When fundamental investors relieve market pressures on management:

Evidence from Europe

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Abstract

We call fundamental investor an investor who, on average, holds his shares for at least two years, is in the top quartile of a firm ownership, and has an active allocation strategy. Using an original European dataset, we first show that firms with greater fundamental investor ownership experience lower market reactions to earnings announcements and lower mispricing. As a result, managers of such firms should be more able to focus on long-term drivers of firm value. Consistent with this prediction, we find that a long/short portfolio on fundamental ownership generates significant positive shareholder value over time.

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Financial markets have real effects on corporate decisions (see Bond et al. (2012) for a review). When what the market considers valuable is not what maximizes firm intrinsic value, management might take value-destroying decisions to fulfill market expectations (e.g., Bancel and Garel 2015; Garel 2016). In particular, market overreactions to earnings announcements and temporary mispricing affect corporate decisions (e.g., Jensen 2005; Baker et al. 2002; Baker et al. 2009; Fuller and Jensen 2010; Campello and Graham 2013; Hau and Lai 2013).

To shield corporates against market pressure for short-term performance, policymakers, in several countries, advocate promoting long-term investor ownership. For instance, in the UK, the Kay report (2012) encourages the government to take measures ensuring a sustainable and long-term commitment of shareholders. In the US, Hillary Clinton, during the presidential campaign, denounced quarterly capitalism and proposed tax and regulation to reward long-term investment. In France, on March 29, 2014, the French Parliament passed the Florange Law, which includes a provision promoting long-term investor ownership.5

Policymakers argue that greater long-term investor ownership should help managers resist market pressure. Yet, to our knowledge, there is no evidence of such a positive effect of greater long-term ownership on listed firms. In this paper, we focus on a specific group of long-term investors most likely to produce this effect and fill this gap. We show that, for a comprehensive sample of listed European companies, fundamental investor ownership reduces the degree of market mispricing and overreactions, and thus serves long-run shareholder value maximization.

Using an original dataset of 14,596,962 firm-quarter-shareholder positions in 1,086 unique French, German, and UK listed firms over the 2007-2014 period, we identify fundamental investors active on the European market. We build on the literature (e.g., Bushee 1998a; Gaspar et al. 2005; Chen et al. 2007; Elyasiani and Jia 2008; Attig et al. 2012) and define as fundamental investor an investor that, on average, holds his shares for at least two years, is an important shareholder of a firm, and has an active portfolio allocation strategy. We expect an investor sharing these characteristics to be more likely to trade on and react to fundamental information. Because this investor has a longer investment horizon, fundamentals are a more important driver of its total shareholder returns. Because this investor has bigger stakes in companies, it benefits more from monitoring managerial decisions and fundamental information gathering. Because this investor has a more active allocation strategy, fundamental value considerations are more likely to drive its investment decisions. We identify 371 fundamental investors that collectively own 11 percent of the average sample firm. Compared to non-fundamental investors, fundamental investors hold their positions on average two times longer and have positions six times larger.

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3 Net present value of the sum of a firm’s future expected cash flows.

4 This provision generalizes double voting rights assigned to shares that have been registered for over two years.

5 Our group of fundamental investors is close in spirit to the one of dedicated investors of the Bushee’s (1998) classification. Bushee uses a data-driven methodology and identifies three clusters of institutional investors along several investor characteristics. We do not use a data-driven methodology because we have ex ante a clear idea of investors, who should be defined as fundamental investors.
times larger. They are also five times more likely to belong to the top quartile of a firm’s ownership.

We first investigate whether fundamental investor ownership attenuates market reactions to earnings announcements. The market tends to overreact to earnings announcements, which encourages firms to play the “earnings game” by providing earnings guidance and then managing earnings to meet these estimates (Hess 2010). Yet, maximizing earnings is not necessarily what maximizes intrinsic value (e.g., Tarasoff and McCormack 2013). On the one hand, higher earnings might be obtained by delaying or reducing value-enhancing long-term investment in R&D, employee satisfaction, customer satisfaction, or brand value. On the other hand, trying to continuously meet unrealistic analyst forecasts might result in highly risky value-destroying bets endangering the long-term future of the company (Jensen 2005).6 Everything else being equals, when a firm’s ownership is primarily composed of investors extrapolating future cash flows from current earnings or by momentum investors basing their trades on short-term firm performance, higher positive (negative) earnings surprises should translate into higher (lower) firm stock price (e.g., Stein 1996). Empirical papers show that market reactions to a firm’s earnings surprises depend on its ownership structure (e.g., Bushee and Noe 2000).

We postulate that fundamental investor ownership reduces the importance of meeting analyst earnings expectations for management by lowering market reactions to earnings announcements. Because fundamental investors have relatively longer investment horizons and bigger stakes, they have higher means and incentives to gather fundamental information and it is relatively costlier for them to exit the firm (e.g., Chen et al. 2007). Moreover, they are more likely to follow a value strategy, which increases their informational edge regarding firm fundamentals. As a result, fundamental investors are more likely to buy or sell

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6 E.g., Enron, WorldCom, Peregrine.
7 “Speculators generally try to anticipate and profit from changes in market sentiment, or investors’ collective psychology; and as a consequence, their activities have almost nothing to do with any effort to discover the long-term fundamental value of the company they invest in” in Bolton and Samama (2013).
based on the evaluation of firms’ longer-term prospects than based on noisy short-term performance indicators. To test whether greater fundamental investor ownership mitigates market reaction to earnings announcements, we use a common methodology in corporate finance. We measure market reactions to firm earnings announcements as the absolute cumulative abnormal returns over the three days surrounding the event. We compute the average market reaction to earnings surprises for firms within the top (on average 30 percent) and bottom quintiles (on average 0 percent) in terms of fundamental investor ownership and test whether there is a statistically significant difference. Consistent with our expectation, we find that market reactions to earnings announcements are significantly lower ($p<0.05$) for firms with greater fundamental investor ownership.

We then investigate whether fundamental investor ownership attenuates market mispricing in general. It is well known that the market pricing of a firm might deviate from its intrinsic value\(^8\). Moreover, because investors cannot arbitrage away all mispricing, a firm mispricing can last long enough to impact its investment decisions (e.g., Baker et al. 2002; Shleifer and Vishny 2003; Gilchrist et al. 2005; Baker 2009). For instance, Campello and Graham (2013) show that high stock prices affect corporate policies because they relax financing constraints and Hau and Lai (2013) show that underpriced firms have considerably lower investment and employment than industry peers. We expect ownership structure to have a direct impact on the extent of market mispricing. The rationale is that fundamental investors trade on fundamental news, thus, in the presence of greater fundamental investor ownership, the market value of a firm should reflect more its intrinsic value.

To test whether firms with greater fundamental investor ownership have a market pricing relatively closer to their intrinsic value, we decompose a firm’s market pricing into two components: fundamental and non-fundamental (e.g., Pastor and Pietro 2003; Rhodes–Kropf et al. 2005; Hoberg and Phillips 2010). We measure the non-fundamental component as the residual of a regression of market-to-book on contemporaneous and past accounting data. The rationale is that once one expunges publicly available information about fundamentals, the residuals should correspond to the non-fundamental component of market values (Derrien et al. 2013). We then calculate the average non-fundamental component of market valuation for firms in the top and bottom quintile in terms of fundamental investor ownership. Consistent with our expectation, we find that greater fundamental investor ownership is associated with a significantly ($p<0.01$) higher fundamental component in market pricing.

We then focus on the global 2008 financial crisis. Times of market turmoil are interesting to study because short-term investors, in order to preserve their short-term performance, massively sell stocks, which leads to temporary large

\(8\) For instance, market prices respond to investor demand for securities, securities with the same fundamentals do not trade at the same price, and security returns are predictable in ways that are unrelated to risk (see Baker (2009)).
underpricing and subsequent strong reversals (e.g., Cella et al. 2013). Based on the same rationale as for mispricing in general, we expect stock price drops and reversals to be relatively lower for firms with greater fundamental investor ownership in crisis periods. We compute, for each firm, the fundamental ownership before the crisis, the price drops during the crisis (October 2007 and March 2009) and the price reversals in the post-crisis period (April 2009 to January 2010). We then split firms into two groups with respect to their pre-crisis level of fundamental investor ownership and test whether there are significant differences in price drops and reversals. Our results support that greater fundamental investor ownership alleviates mispricing also in times of market turmoil.

Taken together, previous results indicate that fundamental investor ownership relieves market pressures on management. Because firm value is priced closer to its fundamental value and market reactions to short-term performance are smoothed, management should be better able to invest in long-term value drivers. To investigate more directly whether greater fundamental investor generates shareholder value over time, we use a portfolio analysis. We show that a long/short portfolio based on fundamental investor ownership earns a significantly positive monthly return of 0.79 percent on average.

Overall, our findings are consistent with fundamental investors protecting management from market shortsightedness and thereby contributing to value creation. They suggest that a firm’s management willing to concentrate on long-term value creation has interest in managing the firm’s shareholder base and, in particular, in attracting fundamental investors. The paper’s results complement the ones of Garel and Rérolle (2016), who focus on the effect of fundamental investors on French listed companies. While the identification strategy of fundamental investors has been adapted to the specificities of a European sample, it remains very similar to the one used in Garel and Rérolle (2016). Along the paper, we discuss our results in light of the previous findings documented for the French market. Overall, our findings confirm for the European market the results of Garel and Rérolle (2016) for the French market.

Our paper marginally contributes to the literature on the impact of long-term ownership on corporate policies. While previous studies focus on long-term investors’ monitoring effect (e.g., Chen et al. 2007; Gaspar et al. 2005; Harford et al. 2014) and catering effect (e.g., Polk and Sapienza 2009; Derrien et al. 2013), we focus on their mitigating effect on market reactions and mispricing. Furthermore, we use an original dataset that is not limited to institutional investors. More generally, our work complements previous studies on the effect of investor clientele (e.g., Bushee 1998b; Bushee and Noe 2000; Garel and Petit-Romec 2017, 2016). While the disproportionate presence of transient institutions intensifies pressure for short-term performance, the presence of fundamental investors mitigates it. Our paper also marginally contributes to the corporate short-termism literature. Our findings suggest protecting management from market shortsightedness by changing firms’ shareholder base composition, as advocated by several academics and practitioners (Barton 2011; Bushee 2004; Beyer et al. 2014). Firms should dedicate resources to identify and attract long-term investors, especially fundamental investors. Appropriate ways to do so have been discussed in the literature (e.g., Serafeim 2015; Knauer and Serafeim 2014; Bolton and Samama 2013; Fox and Lorsch 2012; Bushee 2004).

The rest of the paper is organized as follows. Section 1 introduces the data sample and the fundamental investor identification. Section 2 presents the empirical analysis and discusses the results. Section 3 concludes.

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8 A proof of the underpricing is the strong subsequent reversal in the post-crisis period.
9 Managers see the composition of their shareholder base as an important determinant of their ability to resist short-term market pressures and to maximize firm intrinsic value (Beyer et al. 2014).
1. Sample and data

1.1 Sample

Our dataset comprises comprehensive data on the ownership of French, German, and UK listed companies over the period 2007–2014, representing 1,086 unique firms. There are 342 unique French firms, 337 unique UK firms, and 407 unique German firms. Throughout the paper, when we refer to European stocks, we mean French, German, and UK stocks.

For all the French firms belonging to the CAC ALL TRADABLE index, all the UK companies belonging to the FTSE 100 or FTSE 250, and all the German firms belonging to the CDAX, we collect quarterly shareholding information from the Capital IQ database. We obtain a database containing 14,596,962 firm-quarter-shareholder positions. The average percentage of firm total shares outstanding captured in the shareholding database is 61 percent.

The collected firm-quarter-shareholder positions come from 49,049 unique investors, investing at least once in one of the sample firms from 2007–2014. We reconstruct the portfolio of French, UK, and German listed companies for each investor and at each quarter based on the firm-quarter-shareholder positions. We are also able to extract the nationality and the type the investor from Capital IQ. The median investor holds seven listed companies in its portfolio, has a portfolio value of around EUR5.6 million, represents a very small percentage of a firm’s ownership, and has an average portfolio weight of 14 percent. 12 percent of investors are headquartered in Germany, 10 percent in France, 3.5 percent in Canada, 4.25 percent in Luxembourg, 10 percent in Spain, 4 percent in Switzerland, 12.5 percent in the UK and 23 percent in the US. Most investors are considered by Capital IQ as public fund (75 percent), 16.75 percent are considered as private funds. 63 percent of the investors are traditional investment managers, 3 percent are hedge fund managers, 1.3 percent are VC/PE firms, 1 percent are family trusts, and 1 percent are banks/investment banks. Detailed information regarding the Capital IQ classification of investors is in the appendix.

Almost 50 percent of the total portfolio value of our sample investors comes from UK firms, about 20 percent from French firms, and 30 percent from German firms. We observe a strong home bias. Funds headquartered in France mostly invest in France (62 percent) and less in the United Kingdom (14 percent) and in Germany (23 percent). Funds headquartered in the United Kingdom are mostly invested in UK firms (77 percent), they only hold for about 13 percent of German firms and 10 percent of French firms. Funds headquartered in Germany are mostly invested in German firms (65 percent), they only hold for about 18 percent of UK firms and 15 percent of French firms.

11 We are grateful to KPMG Corporate Finance for its support in data collection. We are in particular indebted to Eric Jakubowicz and Chenyang Yi for data gathering and for their valuable comments.
12 We convert values in pounds (accounting data and share prices) to euros.
13 We start our sample in 2007 because, before 2004, the data are not available through Capital IQ and between 2004 and 2006 a significant share of firms’ ownership is not captured in the database.
14 Capital IQ employs three sources to gather the shareholding information: the annual reports, the aggregated mutual funds and the 13F filed by US institutional investors.
15 We drop duplicates and negative positions.
16 We have information at the fund level, which allows us to distinguish between funds (investors) having the same sponsor but following different investment strategies.
17 We make sure that all the positions are expressed in euros.
Finally, for each sample firm, we extract from Bloomberg and Economist Intelligence daily market data (index returns, firm stock prices, market capitalization, stock returns, volumes, and risk free rates) and analyst consensus forecasts. We obtain yearly accounting data for our sample firms from Capital IQ. We winsorize all continuous variables at 1 percent level to eliminate the effects of extreme values.

1.2 Fundamental investors

In line with prior literature, we assume that investors, who are the most likely to allow management to resist market pressures are long-term investors, who are not indexers, and who own important stakes in the firm (e.g., Stein 1996; Matsumoto 2002; Gaspar et al. 2005; Chen et al. 2007). Before identifying fundamental investors, we drop from the sample investors with less than EUR1,000,000 portfolio value of European stocks or with less than four firms in the portfolio. We do so to filter out family members, insiders, corporations and individuals that are either too small or too concentrated. We obtain a group of 26,301 unique investors.

We then compute a proxy for the investment horizon of each investor. We use the stability of the positions of an investor’s portfolio (e.g., Bushee and Noe 2000; Bushee 1998a). The rationale is that a short-term investor turns his portfolio positions relatively more frequently than a long-term investor. We measure the stability of the positions as the percentage of the investor’s portfolio value invested in firms that have been continuously held for the prior two years. We measure it each quarter for each investor. To be classified as “long-term investor”, we require an investor to have an average stability of the positions over the period 2007–2014 of 75 percent or more. It means that this investor has held at least 75 percent of his shares for two years and more.

We then restrict the group of long-term investors to long-term investors owning relatively important stakes in their portfolio firms. Each quarter, we classify each firm’s investors in quartiles according to the size of their stakes. The top quartile represents the 25 percent investors having the largest ownership in the firm. Then, for each investor, at each quarter, we compute the number of firms in which he is in the top ownership quartile and average this value over 2007–2014. We restrict the group of long-term investors to long-term investors who are among the largest owners in at least five percent of their portfolio firms on average.

We next remove indexers from our group of long-term investors with relatively bigger stakes. This is because indexers are unlikely to care about firm fundamentals since they own stocks to replicate an index. To identify indexers, we follow Cremers and Petajisto (2009)’s methodology. We measure how close to the benchmark indexes’ weights (CAC all tradable, FTSE 350, CDAX) an investor’s portfolio weights are. For each quarter, each investor, and each of his portfolio stock, we compute the difference between the stock’s weight in the portfolio and the stock’s weight in each of the benchmark index. We then take the sum of the absolute differences over all the portfolio stocks divided by two. We

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18 We use investor characteristics averaged over the covered period to capture the persistent part of these characteristics.

19 Taking alternative benchmark such as 5 percent blockholder rate as in Holderness (2003) represent a too strong restriction that would drastically reduce the number of fundamental investors.
value lies between 0 and 1 with 0 meaning that the investor portfolio weights are similar to the benchmark index ones. As in (Derrien et al. 2013), we use a cut-off value of 0.25 to classify investors into indexers and non-indexers. We further screen the list of non-indexers investors and remove funds whose name contains “Tracker”, “ETF”, or “Index” to ensure that we exclude investors replicating other broad indexes. We call the remaining group of investors fundamental investors. We are able to identify 371 fundamental investors. With respect to non-fundamental investors, fundamental investors hold their positions on average five times longer and have positions 6 times larger. There are five times more likely to be in the top quartile of a firm’s ownership. They have an average portfolio value of EUR5.2 billion. They are mostly Traditional Investment Managers (please refer to the Appendix for Capital IQ definitions) and headquartered in the United States, the UK, France, and Germany. Finally, we compute, for each firm, on a yearly basis, the percentage of fundamental investor ownership (expressed as a percentage of the firm total shares outstanding).

Overall, the group of fundamental investors we capture at the European level is smaller than the one Garel and Rérolle (2016) capture at the French level. Identifying a consistent investor behavior at the European level is more difficult because of the noise added by each national stock market specificities and the bigger average number of firms in portfolio. We thus use more restrictive thresholds (greater ownership, 75 percent of the firms held for two years and more instead of 50 percent) and additional exclusion conditions (we remove potentially more quasi-indexers) in our identification strategy, which mechanically produces a smaller group.

To illustrate our point, consider the size of the ownership. Our threshold is more restrictive than in Garel and Rérolle (2016), who require the investor to be among the largest shareholders at least in one company. We use a five percent threshold because investors’ portfolio tend to include much more firms when we consider the European universe rather than only the French market. In the European universe, it becomes too likely that an investor is at least once in the top ownership of a company, thus we believe that its presence in the top ownership of at least five percent of its portfolio firms is more indicative of a desire to take higher positions in certain firms because of their fundamentals. As the rest of the study shows, the group of fundamental investors we identify is smaller but represents a higher percentage of the firms’ ownership on average, suggesting that we focus on the most important fundamental investors. Moreover, it has an effect on the European market similar to the one of fundamental investors on the French market documented by Garel and Rérolle (2016).

1.3 Descriptive statistics
Table 1 presents descriptive statistics for our sample firms over the 2007-2014 period. For each variable, we report the mean value, the standard deviation, the minimum, the maximum, the 25th percentile (P25), 50th percentile (P50), and the 75th percentile (P75). There are 6,488 firm-year observations over this period. The average sample firm has a market-to-book of 2.11, a leverage of 18 percent, a profitability of 3 percent, and capital expenditures scaled by total assets of 4 percent. The average sample firm has a fundamental investor ownership of 11, ranging from 0 percent to 53 percent. This average varies from one country to another. The average UK firm has a fundamental investor ownership of

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25 percent, the average French firm of 6 percent, and the average German firm of 3 percent. Note the average fundamental ownership for French companies is close to the 5 percent of fundamental ownership documented in Garel and Rérolle (2016). The relatively greater presence of fundamental investors in the UK firms comes from several factors. First, insider ownership is relatively less pronounced in the UK, which mechanically increases the proportion of institutional investors, who represent most of the fundamental investors we are interested in. Second, 31 percent of the fundamental investors we identify are American, 25 percent are British, and 2 percent are Canadian. These investors have economical, linguistic, and cultural biases that push them to favor UK stocks.

Table 1: Descriptive statistics

This table presents descriptive statistics of our sample variables. Our sample covers 1,046 unique European firms for the period 2007–2014. **Fundamental ownership** is the percentage of total shares outstanding owned by fundamental investors. **Market to book** is the ratio of market value of equity to book value of common equity. **Size** is the natural logarithm of total assets. **Leverage** is the ratio of total debts to total assets. **Profitability** is the ratio of earnings to total assets. As mispricing proxy, we use **Residuals of M/B. Residuals of M/B** are the residuals of regressions of market-to-book on the contemporaneous, one-year-lagged and two-year-lagged “fundamentals” such as past profitability (earnings over total assets), leverage (total debt over total assets), size (log total assets), capital expenditures, sales growth, risk (standard deviation of daily returns over the past 250 trading days), industry and year fixed effects. **Market reaction** is the absolute cumulated return in excess of a European Fama-French three-factor market model over a three-day market window surrounding an earnings announcement date. **Price drops** and **Price reversals** are cumulated monthly abnormal returns during the period October 2007 – March 2009 and April 2009 – January 2010, respectively.

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>P25</th>
<th>P50</th>
<th>P75</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fundamental ownership</td>
<td>6,488</td>
<td>0.11</td>
<td>0.14</td>
<td>0.00</td>
<td>0.01</td>
<td>0.05</td>
<td>0.19</td>
<td>0.53</td>
</tr>
<tr>
<td>Market to book</td>
<td>6,488</td>
<td>2.11</td>
<td>1.93</td>
<td>0.20</td>
<td>0.91</td>
<td>1.47</td>
<td>2.59</td>
<td>9.40</td>
</tr>
<tr>
<td>Size</td>
<td>6,489</td>
<td>6.89</td>
<td>2.27</td>
<td>2.97</td>
<td>5.23</td>
<td>6.75</td>
<td>8.24</td>
<td>12.37</td>
</tr>
<tr>
<td>Leverage</td>
<td>5,435</td>
<td>0.18</td>
<td>0.15</td>
<td>0.00</td>
<td>0.06</td>
<td>0.14</td>
<td>0.26</td>
<td>0.59</td>
</tr>
<tr>
<td>Profitability</td>
<td>6,489</td>
<td>0.03</td>
<td>0.06</td>
<td>-0.17</td>
<td>0.00</td>
<td>0.03</td>
<td>0.07</td>
<td>0.20</td>
</tr>
<tr>
<td>Capital expenditures</td>
<td>5,194</td>
<td>0.04</td>
<td>0.04</td>
<td>0.00</td>
<td>0.02</td>
<td>0.03</td>
<td>0.06</td>
<td>0.16</td>
</tr>
<tr>
<td>Sales growth</td>
<td>4,902</td>
<td>0.01</td>
<td>0.18</td>
<td>-0.41</td>
<td>-0.07</td>
<td>-0.00</td>
<td>0.07</td>
<td>0.61</td>
</tr>
<tr>
<td>Risk</td>
<td>6,278</td>
<td>2.48</td>
<td>1.41</td>
<td>0.93</td>
<td>1.55</td>
<td>2.08</td>
<td>2.92</td>
<td>7.46</td>
</tr>
<tr>
<td>Earnings Announcements</td>
<td>5,117</td>
<td>4.31</td>
<td>3.96</td>
<td>0.00</td>
<td>1.34</td>
<td>3.19</td>
<td>5.95</td>
<td>19.49</td>
</tr>
<tr>
<td>Market reaction (%)</td>
<td>2,414</td>
<td>0.00</td>
<td>0.56</td>
<td>-1.40</td>
<td>-0.32</td>
<td>-0.11</td>
<td>0.18</td>
<td>4.53</td>
</tr>
</tbody>
</table>

| Financial Crisis           |     |      |      |      |      |      |      |      |
| Price drops (%)            | 645  | -16.51 | 69.21 | -212.23 | -56.45 | -14.62 | 22.26 | 193.17 |
| Price reversals (%)        | 645  | 21.85 | 59.32 | -150.62 | -7.86 | 16.35 | 46.32 | 287.91 |

Note that 7 percent are German and 13 percent are French.
2. Empirical analysis and results

2.1. Fundamental investor ownership and market reaction to earnings announcement

In this section, we investigate the impact of fundamental investors on market reactions to earnings announcement. We postulate that fundamental investor ownership limits market reaction to earnings announcement. Because fundamental investors have relatively longer investment horizon and bigger stake, they have higher means and incentives to gather fundamental information and it is relatively costlier for them to exit the firm (e.g., Chen et al. 2007). Moreover, they are more likely to follow value strategy based on the assessment of the fundamental value of a firm. As a result, they are more likely to buy or sell based on the evaluation of firms’ longer-term prospects than based on noisy short-term performance indicators.

To test whether greater fundamental investor ownership mitigates market reaction to earnings announcement, we proceed as follows. We consider all yearly earnings announcement dates from January 2007 to December 2014. We measure market reaction to firm earnings announcements as the absolute cumulative abnormal returns over the three days surrounding the event. Abnormal returns are returns in excess of benchmark returns predicted by a European Fama-French 3-factor market model. The market model is estimated using up to 255 trading days, ending 46 days before the event date. We compute the average cumulated abnormal returns to earnings announcements for firms with in the top (on average 30 percent) and bottom quintile (0 percent) in terms of fundamental investor ownership and test whether there is a statistically significant difference in the market reaction to earnings announcements. There are 5,117 firm announcement events over the period 2007–2014 for which we have sufficient market data to calculate benchmark returns. 891 announcements concern firms in the bottom quintile in terms of fundamental investor ownership and 890 announcements concern firms in the top quintile in terms of fundamental investor ownership. As reported in Table 2, consistent with our prediction, we find that market reaction to earnings announcements is significantly lower (p<0.05) for firms with greater fundamental investor ownership. In firms in the top quintile in terms of fundamental investor ownership, the market reaction is lower by 0.35 percent on average, which corresponds to a reduction of about (0.35/4.28) or 8.3 percent with respect to market reactions for firms in the bottom quintile in terms of fundamental investor ownership. This result is in line with the one documented by Garel and Rérolle (2016) for the French market.

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21 We use European Fama-French factors available on Kenneth French’s website. The Fama-French 3-factor market model expands on the CAPM by adding size and value factors to the market risk factor. It considers the fact that value and small-cap stocks outperform markets on a regular basis.
2.2. Fundamental investor ownership and market mispricing

In this section, we investigate whether fundamental investor ownership attenuates market mispricing in general and mispricing in times of market turmoil in particular. It is well known that the market pricing of a firm might deviate from its intrinsic value. Moreover, because investors cannot arbitrage away all mispricing, a firm mispricing can last long enough to impact its investment decisions (see Baker (2009) for a review). We expect ownership structure to have a direct impact on the extent of market mispricing. The rationale is that fundamental investors trade on fundamental news. Therefore, in presence of greater fundamental investor ownership, the market value of a firm should reflect more its intrinsic value. A greater presence of fundamental investors should thus be associated with a higher fundamental component in a firm’s market valuation and a lower degree of mispricing.

We first investigate the effect of fundamental ownership on mispricing for the whole 2007–2014 period. To do so, we follow the mispricing literature (e.g., Pástor and Pietro 2003; Rhodes–Kropf et al. 2005; Hoberg and Phillips 2010; Campello and Graham 2013). We decompose a firm’s market value into two components: a fundamental and a non-fundamental component. We measure the non-fundamental component as the residual of a regression of market value scaled by book value on the contemporaneous, one-year-lagged and two-year-lagged firm “fundamentals”: profitability (earnings over total assets), leverage (total debt on total assets), size (log total assets), capital expenditures over total assets, sales growth, risk (standard deviation of daily returns over the past 250 trading days), industry and year dummies. The rationale is that once one expunges publicly available information about fundamentals, the residuals should correspond to the non-fundamental component of market values (e.g., Derrien et al. 2013). We then calculate

<table>
<thead>
<tr>
<th>Absolute value of cumulated abnormal returns (%)</th>
<th>Bottom quintile fundamental investor ownership</th>
<th>Top quintile fundamental investor ownership</th>
<th>Difference &gt;0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obs.</td>
<td>891</td>
<td>890</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>4.282</td>
<td>3.926</td>
<td>0.356**</td>
</tr>
<tr>
<td>Std. Error</td>
<td>0.128</td>
<td>0.116</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Fundamental investor ownership and market reaction to earnings announcements

This table presents the results of a Student’s t-test of the difference in market reaction to earnings announcements between firms in the top and bottom quintiles in terms of fundamental investor ownership. Market reaction is the absolute cumulated return in excess of a Fama-French three-factor market model over a three-day market window surrounding the earnings announcement date. ***, **, and, * indicate significance at the 1 percent, 5 percent and 10 percent level, respectively.
the average non-fundamental component of market valuation for firms in the top and bottom quintile in terms of fundamental investor ownership. Table 3 reports the results of a Student’s t-test of the average difference of non-fundamental components between both groups of firms. Consistent with our expectation, we find that greater fundamental investor ownership is associated with a significantly (p<0.01) lower non-fundamental component in market pricing. It indicates that firms with greater fundamental investor ownership tend to be priced closer to their fundamental value. This result is consistent with the one documented by Garel and Rérolle (2016) for the French market. In both studies, the empirical analysis suggest that fundamental investor ownership positively contributes to a fundamental pricing of the firm.

We then focus on the 2008 global financial crisis. Times of market turmoil are interesting to study because short-term investors, in order to preserve their short-term performance, massively sell stocks, which leads to larger price drops and subsequent reversals (see Cella et al. (2013)). Based on the same rationale as for mispricing in general, we expect stock price drops and reversals to be relatively lower for firms with greater fundamental investor ownership in crisis periods. We compute firms’ pre-crisis fundamental ownership (as of quarter two of year 2007) and measure price drops during the crisis (October 2007 and March 2009) and reversals in the post-crisis period (April 2009 to January 2010). Price drops and reversals are cumulated monthly returns in excess of benchmark returns predicted by a Fama-French 3-factor market model. We do so to make sure that price drops and reversals cannot be explained by traditional return factors as opposed to variations in fundamental investor ownership. We then split firms into two groups with respect to their pre-crisis level of fundamental investor ownership and test whether there are significant differences in price drops and reversals.

Table 4 reports the results. Price drops during the crisis are significantly higher and reversals follow by reversal toward the previous mean value, which indicates that there were not motivated by fundamental news.

Table 3: Fundamental investors and market pricing of fundamentals

This table presents the results of a Student’s t-test of the difference in market mispricing between top and bottom quintiles firms in terms of fundamental investor ownership. We use, as mispricing proxy, the residual of a regression of market-to-book on the contemporaneous, one-year-lagged, and two-year-lagged firm “fundamentals” such as past profitability (earnings over total assets), leverage (total debt on total assets), size (log total assets), capital expenditures, sales growth, risk (standard deviation of daily returns over the past 250 trading days) industry and year fixed effects. We call this residual the non-fundamental component of market pricing. ***, **, and * indicate significance at the 1 percent, 5 percent and 10 percent level, respectively.

<table>
<thead>
<tr>
<th>Non-fundamental component of market pricing</th>
<th>Bottom quintile fundamental investor ownership</th>
<th>Top quintile fundamental investor ownership</th>
<th>Difference &gt;0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obs.</td>
<td>483</td>
<td>480</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>0.427</td>
<td>0.324</td>
<td>0.104***</td>
</tr>
<tr>
<td>Std. Error</td>
<td>0.023</td>
<td>0.014</td>
<td></td>
</tr>
</tbody>
</table>
(p<0.08) for firms in the bottom quintile in terms of fundamental investor ownership with respect to firms in the top quintile. They experience a stronger stock price drop about 8 percent on average (-20.3 percent compared to -12.6 percent). Reversals are also higher, although not significant at standard levels (p<0.22), for firms in the bottom quintile in terms of fundamental investor ownership with respect to firms in the top quintile. They experience a 15 percent stronger stock price reversal on average. Our results support greater fundamental investor ownership alleviating significantly stock price mispricing also in times of market turmoil. The statistical significance of the results is however less strong than in Garel and Rérolle (2016). This might come from the fact that, to conduct this test, we have to consider that the financial crisis has a homogenous effect on the different national stock markets composing our sample. However, the financial crisis could hit each stock market at a different time and the magnitude of its impact could depend on national specific factors such as policy measures national government may put in place as a response to the crisis or the extent of the financial and economic interdependencies with the country from where the crisis originates.

Table 4: Fundamental investors and market shocks

This table presents the results of Student’s t-tests of the difference in price drops and subsequent reversal during the financial crisis 2008–2009 between firms below and above median fundamental investor ownership prior the crisis. Stock price drops and reversals are cumulated monthly returns in excess of returns predicted by a Fama French three-factor model during the period October 2007 – March 2009 and April 2009 – January 2010, respectively. ***, **, and * indicate significance at the 1 percent, 5 percent and 10 percent level, respectively.

<table>
<thead>
<tr>
<th></th>
<th>Bottom quintile fundamental investor ownership</th>
<th>Top quintile fundamental investor ownership</th>
<th>Difference &lt;0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stock price drops (%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obs.</td>
<td>323</td>
<td>322</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>-20.3</td>
<td>-12.6</td>
<td>-7.7*</td>
</tr>
<tr>
<td>Std. Error</td>
<td>4.18</td>
<td>3.48</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Bottom quintile fundamental investor ownership</th>
<th>Top quintile fundamental investor ownership</th>
<th>Difference &gt;0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stock price reversals (%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obs.</td>
<td>323</td>
<td>322</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>23.6</td>
<td>20.1</td>
<td>3.5</td>
</tr>
<tr>
<td>Std. Error</td>
<td>3.56</td>
<td>3.01</td>
<td></td>
</tr>
</tbody>
</table>
2.3 Value implication

So far, our results indicate that fundamental investor ownership attenuates market overreactions and mispricing. Because firm value is priced closer to its fundamental value and market reactions to short-term performance are smoothed, we argue that management should be better able to invest in long-term value drivers. To investigate whether greater fundamental investor generates shareholder value, we use a portfolio analysis. Each quarter, we sort firms into quintiles based on fundamental investor ownership. On January 2007, we construct an equally-weighted portfolio long on firms in the top quintile and short on firms in the low quintile. We rebalance quarterly the portfolio until the last quarter of 2014. Each month, over January 2007 to December 2014, we compute mean raw returns of the portfolio. We then run a monthly time-series regression of portfolio returns in excess of risk free rate on the European Fama-French three factors. Standard errors are calculated using Newey and West (1987), which allows for heteroskedasticity and serial correlation (rank 1). Table 5 presents the results. The alpha represents the excess return compared to passive investment in a portfolio of the factors. The long/short portfolio generates an excess return of 79 basis points per month, meaning that firms with more fundamental investors outperform firms with less fundamental investors by roughly 9 percent per year on average over the 2007–2014 period. Our results are consistent with fundamental investor ownership making management better able to maximize firm intrinsic value.

Table 5: Portfolio analysis

Regressions of monthly returns of an equally-weighted long/short portfolio on fundamental investor ownership on a Fama-French three-factor market model: MKT, HML, and SMB. The dependent variable is the portfolio return less the risk-free rate. The $\alpha$ is the risk-adjusted excess return. The sample period is January 2007–December 2014 (84 months). Standard errors are calculated using Newey-West (1987), which allows for heteroskedasticity and serial correlation (rank 1). $***$, **, and * indicate significance at the 1 percent, 5 percent and 10 percent level, respectively.

<table>
<thead>
<tr>
<th>Portfolio returns</th>
<th>$\alpha$</th>
<th>0.0079**</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\beta_{MKT}$</td>
<td>0.045</td>
<td></td>
</tr>
<tr>
<td>$\beta_{SMB}$</td>
<td>-0.511***</td>
<td></td>
</tr>
<tr>
<td>$\beta_{HML}$</td>
<td>-0.082**</td>
<td></td>
</tr>
</tbody>
</table>

Note that the outperformance of European firms with greater fundamental investor ownership (on average more than 30 percent) we document is twice the one documented in Garel and Rérolle (2016) for French listed firms. A likely explanation for this discrepancy is that we are using a European three-factor Fama-French model to compute our benchmark returns against which we assess excess stock performance. As a result, our findings are sensitive to the accuracy of this model to predict stock returns for French, British, and German companies. By contrast, Garel and Rérolle (2016) use a Fama-French five-factor model in their study, based on historical French market data, and including a liquidity and a momentum factor. One could therefore also interpret the additional outperformance (about 4 percent yearly) we document as a lower ability of the Fama-French three-factor model to capture risk factors that explain return differences between firms in the top and bottom quintile in terms of fundamental investor ownership. While there might be some doubts, regarding the magnitude of the outperformance, at the end of the day both studies consistently indicate that, over time, firms with greater fundamental investor ownership generates more shareholder value.

23 We find similar results when we also adjust the returns form the national stock markets’ mean returns.
Conclusion

In this paper, using an original database of investors operating on the French, German and UK stock markets, we show that firms with greater fundamental investor ownership experience lower market reactions to earnings announcements and lower mispricing. Moreover, we show that a long/short portfolio on fundamental ownership earns a significant positive return over time. Our findings are consistent with greater fundamental ownership generating shareholder value by allowing management to focus on the long-term drivers of firm intrinsic value rather than on market sentiment. This suggests that a firm’s management willing to concentrate on long-term value creation has interest in managing the firm’s shareholder base and, in particular, in attracting fundamental investors.

This paper shows that most of the beneficial effects of fundamental investors documented for French listed companies hold when we consider European listed companies. It reinforces the weight of the evidence provided in Garel and Rérolle (2016). The main takeaway is that fundamental investor ownership attenuates the degree of market mispricing and overreactions, which, in turn, protects management from market short-termist pressures and contributes to a higher shareholder value creation over time. The findings of both studies suggest that firms should dedicate resources to identify and attract long-term investor and especially fundamental investors.
References


Garel, A. 2016. Does Market Myopia Encourage Managerial Myopia?


Appendix: CAPITAL IQ Shareholders’ Detailed Information

Shareholders’ Types:
The following are the Institution Types and their definitions. In three cases (Hedge Fund Managers, VC/PE Firms, and Sovereign Wealth Funds) we employ a threshold of 5 percent to designate that holder a strategic owner for that specific stock. It will not be counted as an “Institution”, and instead will show up in its corresponding Strategic Owner Type.

Traditional Investment Manager: Traditional Investment Managers are firms managing “traditional” portfolios of stocks and bonds on behalf of either their individual investors or large “asset owners” such as pension funds, foundations, or endowments. These firms manage assets either through mutual funds or through separately managed investment accounts or a combination of both category excludes Hedge Fund managers, Private Equity/Venture Capital managers, and other “non-traditional” portfolios managers, such as commodities, currencies etc.

Banks/Investment Banks: When a Bank/Investment Bank makes non-strategic investments in its own capacity and has no legal Investment Firm subsidiary, S&P Capital IQ creates an ‘Asset Management Arm’ record as an Investment Firm to its investment criteria and investment activities.

Government Pension Plan Sponsor: A Government Pension Plan Sponsor is an investment manager that designs, negotiates, and normally helps to administer an occupational pension plan to pay the pension benefits to its retired/existing workers/general public. This includes firms managing their investments for the said objective, regulated under public sector law, with a structure as above wherein the parent is a Government Institution or has the sponsorship of a government institution.

Hedge Fund Manager: A hedge fund manager is an entity that manages hedge fund(s). The investment manager, which will have organized the establishment of the hedge fund, raises funds from qualified investors (high net worth individuals/entities) with a common financial goal. Hedge funds invest in various securities such as stocks, bonds, commodities, currencies, and derivatives. Hedge funds (as compared to mutual funds) have more flexibility to incorporate different strategies and techniques that may include: short selling, arbitrage, hedging, and leverage.

Family Office/Family Trust: Family Offices are wealth management firms that serve ultra-high net worth investors. They provide personal services and access to alternative investments. In addition to wealth management services, they also assist in tax planning, estate planning, charitable giving, foundation, and budget issues.

Insurance Company: When an Insurance Company makes non-strategic investments in its own capacity and has no legal Investment Firm subsidiary, S&P Capital IQ creates an ‘Asset Management Arm’ record as an Investment Firm to capture its investment criteria and investment activities.
**Corporate Pension Plan Sponsor:** A Corporate Pension Plan Sponsor is an investment manager that designs, negotiates, and normally helps to administer an occupational pension plan to pay the pension benefits to its retired/existing workers/management. These firms include ESOPs, Employee benefit Trusts, 401 K plans, Profit Sharing Plans, Retirement plans, etc.

**Sovereign Wealth Fund:** A government investment vehicle that manages investment funds and assets separately from the official reserves of the monetary authorities. Sovereign funds can be divided in Stabilization Funds, Savings Funds and Reserve Investment Corporations. Because savings funds have longer investment horizons than pure stabilization funds, they invest in a broader range of assets, including bonds and equities, as well as other forms of alternative investments, such as real estate, private equity, hedge funds, and commodities. Finally, Reserve Investment Corporations are funds established to reduce the opportunity cost of holding excess foreign reserves or to pursue investment policies with higher returns. Reserve Investment Corporations adopt more aggressive investment strategies, including taking direct equity stakes. These funds typically seek higher returns than other SWFs and use leverage (i.e., debt) in their investments. Historically, these vehicles tend to be more secretive than other SWFs that are primarily portfolio investors.

**Charitable Foundation:** Foundation Fund Sponsors are institutions that manage investments for charitable institutions or grant/humanitarian organizations. This also includes legal firms managed by a charitable institution to fund the charitable and humanitarian activities of a company. The institutions set up foundation funds in which regular withdrawals from the invested capital are used for ongoing operations or other specified purposes. Foundation funds are funded by donations.

**Union Pension Plan Sponsor:** A Union Pension Plan Sponsor is an investment manager that designs, negotiates, and normally helps to administer an occupational pension plan to pay the pension benefits to its members. This includes firms managing their investments with a structure as above wherein the parent is a Labor Union or Trade Association.

**Educational/Cultural Endowment:** Endowment Fund Sponsors are institutions that manage investments for foundations such as Universities, Educational Institutions, Religious Institutions, Art Institutions, etc. The institutions set up endowment funds, are used to fund ongoing operations or other specified purposes. Endowment funds are funded by donations.

**Private Equity/Venture Capital Firm:** A Venture Capital firm invests new money for growth investments in companies ranging from Incubation to Growth Capital stages. A Private Equity firm acquires or purchases companies through a variety of investment strategies including leveraged buyouts, recapitalization, industry consolidation, mezzanine/sub debt, turnaround, PIPES etc.

**REITs:** This category is for Equity REITs, as S&P Capital IQ is only going to have holdings for these firms. Equity REITs are operating companies that engage in a wide range of real estate activities, including leasing, development of real property, and tenant services. One major distinction between REITs and other real estate companies is that a REIT must acquire and develop its properties primarily to operate them as part of its own portfolio rather than to resell them once they are developed.
Unclassified: Unclassified firms are firms where no information exists to properly select one of the above types.

Corporations (Public): Public Company ownership in the target company. This specifically excludes Public Investment Firms, and is reserved for strategic positions.

Corporations (Private): Private Company ownership in the target company. This specifically excludes Private Investment Firms, and is reserved for strategic private companies’ ownership. Information is scarce on whether an entity is a private firm or private company. We tend to assume company so that the position is float affecting, unless other information counters that assumption.

Individuals/Insiders: Includes Officer and Director Ownership as well as non-Officer/Director ‘people’ (which may include former directors or wealthy private individuals who do not have an investment vehicle).

Company Controlled Foundation: This entity is normally designated as a “Foundation/Endowment (Internally Managed)” Institution type. In cases where this entity holds the target stock, and the target stock is also the parent of the foundation, the holder changes to this type. In other words, a foundation’s holdings are not strategic, except for the case where it holds its parent company’s stock.

ESOP: This entity is normally designated as a “Pension Fund (Internally Managed)” Institution type. In cases where this entity holds the target stock, and the target stock is also the parent of this entity, the holder changes to this type. Almost all ESOPs hold one stock, and it will be the parent of the ESOP firm — so this definition is just for clarity.

State Owned Shares: Shares owned by a Government Institution directly. This does not include Government Pension plans, or general Sovereign Wealth Fund ownership.

VC/PE Firms (>5 percent Stake): The same logic is used for VC/PE Firms as for Hedge Fund Managers.
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