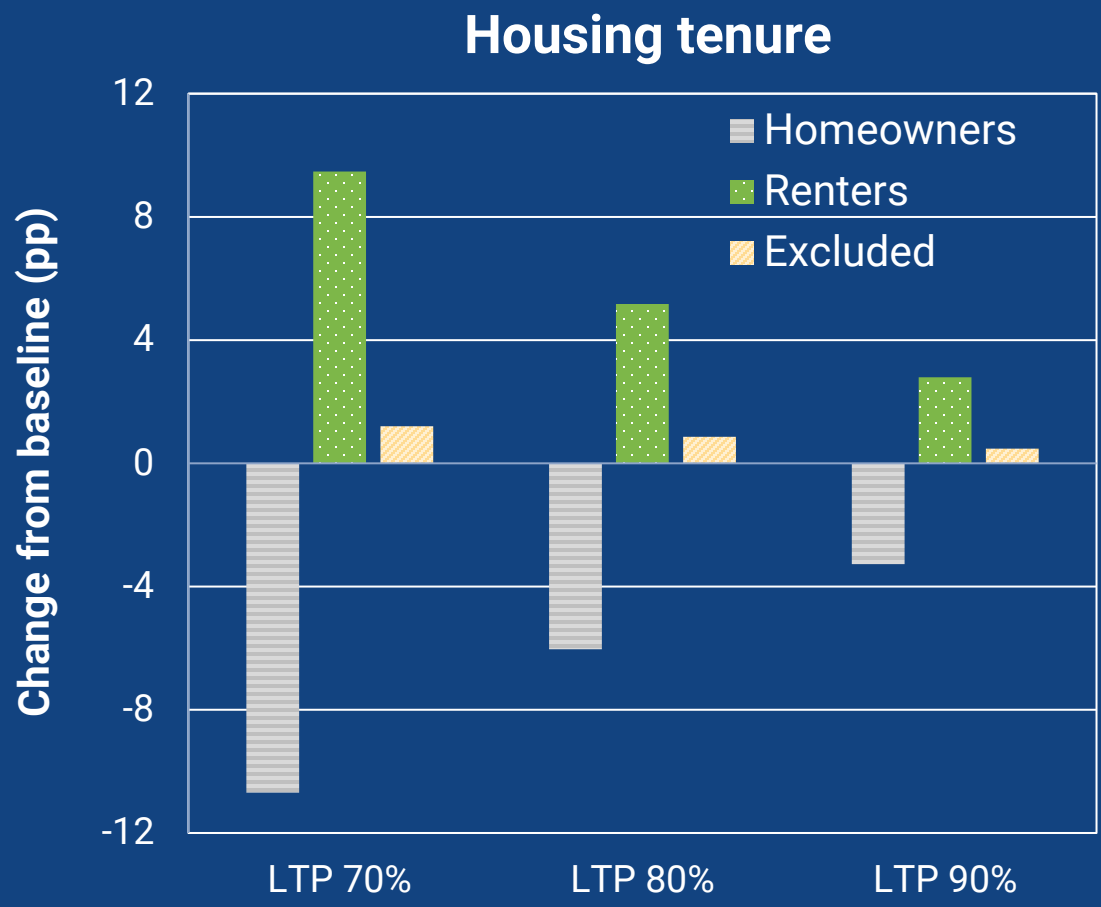
BBMs DAMPEN THE HOUSE-PRICE CYCLE, WITH STRONGER EFFECTS ON BOOMS THAN BUSTS



THIS CYCLE-SMOOTHING EFFECT CAN ALSO BE OBSERVED IN CREDIT AND CONSUMPTION

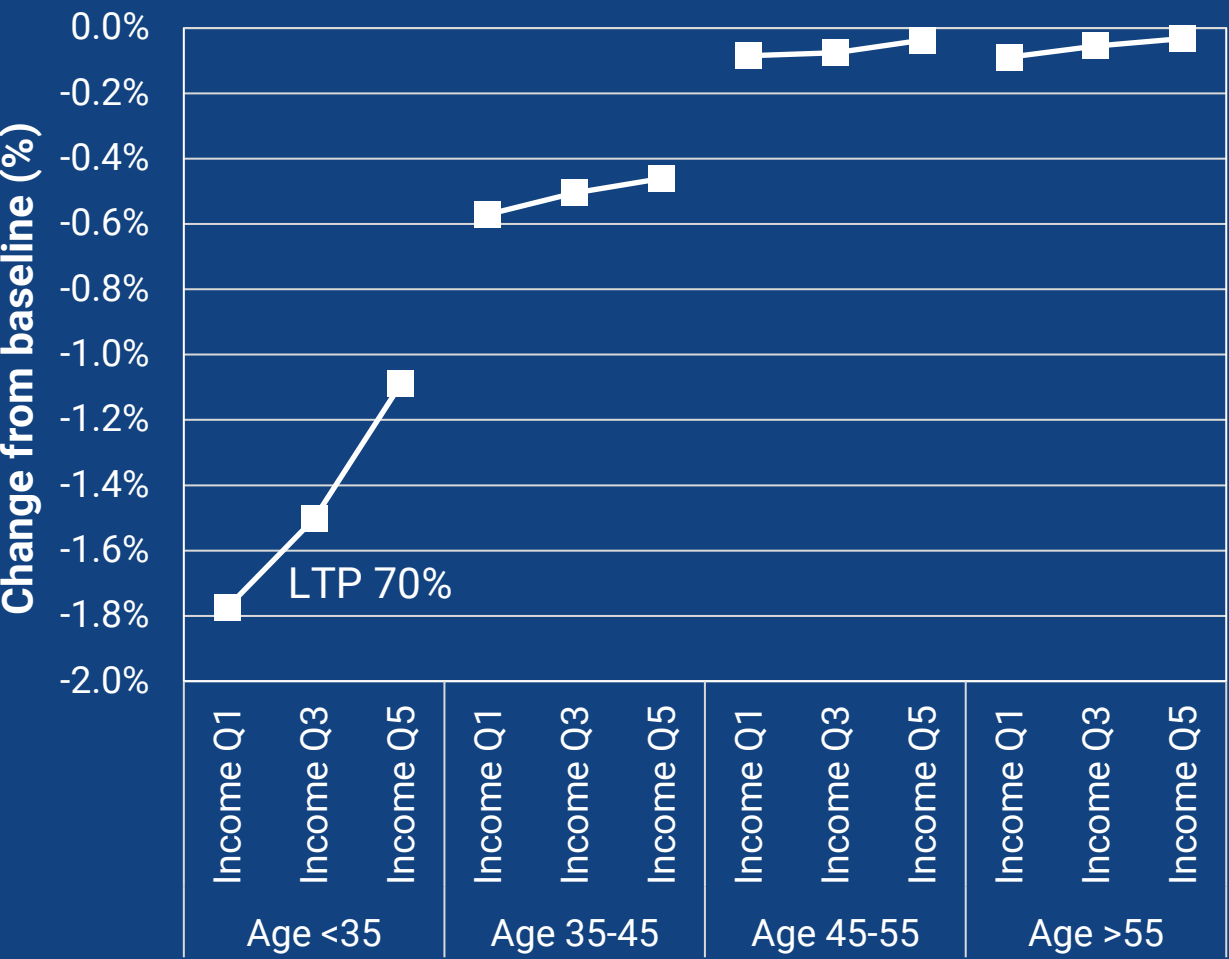


BBMs CAN SHIFT DEMAND TOWARDS RENTING, THEREBY LOWERING PURCHASE PRICES AND RAISING RENTS



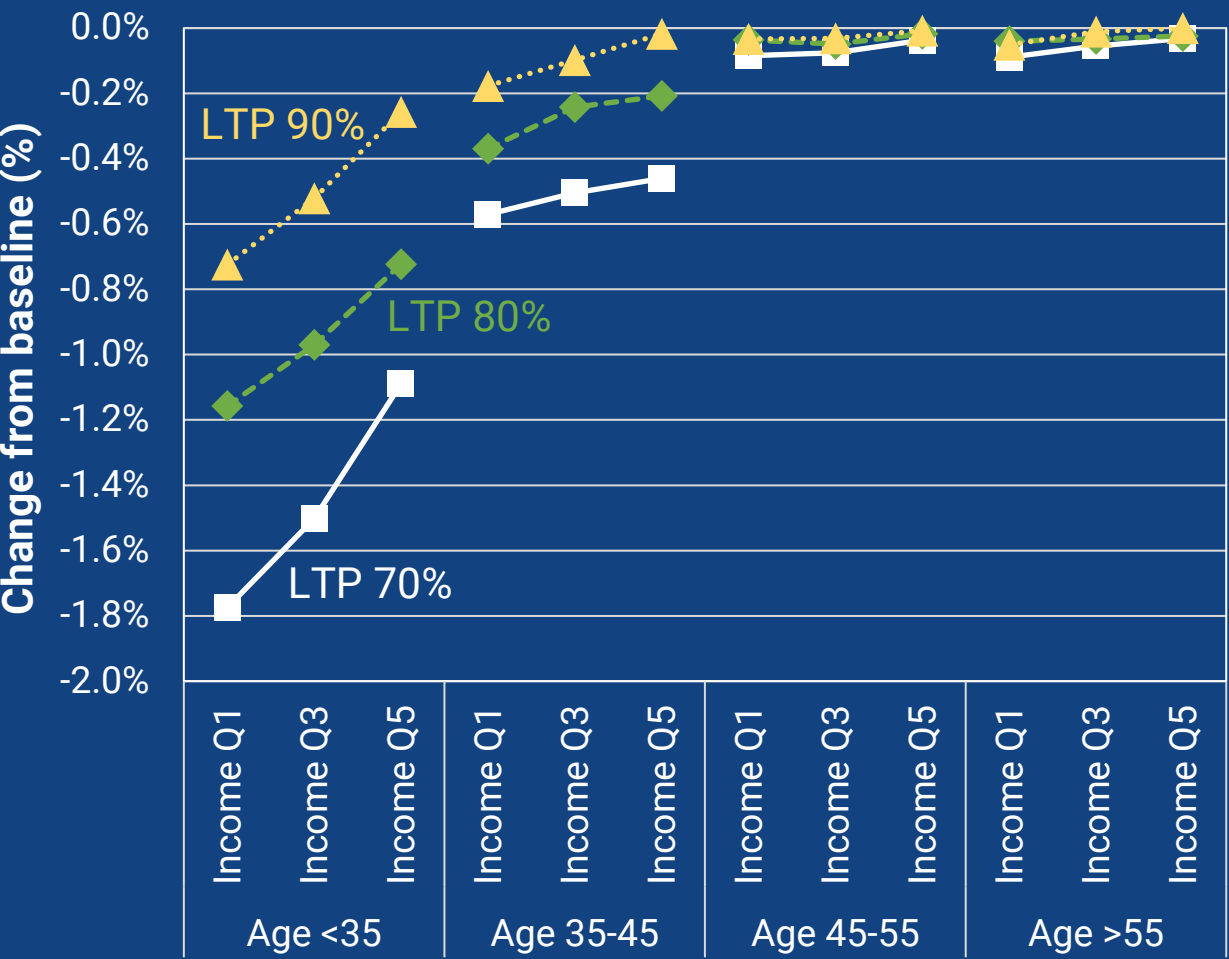
IMPACTS ARE STRONGER ON YOUNG AND LOWER-INCOME HOUSEHOLDS

Number of homeowners (short-term)



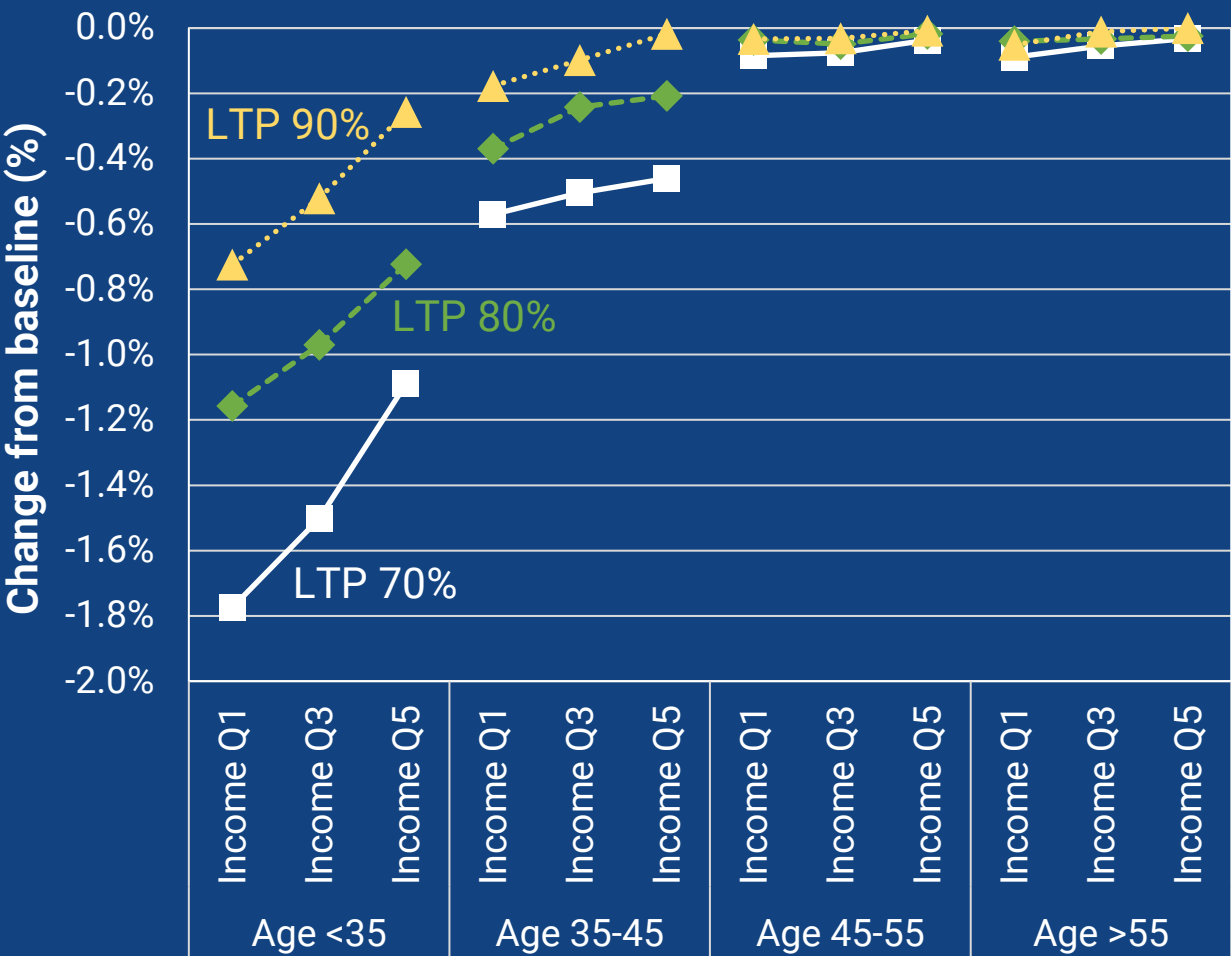
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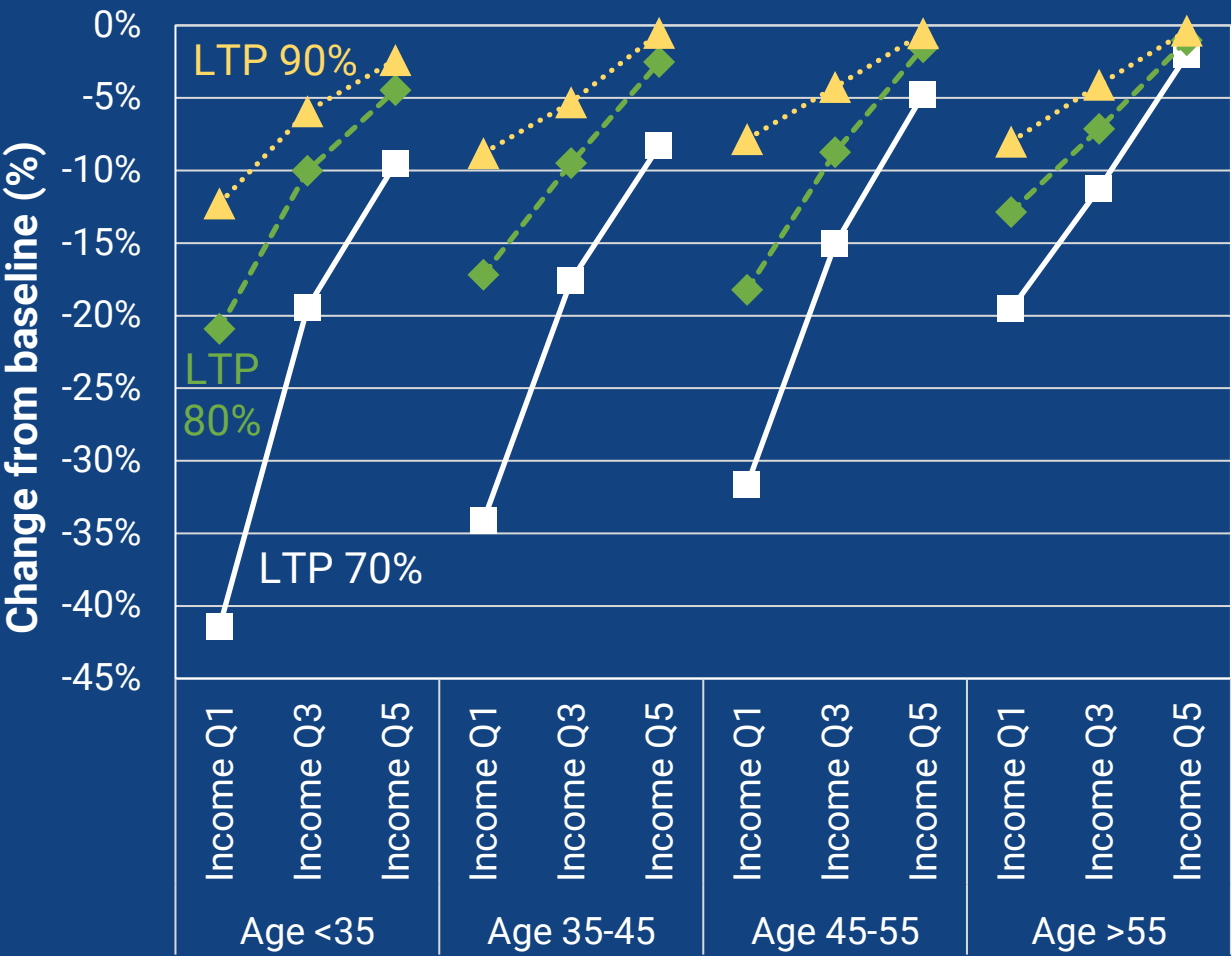


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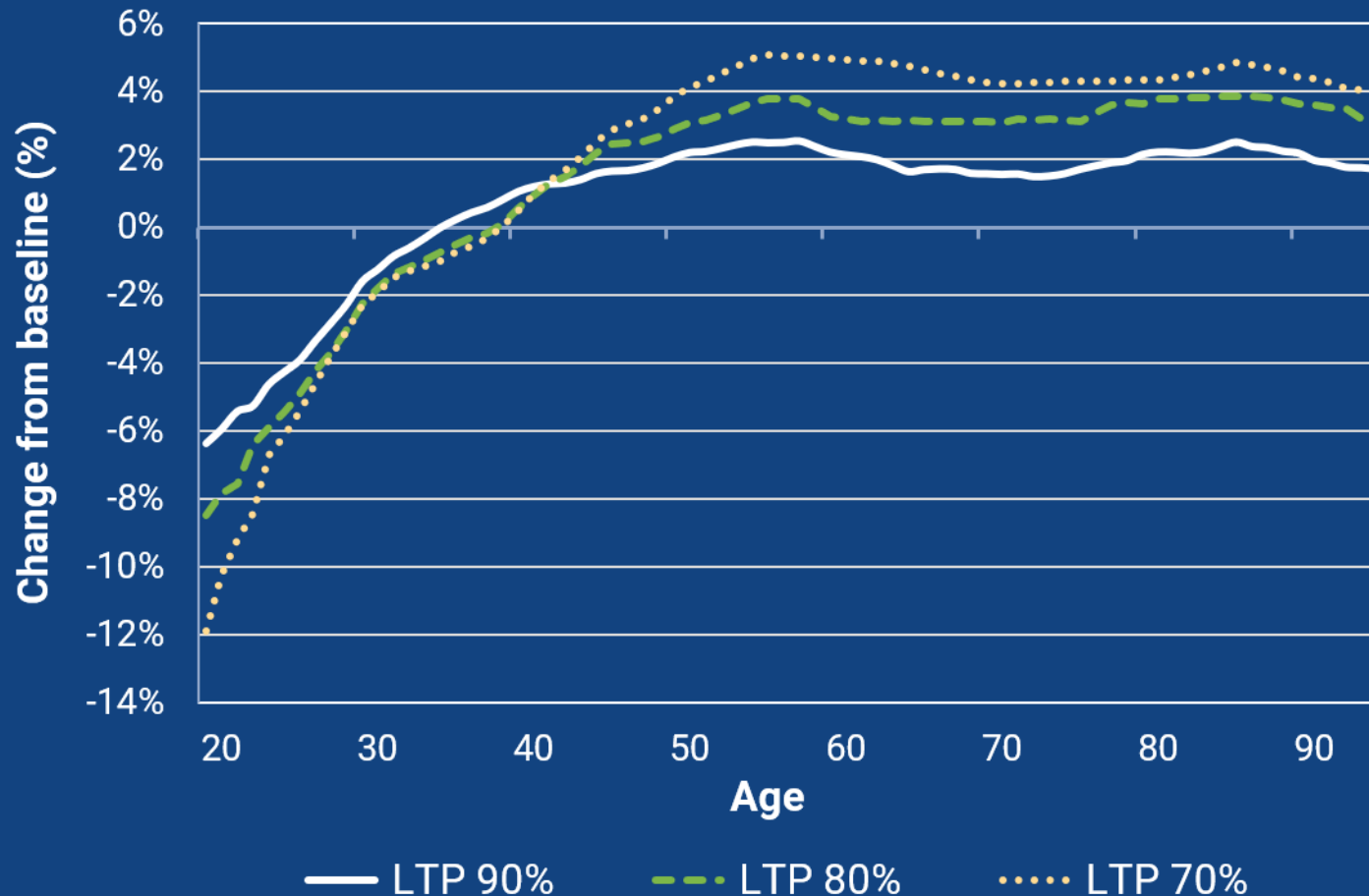


Number of homeowners (long-term)



CONSUMPTION FALLS STRONGLY WHEN YOUNG, BUT RISES AFTER AGE 35–40

Non-housing consumption



- Consumption falls among younger households:
 - *Higher rents.*
 - *Need to save for larger deposit.*
- However, it increases from ages 35–40 onwards, once households have accessed a mortgage:
 - *Lower purchase price.*
 - *Lower mortgage debt.*
- Aggregate consumption (present value) increases under all limits:
 - *LTP 90%: +1%.*
 - *LTP 80%: +1.7%.*
 - *LTP 70%: +2.3%.*

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Conclusions

BBMs SMOOTH HOUSING CYCLES, BUT CONCENTRATE COSTS ON YOUNG AND CONSTRAINED HOUSEHOLDS

- BBMs are effective in smoothing the housing cycle:
 - The dampening affects not only purchase prices, but also credit and consumption.
 - Even the least restrictive measures have a non-negligible mitigation capacity.
 - As measures become more restrictive, their marginal effect becomes smaller.
- However, they have heterogeneous costs among the population, affecting primarily younger and lower-income households:
 - They can shift a significant number of households from homeownership to renting, thereby lowering purchase prices and raising rents.
 - BBMs can strongly reduce consumption among younger households, but the effect reverses after age 40.
- Thus, policy design should carefully balance diminishing marginal stabilisation gains against concentrated distributional costs, potentially through exemptions and differentiated limits.

Taming the housing roller coaster: stability gains and distributional trade-offs

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Thank you very much for your attention