CREating Indices:

Developing the First Public Data-Based Commercial Property Price Indices for France

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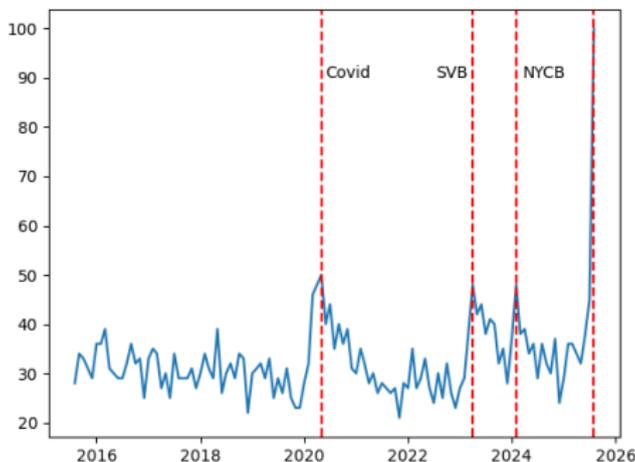
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Introduction

What is CRE?

Recent official definitions by European Systemic Risk Board

- Any income-producing real estate, including rental housing
  ⇒ *investors* **(2016)**;

- or real estate used by the owners of the property for conducting
  their business, purpose or activity
  ⇒ *own-users* **(2019)**.

CPPI: The *real* data gap

- Commercial Property Price Indices (CPPI) identified as data gaps (European Systemic Risk Board [2016])
- Existing indices by private data providers: MSCI, Immostat
- In France, two indices for the Paris region in the 2000' (Nappi-Choulet et al., Malle [2009])
  $\Rightarrow$ Strong sample bias and limited market coverage
  $\Rightarrow$ Own-user CRE is "invisible"

Research questions and contributions

> How did CRE transaction prices evolve in recent years
> (interest rates hike, development of Work-From-Home)?

First public data-based Commercial Property Price Indices (CPPI)
for France.

> Does the own-users segment of the CRE market represent a
> specific risk for financial stability?

I compute CPPIs for investors and own-users:

- **Identification**: Methodology distinguishing transactions from
  investors and from **own-users**.
- **Comparison**: Investors' CPPI is more volatile and tends to lag
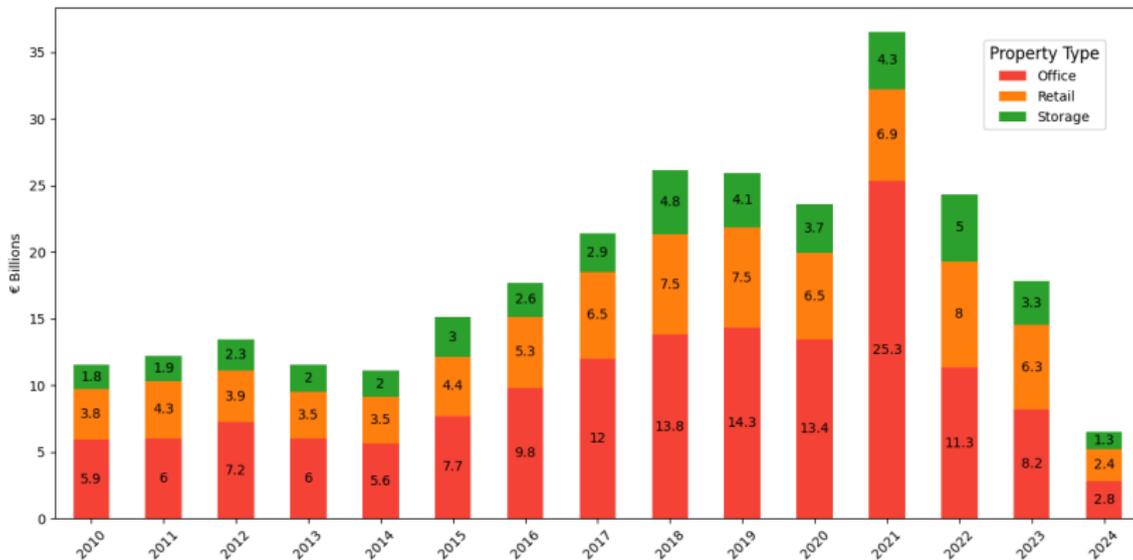 own-users' CPPI.

Data & Descriptive Statistics

Data: the hidden face of CRE

- New administrative data: DV3F
- From 2010 to 2024
- One year lag...
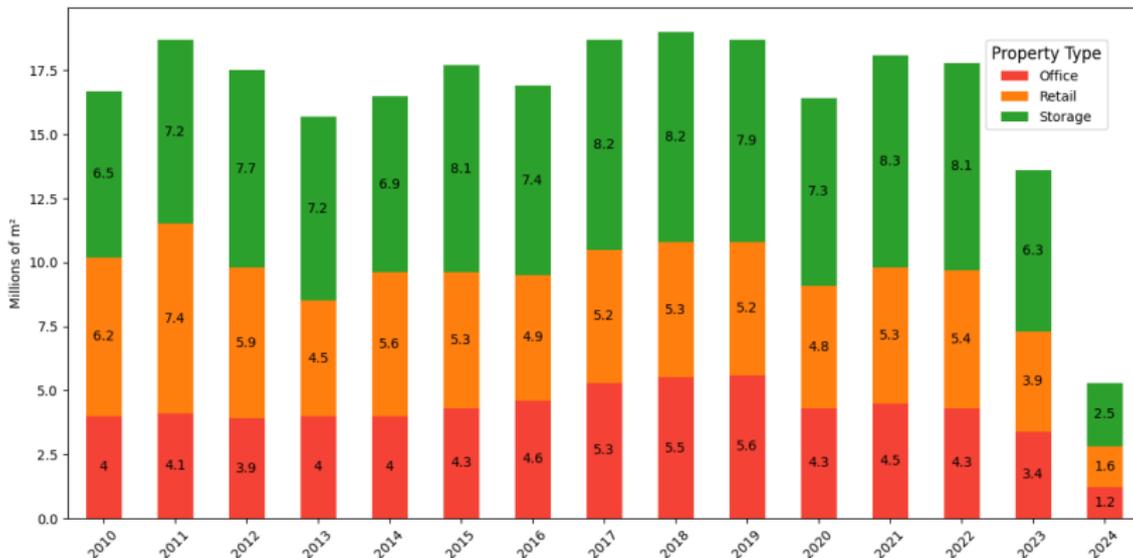- ...but 62% of underlooked properties (€1 Million threshold in RCA data)
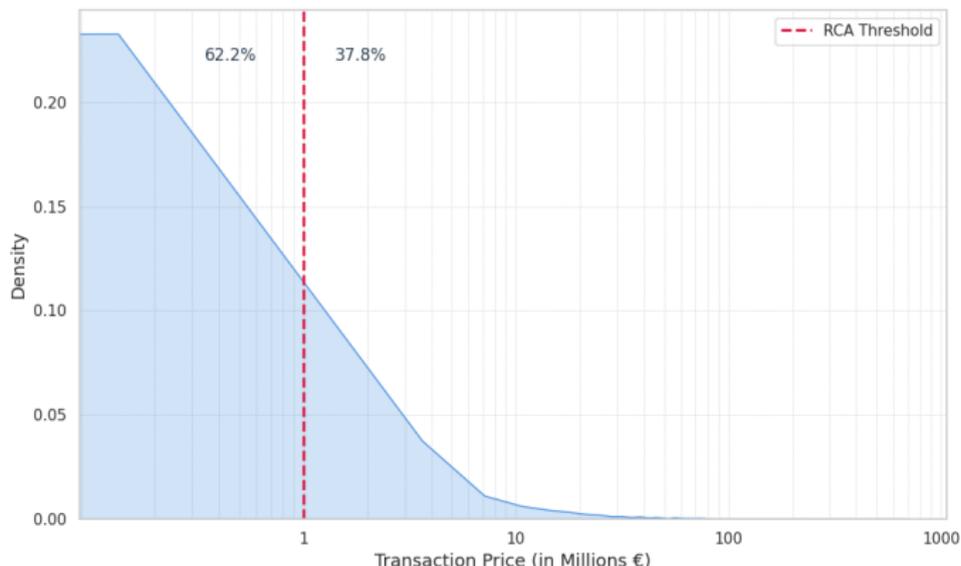
Transaction Volumes

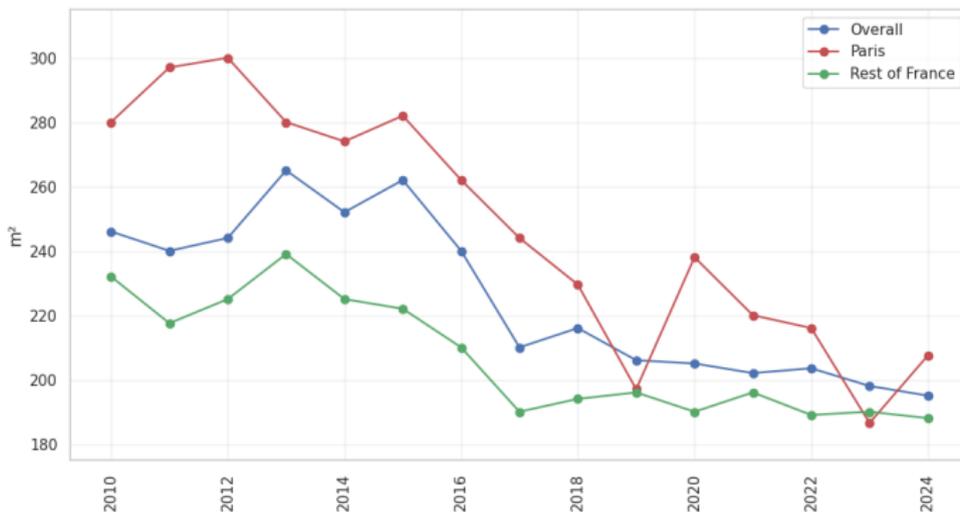- Rise and fall of CRE
- Missing share deals

Transaction Surface

- No increase in transaction surface
- Consistent with strong increase in prices

Median Transaction Surface

- Drop in median surface
- Consistent with strong increase in number of transactions
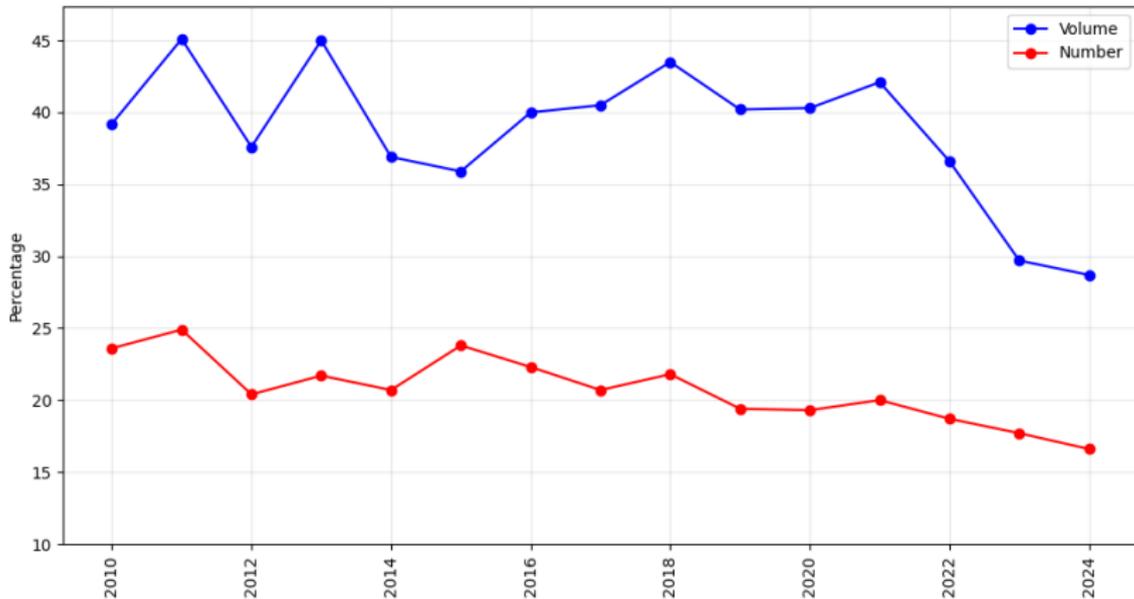- Office rationalisation?

Offices Liquidity

- *Real* Prime (as compared to investor-biased datasets) defined as high-income zones
- Drop in liquidity higher for non-prime goods
- Consistent across other definitions of prime (business density, distance to center etc.)
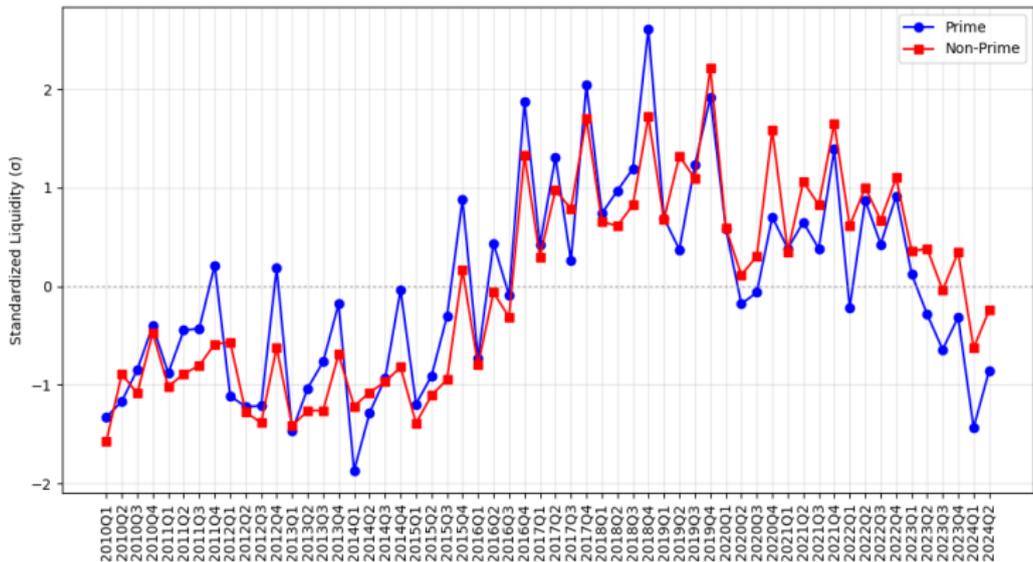
Share of prime goods - Offices

- Drop in the share of prime goods. Against a global narrative?

Comparison of Variables Between Investor and Own-Use CRE

	Investor	Own Use
Median Price (k€)	203.42	118.00
Median Price (€/m²)	1,563.20	1,316.70
Median Surface (m²)	105.00	80.00
Median Transaction Size	2.00	1.00
Median Construction Year	1934	1900
Median Distance to Center (km)	15.54	24.14
Mean Floor Level	1.5	0.8
Share of New Offices (%)	65.00	40.00
Share of Buildings in Île-de-France (%)	72.00	46.00

Investors and Own-users - Offices

- Investors make the volume
- Important and stable share (55%) of transactions made by own-users

Investor share in transactions
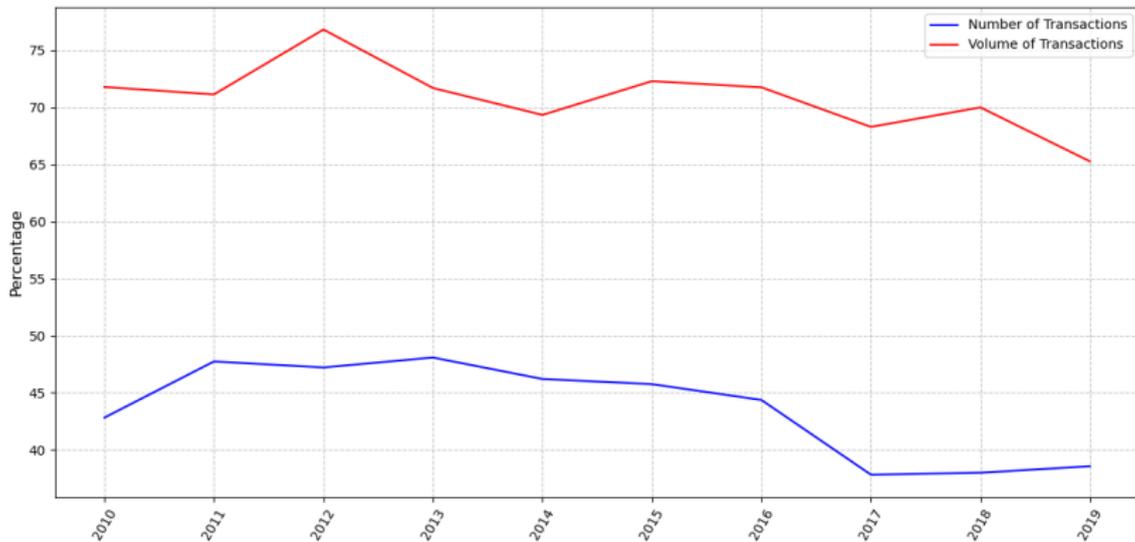
Methodology

Hedonic functional form

- Separate market and quality price changes
- Assumptions:
    - A good is a finite set of attributes
    - Constant implicit value of attributes for a given time and zone.

$$P_{n,t} = \sum_{k=1}^{K} Z_{k,n,t}\gamma_k + \sum_{s=1}^{S} D_{n,t,s}\beta_s + \epsilon_{n,t} \tag{1}$$

With $P_{n,t}$, the price of good n at time t, $Z_{k,n,t}$ hedonic attributes of the property (the in Equation

- With $P_{n,t}$, the price of good n at time t,
- $Z_{k,n,t}$ hedonic attributes of the property
- γ_k their implicit prices
- $D_{n,t,s}$ **period dummies**

Preferred specifications

- Explanatory variables
    - Log of Surface
    - Log of distance to railways (alternative distance variables tested)
    - Construction period
    - Layout
- Quarterly regressions
    - Time Dummy
    - Rolling Time Dummy (24 quarters)

Transcription Classification
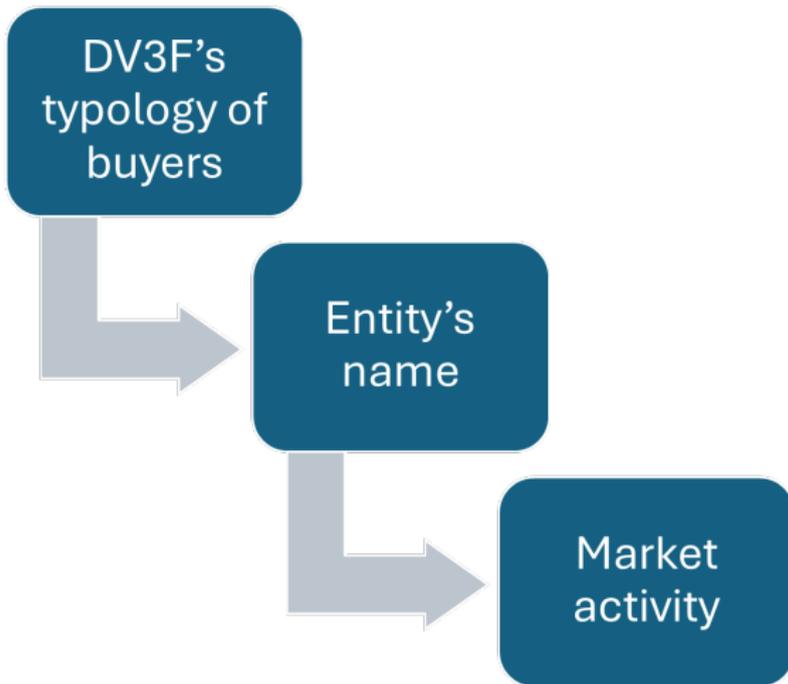
Results

Office property price index

Regression	R²	Kurtosis	Observations
TD	0.65	0.3	75231
RTD24	0.62	0.4	72323

Comparison with other indices

	MSCI	Immostat	DV3F
Data type	Valuation	Transaction	Transaction
Method	Valuation-based	Median	Hedonic index
Limitations	Investors' segment	Investors' segment	No share deals
Sample type	Panel	Repeated cross section	Repeated cross section
Geographical coverage	Metropolis	Île-de-France	No restriction
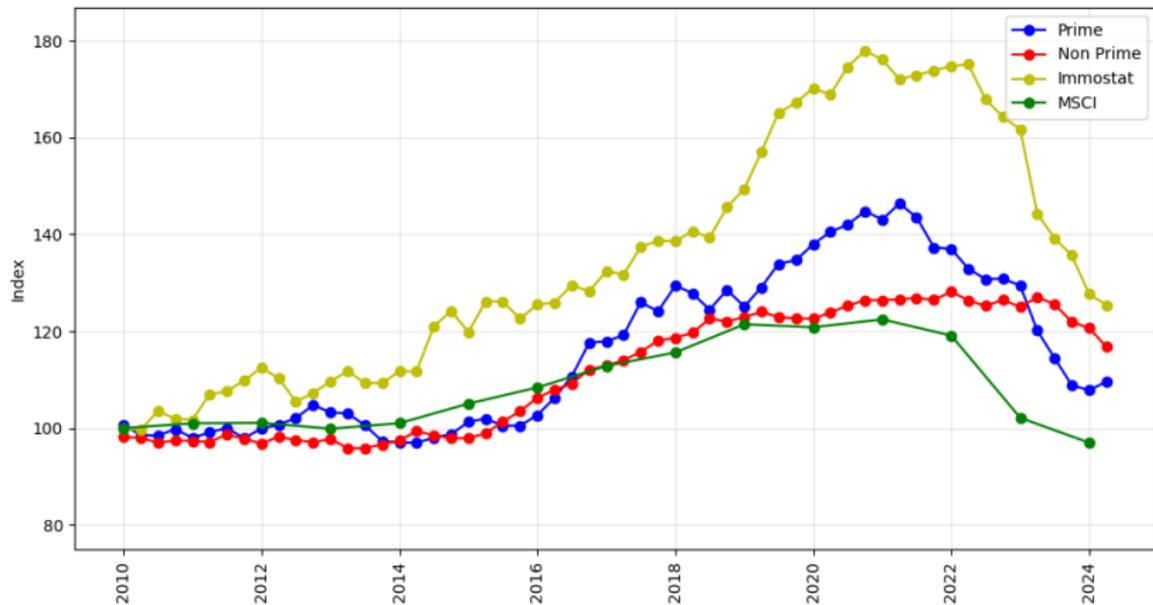
Investors vs Own-users

- More volatile $\rightarrow$ More dependent to financial conditions?
- Lagging $\rightarrow$ Do not observe contemporaneous demand?
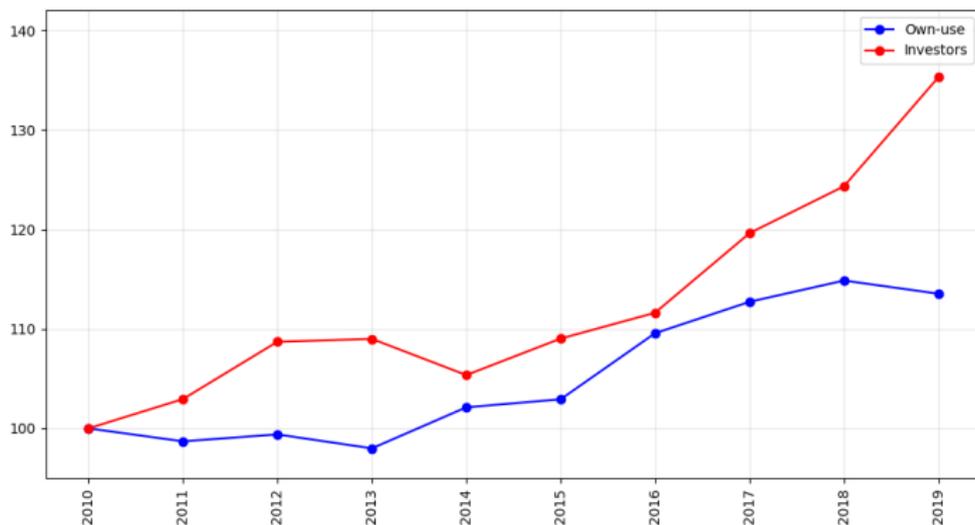
Conclusion

Conclusion

Contributions

- Introduces and exploits the DV3F dataset
- Compares Transaction and Valuation Based Indices
- New market segmentation between investors and own-users

Main messages

- Drop in prices since 2022 not that brutal
- Stable share of investors
- Investors more volatile and lagging

Research avenues and potential policy implications

Avenues

- Robustness checks: Granger causality, two-way clustering SEs
- A VAR with CPPIs, credit to firms, and macro-financial indicators

Policy implications

- Macroprudential: which segment should we focus on?
- Economic: how to guarantee the access of own-users to real estate and credit?
- Fiscal: should we favor investors?

Thank you!

Appendix

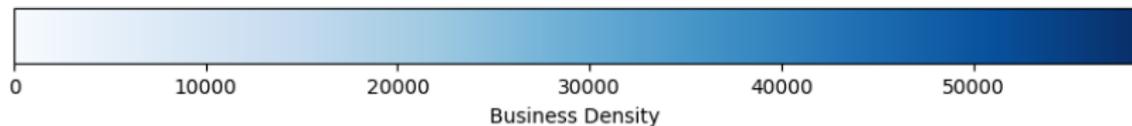# Transaction Number

- Office rationalisation?
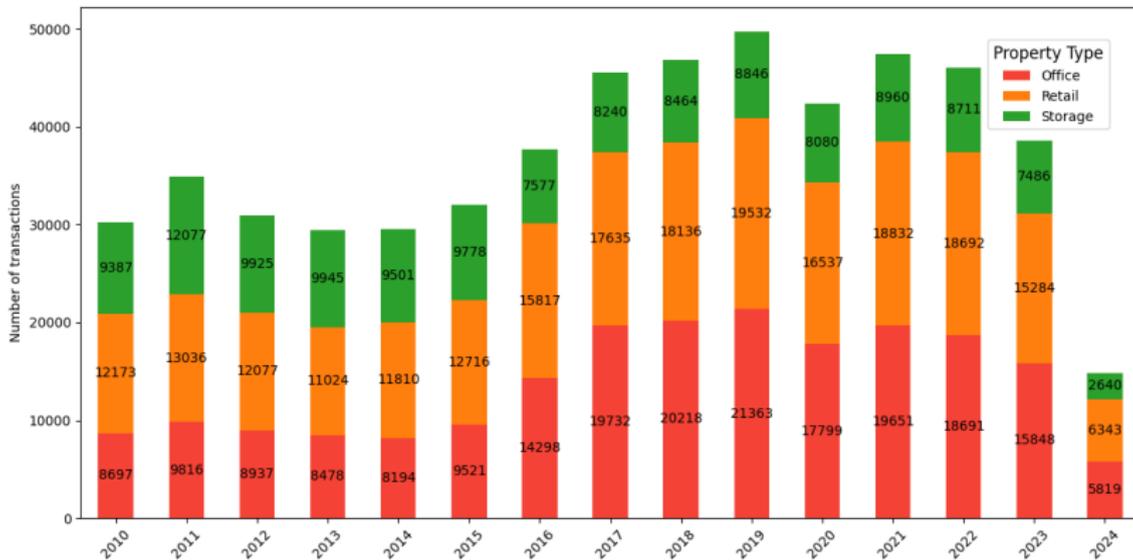
Transaction Volumes: DV3F/BNP

- Missing share deals?
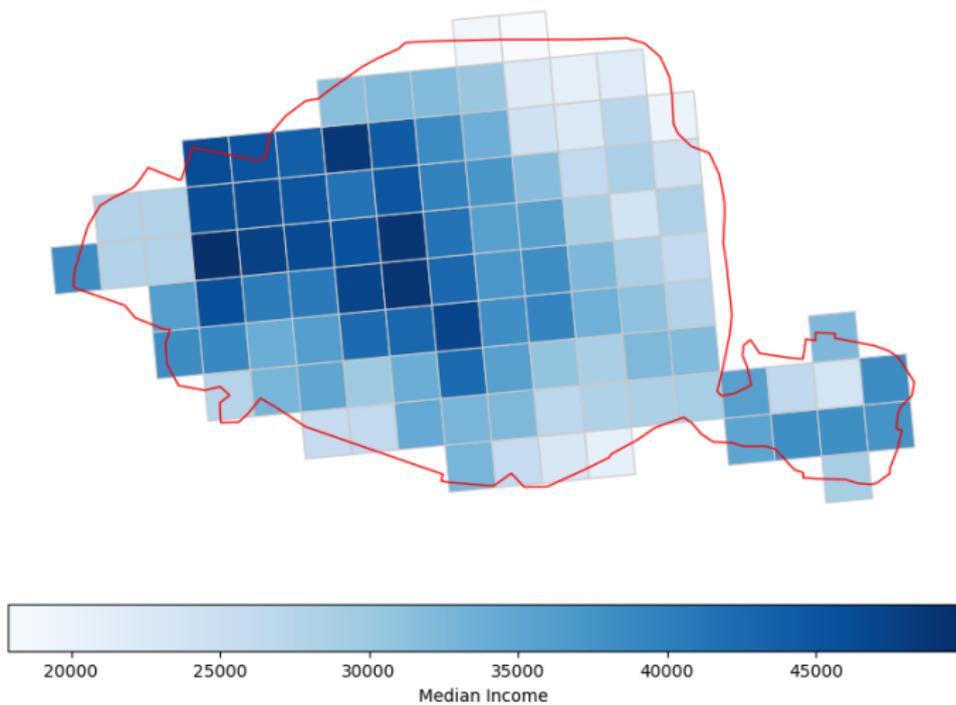- Is BNP underestimating sales after the crisis? And retail sales?
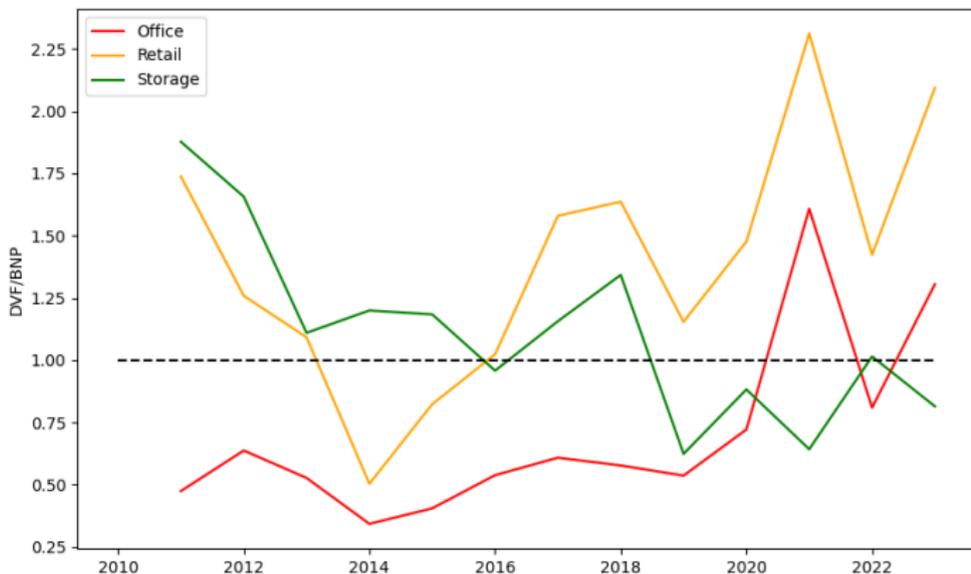
Median Distance to city center - Offices
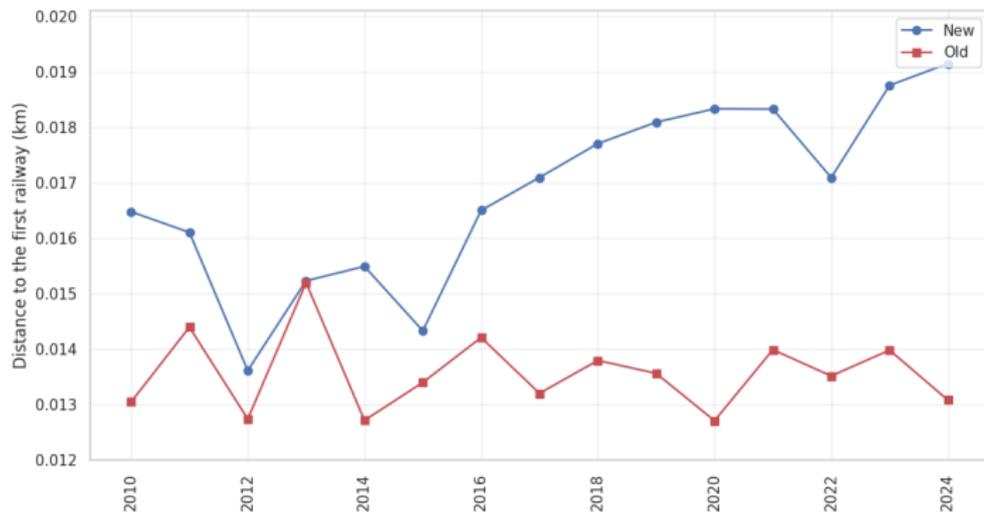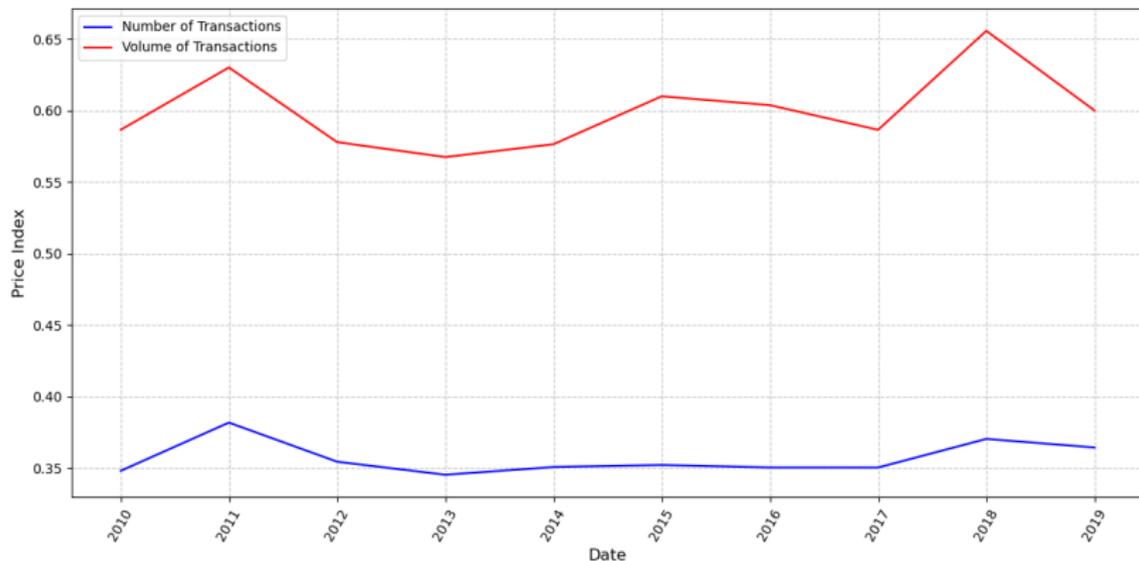
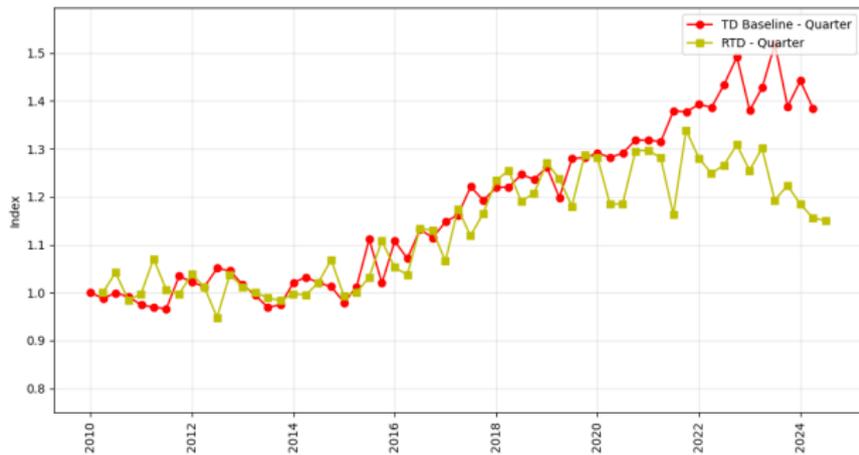# Business density in Paris

Business Density
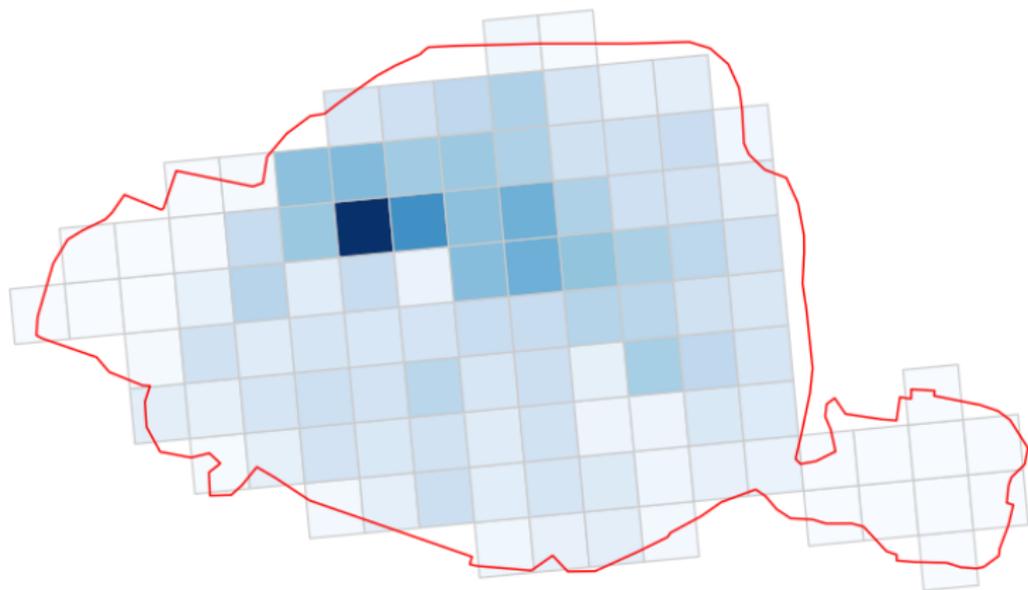
Median income in Paris

Median Income

Investors and Own-users - Retail

- Higher rate of own-users in retail
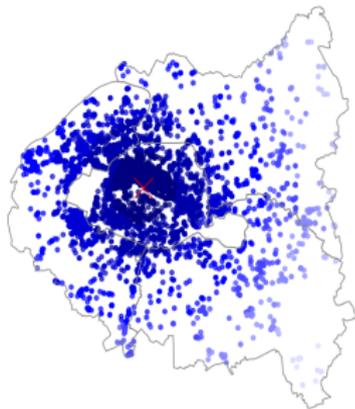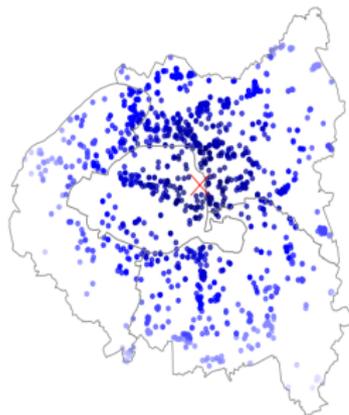- In line with the underestimation of retail sales by BNP
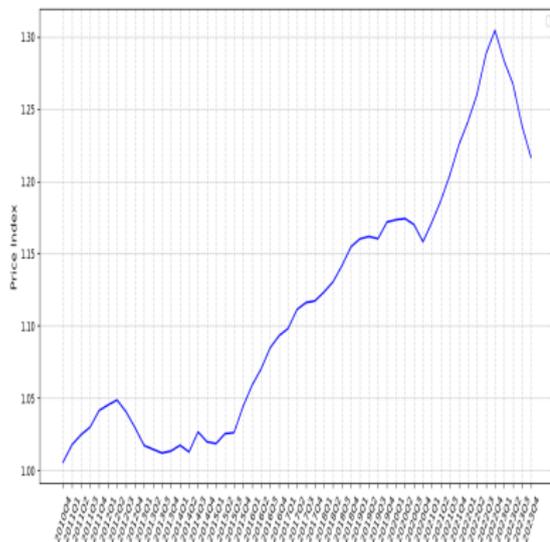
TD vs RTD
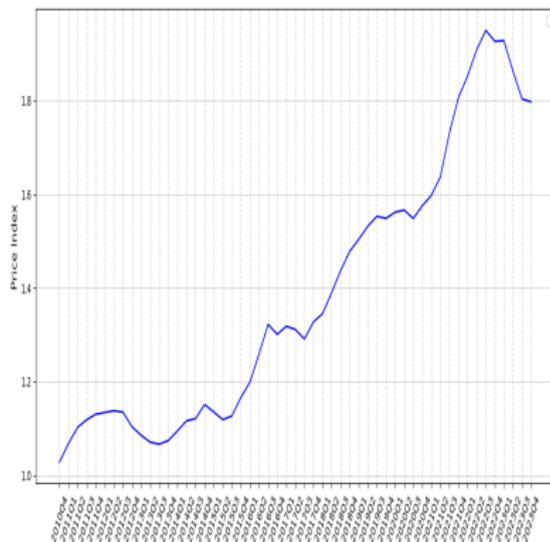
Agnostic Center

(a) Retail

(b) Storage

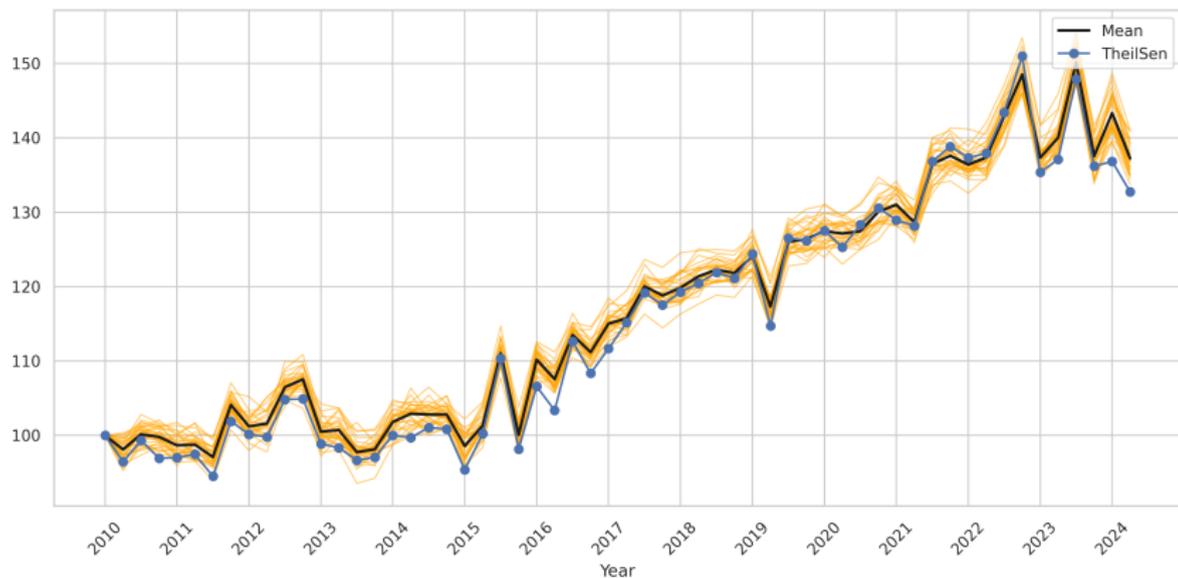# Retail and Storage CPPIs

(a) Retail

(b) Storage

Robustness checks

- Sub-sampling
- Robust regression

References I

European Systemic Risk Board. Recommendation of the european systemic risk board of 31 october 2016 on closing real estate data gaps. Recommendation ESRB/2016/14, European Systemic Risk Board, 2016. URL `https://www.esrb.europa.eu/pub/pdf/recommendations/2016/ESRB_2016_14.en.pdf`.

Richard Malle. Méthode hédonique et loyers des bureaux en île-de-france. *Revue d'économie régionale & urbaine*, (5): 905–933, 2009.

Ingrid Nappi-Choulet, Isabelle Maleyre, and Tristan-Pierre Maury. Un modèle hédonique des prix de bureaux à paris et en petite couronne. octobre(3):421. ISSN 0180-7307, 2107-0865. doi: $10.3917/\text{reru}.073.0421$. URL `http://www.cairn.info/revue-d-economie-regionale-et-urbaine-2007-3-page-421.htm`. lu.