German Open Ended Real Estate Fund Performance

The impact of liquidity

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Liquidity crisis in the German Open-Ended Real Estate Funds (GOEREFs) industry: large outflows of money in several funds starting in 2008

Large and ongoing redemptions of fund shares in several funds. Both institutional and private/retail investors withdrew money

As of October 2012, assets under management still near the peak of 2008 (€83bn from €86bn)

About a fourth (€22bn) in gated funds as of October 2012

Suspensions of redemptions, termination of funds and, ultimately, new laws and directives (2011 and 2013)
Motivation

- Secondary market existing, liquidity and premiums/discounts differing, both on absolute and relative basis
- Shares of gated funds are traded at sometimes large discounts, those prices may be used to assess the performance of GOEREFs since the onset of the crisis
- Study provides the most comprehensive overview on how the funds performed and how pronounced the differences between classes of funds in the industry are
- Constructed performance indexes provide a “liquidity-corrected” picture of fund returns
How are GOEREs structured?

- Special type of open-ended fund according to German investment law
- Must invest directly in property, most funds focus on commercial real estate
- Funds issued shares at net asset value (NAVs) on daily basis
- Before the liquidity crisis and new laws, redemptions were also possible at net asset value on every trading day
- Daily net asset values of the funds are determined via rents received, re-valuations of property held (normally once per year for each building), sales and acquisitions of properties, and by costs and fees
- Very stable returns with very low volatility resulting from the structure and valuation principles (long-term sustainable rent as basis)
- Funds need to hold large amounts of liquidity to operate and due to liquidity transformation (own fund flows versus assets held)
Previous research

- Real estate valuation principles in Germany have been discussed in detail in the past by Downie et al. (1996) and McParland et al. (2002).
- Schnaidt and Sebastian (2011) thereby argue that it is not the legal framework but rather how it is applied that is causing the differences.
- General descriptions of GOEREFs and the related industry are found in Maurer (2004), Focke (2006), Bannier et al. (2008) and Sebastian and Strohsal (2011) among others.
- German real estate returns and their characteristics are discussed in detail by Maurer et al. (2004) and Richter et al. (2011); Maurer et al. (2004) focus on GOEREF returns.
Fecht and Wedow (2010) and Haß et al. (2012) analyze developments of GOEREFs since the onset of the crisis, while Sebastian and Tyrell (2006) and Bannier et al. (2008) first discussed (possible) problems in dangers of GOEREFs.

Stein (2011) provides an overview on possible performance effects when selling of GOEREF shares is necessary and done on basis of secondary market prices.

While Haß et al. (2012) include secondary market prices only in a discussion of liquidity risk related to their analysis of GOEREFs’ role in asset allocation, this study adds to the literature by focussing in detail on secondary market prices and their performance effects.
How did the crisis emerge?

- Several GOEREFs with large outflows since start of 2007/2008 financial market crisis
- Funds not being from the co-operative savings banks or not integrated into own distribution networks most affected
- Daily liquidity of the funds that investors had been used to in the years before was gone
- Suspensions and failed re-openings resulted in new regulations and (announced) winding up of funds
Effects of crisis

- Removal of possibility to redeem shares at NAV
- Secondary market trading grew in volume
- Sometimes very large discounts charged (liquidity discount and performance concerns)
- Negative performance effects from discounts at secondary market sometimes substantial
- Even on NAV basis returns were worse than before crisis, sometimes strong de-valuations
Effects of crisis

- Charting of the premiums and discounts shows the diversity of secondary market prices
Effects of crisis

- Daily volumes traded on secondary market
Idea of the relevant price and return

- Relevant price at time $t$ as a function of the net asset value, $NAV_t$, and the secondary market price $P^\text{sec}_t$.
- With $S_t = 1$ for days where redemptions to the fund company are suspended and $S_t = 0$ otherwise:

$$P^\text{rel}_t = NAV_t \cdot (1 - S_t) + P^\text{sec}_t \cdot (S_t)$$

>>> Only the price that may be realized is used for each day

- Accordingly the relevant daily returns $R^\text{rel}_t$:

$$R^\text{rel}_t = \frac{P^\text{rel}_t - P^\text{rel}_{t-1}}{P^\text{rel}_{t-1}}$$

$$= \frac{[NAV_t \cdot (1 - S_t) + P^\text{sec}_t (S_t)] - [NAV_{t-1} \cdot (1 - S_{t-1}) + P^\text{sec}_{t-1} (S_{t-1})]}{NAV_{t-1} \cdot (1 - S_{t-1}) + P^\text{sec}_{t-1} (S_{t-1})}$$
Index construction

- Adding the dividend when constructing the relevant total return index $TRI_{rel}^t$:

$$TRI_{rel}^t = \frac{(P_{rel}^t + Div_t)}{P_{rel}^{t-1}} \cdot TRI_{rel}^{t-1}$$

$$= \frac{(NAV_t \cdot (1 - S_t) + P_{sec}^t (S_t) + Div_t)}{(NAV_{t-1} \cdot (1 - S_{t-1}) + P_{sec}^{t-1} (S_{t-1}))} \cdot TRI_{rel}^{t-1}$$

- Dividend that is paid on each share will be received anyway, no matter the initial price paid

- All results using the relevant price method can then be compared to purely NAV based analyses
Index groups

- Generally identifying three “classes” among the 43 funds:

1. Retail funds (17) generally targeting small private investors and savers
2. Retail funds of the co-operative savings banks, exclusive to respective clients, run through own asset management companies (9, “co-op funds” in the following)
3. “Institutional” or “semi-institutional” funds (institutional in the following), open to institutional investors and wealthy private investors (17), typically with minimum investment amount, holding-period based redemption fees and announcement periods

- Indexes on equal weight basis, start when at least 5 constituents existed, rebalancing monthly
NAV-based analysis

▶ Results of the indexes on NAV basis
RP-based analysis

▶ Results of the indexes on RP basis

Graph showing the total return index according to relevant price (adjusted to average discount) over time from 2000 to 2012. The graph includes lines for different types of funds and highlights a significant event in October 2008 with redemptions suspension in secondary market prices used for funds with suspension of redemptions.
### Descriptive statistics of calculated Indexes

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<tbody>
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<td>All</td>
<td>NAV</td>
<td>monthly</td>
<td>4.87%</td>
<td>1.04%</td>
<td>0.48%</td>
<td>0.71%</td>
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<td>June-10 to October-12</td>
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<td>Retail</td>
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<td>1.41%</td>
<td>10.16%</td>
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<td>Coop</td>
<td>NAV</td>
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<td>4.4%</td>
<td>3.14%</td>
<td>0.58%</td>
<td>0.38%</td>
<td>0.53%</td>
<td>February-11 to February-11</td>
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<td>Retail and Institutional</td>
<td>NAV</td>
<td>monthly</td>
<td>5.02%</td>
<td>0.5%</td>
<td>0.56%</td>
<td>0.88%</td>
<td>4.3%</td>
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<td>Institutional</td>
<td>NAV</td>
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<td>7.54%</td>
<td>1.81%</td>
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<td>1.05%</td>
<td>1.8%</td>
<td>April-12 to October-12</td>
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<td>All</td>
<td>RP, AD</td>
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<td>4.91%</td>
<td>-0.35%</td>
<td>0.6%</td>
<td>3.14%</td>
<td>8.15%</td>
<td>September-09 to July-12</td>
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<td>All</td>
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<tr>
<td>Retail and Institutional</td>
<td>RP, NAV</td>
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<td>6.99%</td>
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<td>RP, AD</td>
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<td>7.54%</td>
<td>0%</td>
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<td>1.92%</td>
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<td>April-12 to October-12</td>
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Results of groups

- Overall, institutional funds performed best both on NAV basis and when using the relevant price.
- Since start of crisis, both retail ex co-op and institutional funds suffer from de-valuations and discounts (RP adjusted with average discount more assumptive).
- Performance differences among the institutional funds and retail ex co-op funds - retail ex co-op funds in own distribution networks and newer institutional funds perform better.
- On RP level, performance effects are strong, with negative returns and high volatility for retail ex co-op and institutional.
- Co-operative savings bank funds experienced and still experience the least volatile return pattern. NAV and RP mostly the same as apart from one short exception no suspensions.
Apparently, groups with several funds that came in liquidity troubles performed worse.

Retail ex co-op funds performed best since the beginning of the crisis.

Surprisingly, even on NAV level, groups with liquidity troubled funds perform worse - change in way they are appraised?

Further research may focus on asset allocation effects and on why the funds even on NAV level perform different when being suspended for redemptions.

New laws might help funds that are still open, as redemptions are restricted and scheduled, but attractiveness especially for institutional investors decreased.

Interesting to see at which prices the funds in termination will sell property and where NAVs and secondary prices will meet.
References

References