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Real Estate Fund Investment in Post-Crisis Ireland

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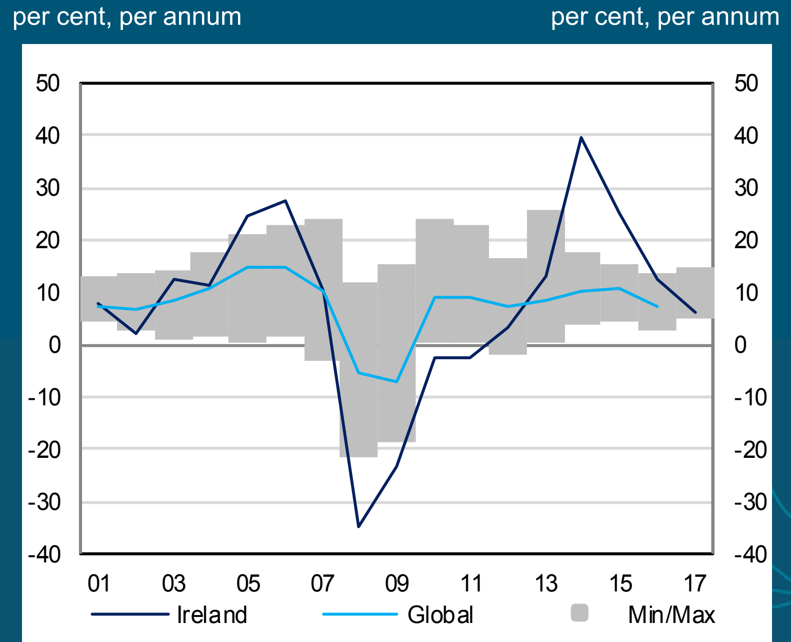
Introduction

- Ireland's property market has had an exceptional experience over the past 17 years.
- Irish domiciled real estate funds (IREFs) have seen their Irish property assets increase from €1bn to €14.5bn between end-2012 and end-2016.
- Now own 53% of total CRE stock as of end-2016.
- Despite this, little is known about them. This paper seeks to answer two questions on them:
  - Where and in what are they investing?
  - What drives investment into them?

Total returns across international markets



Source: Source: MSCI/IPD.
Note: Grey bars signify the relevant maximum and minimum annual total returns observation (in local currency) across a number of international markets,

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Literature and Data

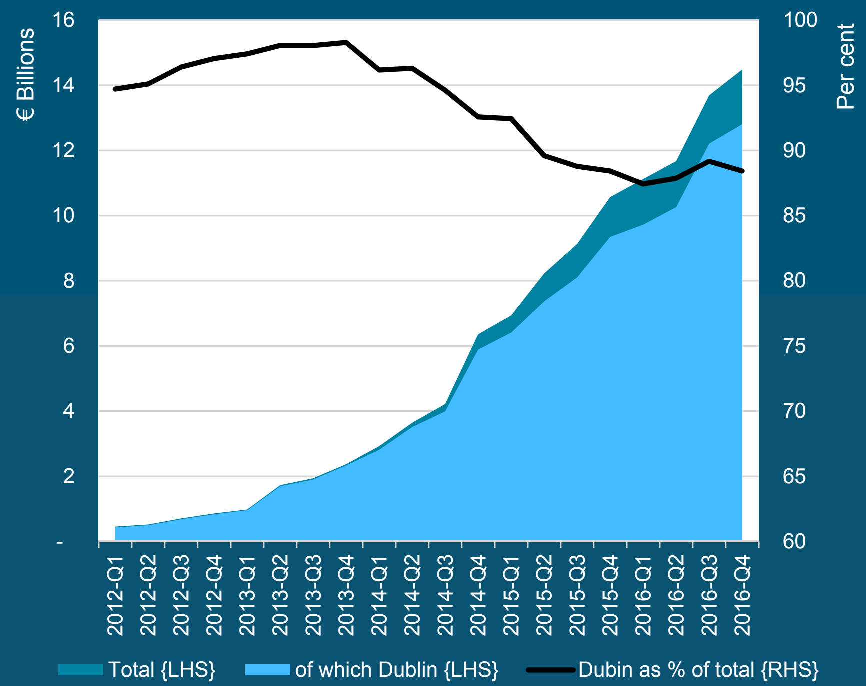
- Previous literature includes:
  - Descriptive work: McCarthy (2017) and real estate agent market commentary.
  - Real estate fund investment flows and Fund Return: Ling and Naranjo (2004), Yung (2006) and Downs et al. (2016).
  - Mutual fund investment flows and alternative investment opportunities: Grose (2011) and Sebastien and Weistroffer (2007).
  - Cross border real estate investment: Baum et al. (2013).

Data

- Questions being asked require data beyond standard statistical return. To answer them, I construct:
  - A property-by-property dataset from audited financial statements.
  - An individual shareholder dataset from each fund's shareholder register.

The where of IREF Investment

Total Property Holdings of IREFs - Dublin vs. Ireland



Source: Audited financial statements, author's calculations

- Investment is overwhelmingly focused in Ireland's capital, Dublin.
- This is a consistent feature of the data.
- Decreasing concentration since 2014.

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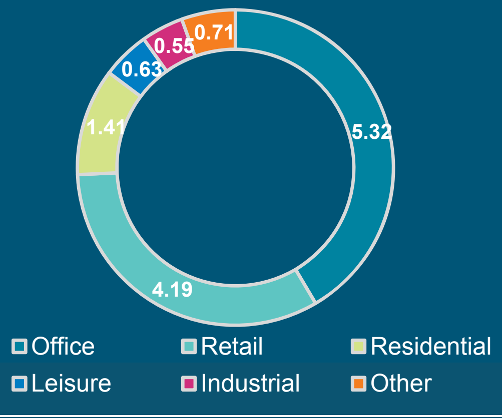
The what of IREF Investment

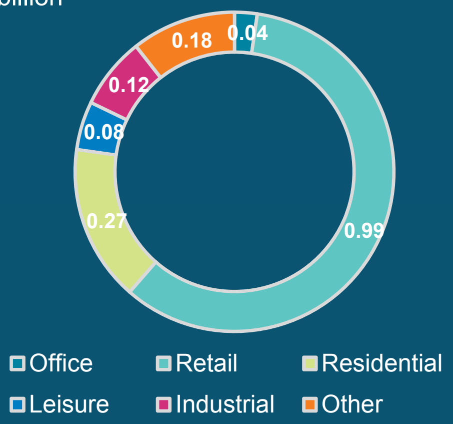
Dublin property holdings by property type- at Q4 2016

€ billion



Ireland ex-Dublin property holdings by property type – at Q4 2016

€billion



- Looking at Dublin vs. Rest of Ireland:
- Both consist of mostly commercial property…
- …but the composition of commercial property holdings differs.
- Residential property makes up small amount of total for each area.

Modelling Investment into IREFs

- In essence the analysis is one of portfolio choice.
- Therefore, changes in an investors wealth constraint, the expected return on IREF equity and the expected return on alternative investment opportunities are the relevant explanatory variables.
- Alternative investment opportunities can be modelled as domestic, cross-sample and out of sample.
- Larger investors may have different investment opportunities available to them.
- Taxes change for foreign investors at beginning 2017.

Model

- Analysis is conducted with a panel fixed effects model.

$$Y_{ijt} = B_0 + B_1 Z_{jt} + B_2 X_{it} + B_3 T_{it} + B_4 F_{it} + u_{ijt}$$

Where:

- Z_{jt} is a matrix of fund covariates
- X_{it} is a matrix of investor covariates
- T_{it} is a difference in difference estimator
- F_{ijt} is a matrix of fixed effects.
- u_{ijt} is the error term, two way clustered ony fund and investor.

Results

Variable	Model (1)	Model (2)	Model (3)	Model (4)
Investor Covariates				
GDP	0.3 (0.31)	0.18 (0.29)	0.27 (0.33)	0.16 (0.31)
Equity - Domestic	-0.24 (0.21)	-0.25 (0.18)	-0.22 (0.23)	-0.25 (0.21)
Bond - Domestic	0.14 (0.67)	0.2 (0.65)	0.11 (0.7)	0.21 (0.67)
Real Estate - Domestic	0.94 (1.06)	0.84 (0.96)	1.02 (1.13)	0.96 (1.07)
Real Estate (Ireland)– Domestic	0 .00 (0.96)	0.18 (0.82)	-0.08 (1)	0.09 (0.88)
FX	0.49 (0.4)	0.34 (0.36)	0.45 (0.42)	0.36 (0.4)
Equity – Cross Sample	0.15 (0.37)	0.13 (0.37)	0.2 (0.43)	0.15 (0.42)
Bond – Cross Sample	-0.24 (0.57)	-0.79 (0.72)	-0.29 (0.59)	-0.62 (0.63)
Real Estate – Cross Sample	-3.87 (5.34)	-5.28 (5.5)	-3.89 (5.67)	-6.27 (5.94)
Fund Covariates				
Dividend Yield	0.13 (0.04)***	0.13 (0.04)***	0.14 (0.03)***	0.15 (0.03)***
Capital Appreciation	0.00 (0.01)	0.00 (0.01)	0.01 (0.01)	0.01 (0.01)
Policy Covariate				
Tax			-1.23 (2.58)	1.14 (3.31)
Investor-Fund Fixed Effects	Yes	Yes	Yes	Yes
Quarter Fixed Effects	Yes	Yes	Yes	Yes
Investor Size-Quarter Interaction Fixed Effects	No	Yes	No	Yes
N	16,108	16,108	15,230	15,230

Key Results:

- Investor covariates show no statistically significant relationships.
- Fund covariates have expected relationship, but only dividend yield attains statistical significance.
- Tax change appears to have had an impact indistinguishable from zero.

Conclusion

- To conclude, I'll give an answer to the two questions raised at the start:

Where and what are IREFs investing in?

- IREFs are predominately invested in commercial real estate located in Dublin.

What drives investment into IREFs?

- Fund dividends the only variable to share a statistically significant relationship with investment.
- Tax change in 2016 Finance Act seems to have had no impact on affected investors.
- Domestic and cross-sample alternative investment opportunities do not appear relevant for investors.