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EXECUTIVE SUMMARY OF THE THESIS

Ownership Similarity and Investor Identity: A Quantitative Study on Family Office and Private Equity Deals

TESI MAGISTRALE IN MANAGEMENT ENGINEERING – INGEGNERIA GESTIONALE

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1. Introduction

In recent years, Family Offices (FOs) have become increasingly active in private markets, expanding beyond their original role of wealth preservation to engage in direct investments and, in some cases, to adopt practices similar to Private Equity (PE) funds [3]. While PE firms have been extensively studied, especially for their financial engineering and exit-driven strategies [5], research on FOs remains limited, fragmented and largely qualitative [4].

Italy offers a particularly relevant setting for such an investigation. The FO sector here is less institutionalized than in other markets, with limited regulatory frameworks and scarce publicly available data. This lack of transparency not only complicates systematic analysis but also makes the construction of reliable datasets particularly valuable.

A central but underexplored dimension is ownership similarity, defined as the extent to which investor and target share governance principles, ownership structures, and strategic orientations [1]. Such similarity is hypothesized to reduce integration frictions and foster alignment, potentially leading to superior post-deal outcomes in family businesses. Yet, empirical evidence remains scarce, and systematic comparisons between FO- and PE-backed firms are largely absent [2][4].

This thesis contributes by constructing a novel dataset of 314 transactions, enabling a structured empirical comparison of Family Offices and Private Equity in terms of investment preferences, ownership logic, and post-deal performance.

2. Research Objectives

The main objective of this thesis is to understand how investor identity influences investment choices and outcomes in the context of Family Offices and Private Equity firms. While both types of investors provide capital and strategic support to private companies, their goals, time horizons, and governance styles are often different [2][3]. This objective is explored through three guiding questions that structure the analysis.

First, it examines whether Family Offices are more inclined than Private Equity firms to invest in family-owned businesses (H1). This builds on the idea that a shared identity and long-term

orientation may foster stronger ties between investors and entrepreneurial families [1].

Second, it explores whether ownership similarity [1], for example when a Family Office invests in a family firm, leads to better post-deal performance compared to situations where investors and targets have less in common, such as Private Equity firms investing in family businesses (H2).

Finally, the thesis considers whether Family Offices are more likely to invest in minority stakes, while Private Equity firms typically prefer majority control to actively drive governance and restructuring (H3) [5][6].

3. Methodology

3.1. Dataset Construction

The starting point was a dataset of corporate transactions covering the period 2013–2022. The temporal distribution of deals is shown in Figure 1, with activity peaking in 2018 and 2019 before declining in subsequent years. The original dataset contained information mainly on the deal attributes but offered limited details on acquirors and target firms. To address this, additional sources were integrated. For target firms, financial and organizational data were retrieved from Orbis, focusing on a narrow time window around each deal to capture changes in profitability, revenues, leverage, asset base, and overall capital structure. For acquirors, complementary information was gathered from Zephyr, which provided identifiers and ownership details not available in the initial dataset. The integration of these sources allowed the construction of a more comprehensive dataset linking deal characteristics, acquiror profiles, and target financials.

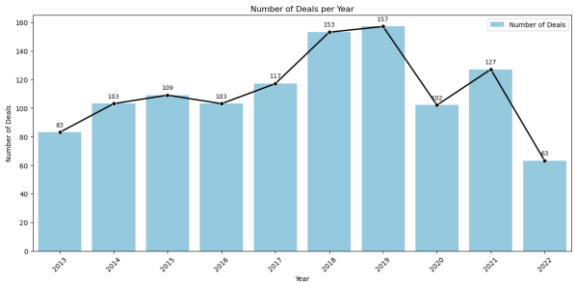

Figure 1: Number of deals per year.

3.2. Investor Classification

A key step was the classification of acquirors into Family Offices and Private Equity firms, given their distinct investment logics. Since no official registry of Family Offices exists, a multi-source approach was adopted. Information from Zephyr was complemented with Orbis and company websites to assess ownership structures and family involvement, while Consob and Bank of Italy registers were used to verify whether investors operated as regulated entities typically associated with PE. In ambiguous cases, the classification was cross-checked through financial news outlets such as BeBeez, Il Sole 24 Ore, and Milano Finanza.

As illustrated in Figure 2, the process revealed a variety of investor types, including corporates, holding companies, and venture capital funds, in addition to PE and FOs. This heterogeneity highlights the complexity of the investment landscape, especially in the Italian context. In line with the research objectives, the analysis that follows focused exclusively on PE and FO transactions.

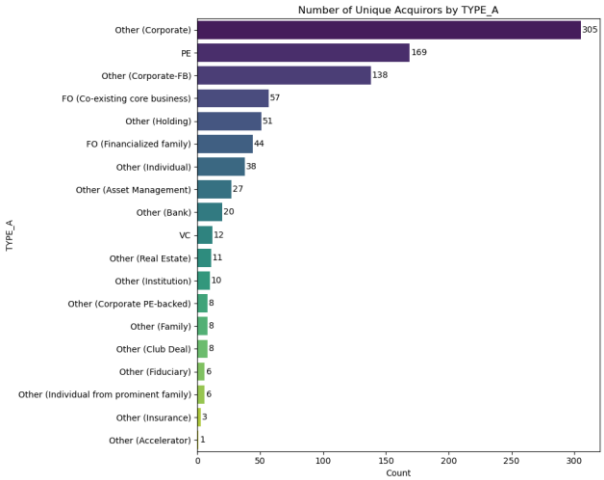

Figure 2: Number of unique acquirors by type.

3.3. Data Preparation

The datasets on deals, acquirors, and targets were merged and cleaned using Python. Duplicate rows were removed and deals with multiple buyers or targets were reorganized so that each row referred to one deal–acquiror–target pair. Generic or incomplete entries were excluded, while missing values were standardized. Some variables with too many gaps were dropped, and financial data were

adjusted to reduce the effect of extreme values. Firm size and leverage were log-transformed, while profitability (ROA and ΔROA) was smoothed using winsorization. Finally, all information was aligned around the year of the deal (*t–1*, *t*, *t+1*) to track changes before and after the transaction. After these cleaning steps, the final dataset included 314 deals (208 PE and 106 FO).

3.4. Econometric Approach

The empirical analysis applied different models to test the three research objectives.

For H1, investor preference for family-owned targets was first examined through a Chi-squared test of independence and then through a logistic regression. The latter tested whether Family Office deals were more likely to involve family firms, while controlling for firm size, leverage, profitability, and macro-sector dummies.

For H2, post-deal performance was measured as the change in ROA between one year before and one year after the deal. Given the presence of outliers and non-normal residuals, a robust regression using Tukey's biweight function was employed, with ownership similarity as the key regressor and controls for size, leverage, sector, and family ownership of the target. To account for possible selection bias in the choice of targets by Family Office and Private Equity investors, a Heckman two-step model was also implemented. In the first stage, a probit estimated the probability of being FO-backed (vs PE-backed) based on pre-deal characteristics such as ownership type, firm size, leverage, and sector. In the second stage, ΔROA was modeled via robust regression with the inclusion of the Inverse Mills Ratio, correcting for potential selection effects.

Finally, for H3, the comparison between majority and minority deals was conducted using a Chi-squared test. This provided a direct evaluation of whether Family Offices and Private Equity firms differed in their control strategies. A logistic model could in principle have been used, but the relatively small number of minority deals created a marked imbalance between categories, limiting the added value of a more complex specification. Given this asymmetry the Chi-squared test was considered sufficient to capture whether investor identity is associated with different control choices.

4. Key Findings

4.1. Investor Preference for Family-Owned Targets

The results do not support the expectation that Family Offices are more likely than Private Equity firms to invest in family-owned businesses. Family Offices targeted family firms in 50% of cases, compared to 53.4% for Private Equity. As shown in Figure 3, the distribution of family versus non-family targets is very similar across the two investor types. The Chi-squared test confirmed that this difference is not statistically significant ($\chi^2 = 0.198$, $p = 0.656$), and the logistic regression reached the same conclusion (IS_FO coefficient not significant, $p = 0.166$).

Control variables, however, were informative: firms in finance and industrial sectors were more likely to be family-owned, while more profitable firms were less likely to be controlled by families. The model had modest explanatory power (Pseudo $R^2 = 0.1168$), but fair predictive performance with an AUC of 0.73 and an accuracy of 66.5%.

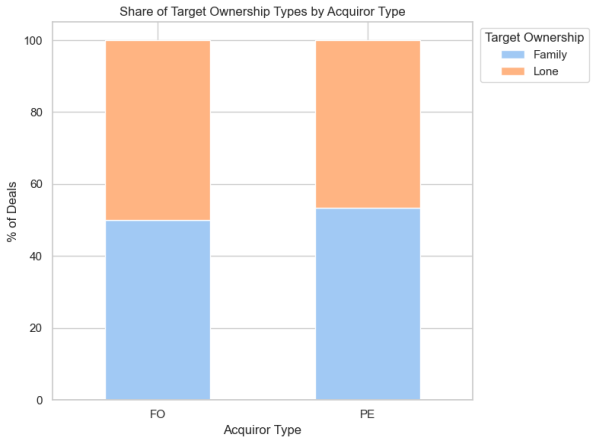

Figure 3: Share of target ownership types by acquiror type.

Overall, these findings suggest that H1 is not supported. This may reflect the growing heterogeneity and professionalization of Family Offices, which in many cases adopt strategies similar to Private Equity [4]. It is also possible that deal characteristics such as size, sector, or growth potential weigh more heavily than ownership type in investor choices. Finally, the binary classification of family firms may not fully capture differences in governance and family involvement,

which could matter more for investment alignment.

4.2. Ownership Similarity and Post-Deal Performance

The analysis of post-deal outcomes focused on the change in ROA one year after the transaction. Results from robust regression showed that ownership similarity, defined as alignment between the governance type of acquiror and target, had a positive but non-significant coefficient (0.214; p = 0.861). The Heckman two-step correction confirmed the absence of statistical support, with the coefficient turning negative and remaining non-significant (–1.437; p = 0.245). The Mills ratio is positive and highly significant (3.104; p < 0.001) indicating that acquirors' choice of targets is not random between FO and PE deals. These estimates are reported below in Figure 4, which summarizes the regression results including control variables and the Mills ratio.

Robust linear Model Regression Results

Dep. Variable:	wins_delta_ROA	No. Observations:	210
Model:	RLM	Df Residuals:	199
Method:	IRLS	Df Model:	10
Norm:	TukeyBiweight		
Scale Est.:	mad		
Cov Type:	H1		
Date:	mar, 05 ago 2025		
Time:	13:14:42		
No. Iterations:	42		

	coef	std err	z	P>|z|	[0.025	0.975]
const	-12.0718	2.375	-5.083	0.000	-16.727	-7.417
OWN_SIMILARITY	-1.4374	1.237	-1.162	0.245	-3.862	0.987
IS_FAMILY_TARGET	0.6424	1.273	0.505	0.614	-1.852	3.137
log_Gearing_t-1	1.5689	0.468	3.351	0.001	0.651	2.487
log_Revenue_t-1	0.3737	0.352	1.063	0.288	-0.315	1.063
Macro_Finance	1.8354	3.360	0.546	0.585	-4.750	8.421
Macro_Industrial	0.4513	1.746	0.258	0.796	-2.972	3.874
Macro_Real Estate	8.1740	4.539	1.801	0.072	-0.723	17.071
Macro_Services	1.8919	2.151	0.879	0.379	-2.325	6.108
Macro_Other	2.0667	2.607	0.793	0.428	-3.043	7.176
mills_ratio	3.1042	0.779	3.984	0.000	1.577	4.631

Figure 4: Results of Robust Regression – Heckman.

While these findings reject the hypothesis that ownership similarity improves short-term post-deal performance, some additional results are relevant. Targets with higher pre-deal leverage tended to show better post-deal ROA, suggesting that firms under financial pressure may benefit more from new ownership. Real estate firms also showed significant post-deal improvements, possibly due to sector-specific factors such as asset revaluation or market growth.

The interpretation of these results highlights that the absence of significant effects may be linked to the short time horizon considered. The first year after a deal is often marked by restructuring and integration challenges, which may obscure longer-term benefits of alignment. In addition, ROA as a single metric may not fully capture other forms of value creation pursued by Family Offices, such as governance continuity, financial stability, or strategic repositioning, which are more likely to become visible over a longer time frame.

4.3. Deal Type and Investor Identity

The comparison between Family Offices and Private Equity firms in their approach to majority versus minority stakes shows descriptive but not statistical differences. Family Offices completed minority deals in 26.9% of cases, compared to 19.8% for Private Equity, while most transactions involved majority acquisitions (73.1% and 80.2%, respectively). As shown in Figure 5, this suggests that Family Offices are somewhat more open to non-controlling positions, while Private Equity investors more often seek majority control.

However, the Chi-squared test shows that the difference is not statistically significant ($\chi^2 = 1.64$, p = 0.200). One likely reason is the composition of the dataset, which is strongly skewed toward majority acquisitions (over 60% of all deals), limiting the variation required to detect stronger effects.

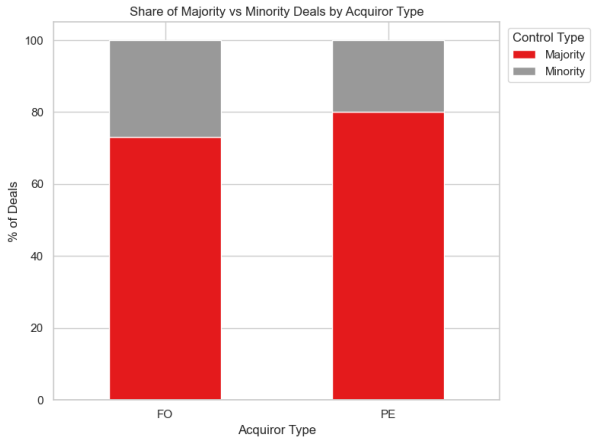

Figure 5: Share of majority vs minority deals by acquiror type.

While theoretical arguments and descriptive patterns align with expectations from the literature, statistical tests do not confirm the existence of robust differences between Family Offices and Private Equity firms in deal structure.

5. Discussion

The findings of this thesis add to the emerging research on Family Offices and their role in corporate ownership, while also offering reflections on Private Equity strategies. The main contribution is the creation of a hand-collected dataset and the application of econometric methods, providing one of the first structured quantitative comparisons between these two investor types in transactions involving family and non-family firms.

From a theoretical perspective, the findings suggest that some widely held assumptions may not apply in a straightforward way. The expected preference of Family Offices for family-owned businesses is not clearly supported, and ownership similarity does not seem to bring immediate performance advantages. Rather than pointing to a complete absence of effects, the results indicate that such mechanisms may depend on longer time horizons, where strategic alignment and governance continuity have time to materialize, or on specific sectors and deal contexts where the investor–target match is particularly strong. This highlights the importance of considering boundary conditions when assessing the impact of ownership similarity, as its influence is unlikely to be universal or automatic.

From a managerial perspective, the results highlight that Family Offices and Private Equity funds may be less different in practice than often assumed. For family firms seeking external capital, this means that investor choice should not rely solely on expectations of cultural alignment, but also on the concrete capabilities and governance approaches of individual investors. At the same time, descriptive evidence indicates that Family Offices remain somewhat more open to minority positions, consistent with their reputation as patient capital providers [2][3]. This could make them attractive partners for family firms wishing to retain a degree of control, even if the difference is not statistically significant.

Overall, the study contributes to both research and practice by providing quantitative evidence in a field that has been dominated by qualitative insights [4]. It emphasizes the need for a more nuanced understanding of Family Office behavior, moving beyond stereotypes and simplistic comparisons with Private Equity.

6. Limitations and Future Research

Despite the structured approach, this study has several limitations that should be considered when interpreting the results. The first challenge concerns the identification of Family Offices. In the absence of an official registry or legal definition, classification relied on indirect indicators such as ownership structures, investment strategies, and family involvement. Although multiple sources were used, including Orbis, Zephyr, regulatory registers, and financial news platforms, a degree of subjectivity and uncertainty remains, especially in cases of hybrid or opaque investors.

A second limitation is that the analysis relies mainly on financial variables, with ROA as the primary measure of performance. While widely used, this indicator may not capture other dimensions that are central for Family Offices, such as governance continuity, cultural alignment, or the preservation of socioemotional wealth. Including such qualitative aspects could provide a more complete picture of post-deal outcomes.

In addition, post-deal performance was measured only over a one-year horizon, a period often dominated by transition and restructuring. This choice preserved sample size but may not fully capture the effects of investor identity over the medium to long term. Family Offices, in particular, are often characterized by patient-capital strategies, whose benefits are more likely to emerge over longer horizons.

Future research could address these issues by adopting a longer observation window and incorporating qualitative or survey-based evidence to capture governance preferences, cultural alignment, and family involvement. Such approaches would make it possible to assess not only financial outcomes but also softer dimensions of value creation, including the preservation of legacy, the role of the founding family after the deal, and the degree of strategic alignment between investor and target.

These directions point to the need for a broader research agenda that combines financial, organizational, and contextual dimensions to better understand how Family Offices and Private Equity shape post-deal trajectories.

7. Conclusions

This thesis investigated how investor identity influences investment patterns and outcomes by comparing FOs and PE firms. The analysis focused on three key aspects: preference for family-owned businesses, the effect of ownership similarity on post-deal performance, and differences in deal structure between majority and minority stakes.

The results show that FOs are not significantly more likely than PE firms to invest in family-owned targets. Ownership similarity does not lead to measurable short-term improvements in post-deal performance, and while FOs appear more open to minority deals, the difference with PE firms is not statistically significant. These findings suggest that, at least in the short term and within the observed sample, Family Offices and Private Equity firms, despite their distinct reputations and investment philosophies, behave in more similar ways than commonly expected when it comes to actual deal-making.

At the same time, the study makes an original contribution by building a unique dataset through the manual classification of investors and targets, a necessary step given the opacity of Family Offices. The absence of strong results does not contradict the theory but may reflect the short one-year horizon considered and the heterogeneity of Family Offices, which range from legacy-oriented vehicles to highly institutionalized investors.

In summary, the thesis highlights that investor identity alone may not explain post-deal outcomes or investment preferences. Other factors, such as firm characteristics, industry context, and deal structure, are likely to play a more decisive role. A deeper understanding will require longer time horizons, richer performance measures, and greater attention to the diversity of Family Office models, which may reveal distinctive dynamics not captured in the present analysis.

Family Offices are expected to keep growing in scale and relevance, both in practice and in academic attention. Beyond their financial role, they represent a complex and evolving phenomenon that will continue to shape private capital markets in ways not yet fully understood.

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