Hedge Fund Regulation and Misreported Returns

Abstract

An empirical regularity in the hedge fund industry is that monthly returns are more likely to be marginally positive than zero or marginally negative, and fund managers have an incentive to misreport monthly returns in this way in order to attract investors. This paper introduces a cross-country law and finance analysis of such misreporting of returns in the hedge fund industry. I find strong evidence that differences in hedge fund regulation significantly affects the propensity of fund managers to misreport monthly returns. Returns are less likely to be misreported among jurisdictions that permit distributions via investment managers, which reflects active external monitoring of reported returns. By contrast, monthly returns are more likely to be misreported among jurisdictions which permit distribution channels via wrappers, banks and private placements, as well as among jurisdictions which have higher minimum capitalization requirements, and jurisdictions that restrict the location of key service providers. Further, the data indicate fund managers that operate more than one fund are more likely to misreport returns. The findings are robust to selection effects and various other robustness checks.

1. Introduction

The hedge fund industry has grown significantly in recent years. As at 2005 there were more than 8000 funds worldwide, and these funds collectively manage more than $1 trillion in capital. Hedge funds have enjoyed comparatively scant regulation due to the fact that their investors are large institutional investors. However, growing concern over their size and ability to influence markets has given rise to increasing concern that they should be more heavily regulated.[1]

Hedge funds compete with each other to attract capital from institutional investors. Unlike mutual funds or pension funds, hedge funds are not required to report information publicly. Typically, funds report to a data vendor in order to attract new investors, maintain current investors and raise capital (Fung and Hsieh, 1997, 2000, 2001, 2004; Fung et al., 2007). Fund managers have an incentive to report positive returns each month to attract investors. Recent evidence has shown that fund managers report monthly returns that are much more likely to be marginally positive monthly than zero or marginally negative, and this evidence is best explained by the incentive to attract investors (Bollen and Pool, 2006, 2007).

In this paper I address the issue of whether hedge fund regulation mitigates or exacerbates the tendency of fund managers to misreport returns. While there have not been significant changes in regulation within a particular country to enable natural experiments on a

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[1] http://www.sec.gov/news/speech/spch111704hjg.htm. For industry perspectives on hedge fund regulation, see, e.g., http://www.hedgeco.net/hedge-fund-regulations.htm and http://www.hedgefundregulation.com/

country-by-country basis, there are nevertheless significant differences in hedge fund regulation across countries. By examining cross-country evidence on misreported returns, I can infer by holding other factors constant the impact of international differences on hedge fund regulation on the propensity to misreport returns.

The most salient differences in hedge fund regulation across countries are summarized by PriceWaterhouseCoopers (2006). There are marked international differences in permissible distribution channels, including distributions via private placements, wrappers, investment managers, fund distribution companies, banks, and other regulated and non regulated institutional investors. One would expect different distribution channels to influence the propensity of a hedge fund manager to misreport returns where there are differences in the degree of monitoring of fund manager activities by the distributors. Some jurisdictions impose restrictions on the location of a fund's key service providers. These restrictions may influence the propensity to misreport where there are differences in governance provided by service providers. Other jurisdictions impose minimum capitalization requirements. Minimum capitalization requirements may influence the propensity of a fund manager to misreport in order to attract new investors and thereby maintain minimum requisite capital inflows.

I investigate these propositions with an international sample of 690 hedge funds from 16 countries from the CISDM database. I find strong evidence that returns are misreported in the sense that returns are much more likely to be marginally positive than zero or marginally negative (consistent with Bollen and Pool, 2007). I extend the literature by empirically examining when hedge fund managers are more likely to misreport. Interestingly, I document

the misreporting behavior is much more common among fund managers that simultaneously operate more than one fund. This suggests that fund managers ability to manipulate returns is facilitated by transfers across funds so that monthly returns are at least marginally positive and not zero or marginally negative.

There is a significant relation in the data between hedge fund regulation and misreporting, and the findings are robust to controls for selection effects, among other robustness checks. I find that hedge fund returns are less likely to be misreported among jurisdictions that permit distributions via investment managers, which is consistent with their active external monitoring of reported returns. By contrast, returns in jurisdictions which permit distributions via wrappers, banks and private placements are more likely to be misreported. Wrappers, by definition, are sold as tied products and appear to enable fund managers to avoid the same level of scrutiny as that provided via other distribution channels. Further, I show monthly returns are more likely to be misreported among jurisdictions which have higher minimum capitalization requirements and among those that restrict the location of key service providers. This is consistent with prior work that shows managers to engage in earnings management to exceed thresholds (Degeorge et al., 1999; for related work see also Burgstahler and Dichev, 1997). I may infer from the evidence that restrictions on location of key service providers give rise to inefficient human capital choices and less active governance of fund activities. I note that the evidence in this paper is consistent with companion evidence that the same types of hedge fund regulations influence fund performance (Cumming, 2006) and capital flows (Cumming, 2007).

More broadly, the evidence is in line with a growing literature on hedge funds returns and capital flows (Agarwal et al., 2006; Bollen and Pool, 2006, 2007; Ding et al., 2007; Germansky, 2005; Hodder and Jackwerth, 2007; Liang, 2000, 2003; Teo, 2007), as well as a growing literature on the law and finance of financial intermediaries, particularly for hedge funds (Brav et al., 2007; Brown et al., 2007; Cumming, 2006, 2007; Klein and Zur, 2006; Liang and Park, 2006; Thomas and Partnoy, 2007; Verret, 2007), and reporting quality related to accounting information (e.g., Ball and Shivakumar, 2005; Bhattacharya et al., 2003; Burgstahler and Dichev, 1997; Burgstahler et al., 2006; Healy and Palepu, 2001). I add to this literature by considering how regulations from the country in which the fund is registered influence the reporting of monthly hedge fund returns.

The first part of this paper discusses hedge fund regulation and the potential impact on misreporting returns. Section 3 introduces the data and provides summary statistics and comparison tests. Multivariate regressions are presented in section 4. Section 5 discusses the relation between misreporting and capital flows. Concluding remarks follow in section 6.

2. Hedge Fund Misreported Returns and Regulation

In this paper, I refer to 'marginally positive' monthly hedge fund returns as ones that are more likely to be 'misreported returns' (i.e., it is more likely that they would otherwise have been zero or marginally negative), as fund managers have an incentive to misreport in order to attract more capital (Bollen and Pool, 2006, 2007). 'Marginally positive returns' are referred to as 'misreported returns' herein for ease of exposition herein. But note that marginally positive

returns by themselves do not necessarily mean that the returns were in fact misreported. Rather, in practice, a series of marginally positive returns would warrant further investigation as to whether the returns were being misreported. In practice, there is a returns discontinuity in that comparatively fewer hedge fund returns are reported as being zero or marginally negative relative to the frequency of returns reported as marginally positive (Bollen and Pool, 2007; see also section 3 below).

In this section I conjecture that this type of returns discontinuity can be explained as a function of hedge fund regulation, as well as past performance, market returns, fund characteristics, country GDP and legal origin. The hypotheses are described immediately below in this section. In this section I first discuss hedge fund regulation and the potential impact on misreporting behavior. Thereafter, I consider other factors that may influence the reporting of returns.

2.1. Hedge Fund Regulation

In various countries around the world, hedge funds face different degrees of regulation. These regulations are summarized in industry reports such as that provided by PriceWaterhouseCoopers (2006). The most salient international differences in hedge fund regulation include minimum capital requirements for hedge fund managers to operate a hedge fund, distribution restrictions, and restrictions on location. Table 1 summarizes these differences for 16 countries around the world. The focus is on the regulations in place in the period 2003 to 2005, which are stable for the regulations and countries enumerated in Table 1.

[Table 1 About Here]

A typical hedge fund does not have any employees but instead delegates different functions to service providers of the hedge fund. Outsourcing a hedge fund's functions minimizes risks of collusion among hedge fund participants to perpetuate fraud, and also mitigates liability in the event the hedge fund participants are accused of improperly performing their management duties. A hedge fund's board of directors or trustee has a fiduciary duty to the investors to ensure that all parties involved in the fund can properly carry out their designated tasks.

At issue in this paper is whether the form of regulatory oversight in the countries enumerated in Table 1 provides an additional level of governance and an additional check that fraud is not perpetuated in the context of reporting returns. Hedge fund managers have a pronounced incentive and ability to misreport monthly returns as marginally positive in cases in which returns would otherwise be zero or marginally negative. It is comparatively more difficult to perpetually report monthly returns as positive when returns are otherwise significantly negative, as fraud would be more transparent or at least more difficult to hide. However, marginally negative returns are notably less attractive to investors and hedge fund managers have an incentive to attract investors manipulate monthly returns by reporting returns that are marginally positive when they would otherwise be zero or negative (Bollen and Pool, 2007). Hence, the focus is on the discontinuity in returns distributions from marginally negative to marginally positive levels.

If regulatory oversight in the form of minimum capitalization, restrictions on location and restrictions on distribution channels facilitates additional value-added governance then I would expect hedge funds in those jurisdictions to be less likely to misreport monthly returns. It is possible that minimum size restrictions eliminate lower quality funds from the market. Further, it is possible that restrictions on the location of key service providers centralizes the regulatory oversight and better enables regulators to engage in surveillance of fund activities. Restrictions on distribution channels may afford superior investor protection and enable more effective regulatory oversight.

In the alternative, I may infer that restrictions on minimum capital requirements for managers increase incentives to manage earnings to maintain capital above minimum thresholds (Degeorge et al., 1999). Restrictions on the location of key service providers limit human resource choices and lower the quality of governance provided, thereby making it easier for fund managers to manipulate reported earnings each month. Further, restrictions on hedge fund distribution channels may limit the governance provided by those involved in the distribution channels. It is likely, for instance, that there is less governance provided by wrapper distributions where funds are sold in conjunction with other products (Gerstein, 2006). By contrast, investment managers and fund distribution companies might be more likely to provide active oversight and notice when returns are regularly reported as marginally positive instead of zero or marginally negative. These propositions are the central focus of the empirical tests carried out in this paper.

I note that hedge funds may locate in jurisdictions other than the jurisdiction in which they are active or locate their assets. The common choice is for hedge funds to register in the jurisdiction in which they are based, or in an offshore jurisdiction. Offshore jurisdictions enable tax advantages that vary in scope and magnitude depending on the strategic focus of the fund. As well, the attractiveness of a hedge fund investment to investors for onshore versus offshore funds depends on the strategic focus of the fund. In this paper I assess the impact of the non-random selection process to register offshore versus onshore, in conjunction with the assessment of the relation between regulation and misreported returns. The various control variables considered in this empirical analysis are described in the next subsection.

2.2. Control Variables

Hedge fund returns may be misreported for reasons apart from fund regulation, and the multivariate analyses considers a variety of control variables to account for as many factors as possible. These control variables fall into the following categories: past fund performance, market returns, fund characteristics, and country specific GDP per capita and legal origin.

Past fund performance is a relevant control variable to assess fund returns because prior evidence has shown returns tend to be positively serially correlated (Getmansky, et al., 2004; Baquero et al., 2005). Hence, marginally positive returns are more likely when past performance has been positive. Similarly, marginally positive returns are more likely when contemporaneous market returns have been higher. As well, I might expect fund managers to behave differently under different market conditions. High market returns exacerbate the negative appearance of a

negative fund return to a fund's potential investors, and thereby increase the incentive to misreport marginally negative returns as being marginally positive.

Fund managers may simultaneously operate more than one hedge fund. Multiple funds allow fund managers to shift assets between funds to distort returns. Therefore, multiple funds better enable fund managers to misreport monthly fund returns and create marginally positive return where they would otherwise be zero or negative.

There are a variety of other fund-specific factors that may influence misreporting behavior. For instance, funds with yearly redemptions are less liquid and investors are not free to withdrawal funds where returns are negative on a month-to-month basis. This illiquidity may curb misreporting behavior. Fund managers that receive compensation in the form of higher performance fees may misreport more frequently. As well, because misreporting has the potential to attract more capital, fund managers that receive higher management fees (as a percentage of fund size) have a greater incentive to misreport returns. By contrast, larger funds and older funds with an established reputation might have less incentive to manipulate monthly returns as the reputation costs associated with being discovered as manipulating returns are larger.

Funds with larger minimum investment amounts may have a greater incentive to misreport returns to attract greater capital inflows. As well, it is possible that offshore funds will have a greater tendency to misreport if surveillance is less stringent. Similarly, funds in civil law countries may be more inclined to misreport as regulatory oversight is generally weaker (La

Porta et al., 1997, 1998, 2006). As in other law and finance studies, I control for GDP per capita to separate country legal effects from differences in economic conditions. Also, in the empirical analyses I control for fund strategies, location of assets, as well as calendar months with the use of 31 different dummy variables.

3. Data

3.1. Data Source

In the empirical analysis, I use the Center for International Securities and Derivatives Markets (CISDM) data. CISDM has 21 different styles of hedge fund types. Of these styles the five most common are: Equity Long/Short (38%), Emerging Markets (9%), Sector (8%), Global Macro (6%), and Equity Market Neutral (6%). Other useful information contained in the data is the inception date of the fund, the report date, management incentive fees, lockup period, as well as other information regarding terms and fee structure, investment strategy, and leverage.

I focus on fund flows in the sample period from January 2003 to December 2005. There are 690 hedge funds with monthly returns, assets under management and other fund-specific information over this sample period. The focus on the narrow window enables us to observe fund flows for the same number of funds over this period. If I were to maintain a uniform set of funds over a longer period I would have more data points per fund but fewer funds, and would not gain in terms of extra data points. An additional advantage is that the hedge fund legislation in different countries considered was stable over this period, and hence there is no concern that

legislative changes were endogenous to fund flows (although there are important selection effects associated with choice of jurisdiction, and I explicitly deal with these selection effects below). The funds in the sample are registered in the 16 countries listed in Table 1.

3.2. Misreported Hedge Fund Returns

Bollen and Pool (2007) show with the CISDM dataset over 1994-2005 that in the pooled distribution of monthly returns there appears a significant discontinuity around zero: marginally positive returns are much more frequently reported than zero and marginally negative ones. Bollen and Pool define marginally positive and marginally negative by minimizing the mean square error (MSE) using Silverman (1986) approach, and conclude the appropriate bin width is -0.0058 to +0.0058. In this paper, I use this bin width as the starting point to focus the issue of what explains misreporting behavior.

I use the same CISDM dataset and focus on the years 2003-2005 (the years for which there are a majority of funds in the CISDM dataset). I find extremely similar evidence of returns discontinuity in the histogram of returns around as reported in Bollen and Pool (2007). I summarize this finding in Figure 1. The bin width -0.0058 to +0.0058 in Bollen and Pool (2007) is consistent with the returns discontinuity in the data.

[Figure 1 About Here]

Figure 1 shows a marked drop in probability of observing returns slightly below zero relative to returns slight above zero with the sample of 24,786 return observations. The objective in this paper is in explaining this monthly returns discontinuity around the levels -0.0058 to +0.0058. In the empirical analysis I assess robustness to alternative bin widths, and explicitly show the results for bin widths of -0.0048 to +0.0048 and -0.0068 to +0.0068. For each of these alternative bin widths, I define dummy variables equal to one for the (marginally) positive returns, and dummy variables equal to zero for returns that are zero or (marginally) negative.

3.2. Summary Statistics

Table 2 provides summary statistics for the variables in the paper for the subsample of return observations that fall within -0.0058 to +0.0058. The average of the marginally positive returns dummy is 0.637, which means on the selected range (-0.0058, 0.0058) there were 63.7% return observations reported as marginally positive. On average, the monthly fund return with one month lag is 0.6%, as is the average monthly return of the concurrent S&P 500. Minimum capitalization ranges from $0 to $6.75 million, with a median of $25,000. Among the funds in the sample, 51.5% are domiciled in a jurisdiction that restricts the location of key service providers, while 51.5% are associated with a distribution channel via investment managers, 3.41% via fund distribution companies, 50.9% through banks, and 3.27% via the way of wrappers. It is notable that 73.5% of the observed returns are of funds that are operated by managers that simultaneously manage more than one fund. Only 6.8% of the observations are from funds that have annual capital redemptions. The median of management fee is 1%, while the median of carried-interest incentive fee is 20%. The assets under management of the funds range from

$93,000 to $15.8 billion, with an average of $252.3 million. Slightly less than half (47.8%) are offshore funds and the median age of funds is 79 months. These summary statistics are consistent with that reported in other hedge fund datasets.

[Table 2 About Here]

Table 3 reports the results for comparison tests for means (proportions for the dummy variables) and medians for the observations where returns are reported as marginally positive versus observations that were reported as zero or marginally negative. The comparison tests indicate that marginally positive returns are more likely to be reported by funds registered in jurisdictions with higher minimum capitalization requirements and marketing channels via banks, but less likely in jurisdictions with marketing channels via private placements. Marginally positive returns are more likely in months when S&P returns are higher, and by funds with higher management and performance fees as well as by funds that put in place higher minimum investment amounts. Marginally positive returns are more likely for funds that primarily locate their assets globally and less likely for funds that primarily locate their assets in North America. Marginally positive returns are more likely for funds that primarily pursue a merger/risk arbitrage strategy, multi-strategy, fixed income arbitrage or capital structure arbitrage strategy, and less likely among funds that primarily pursue a market neutral, technology sector or short bias strategy. Marginally positive returns are more likely for funds registered in French legal origin countries. Finally marginally positive returns are more likely in February, November and December, but less likely in April, May and July.

[Table 3 About Here]

Table 4 reports the correlation coefficients for the variables used in the multivariate tests in the next section. Consistent with the comparison tests in Table 3, the marginally positive return dummy variable shows a positive correlation of at least 0.03 with the S&P 500 return, minimum capitalization requirement, bank distributions, fund managers with multiple funds, higher management fees and minimum investment amounts, and funds registered in French legal origin countries. Table 4 indicates some of the explanatory variables of interest are significantly correlated, including the restrictions on location of key service providers and some of the distribution channels. In the next section I report the regression results with alternative sets of explanatory variables and assess robustness by excluding variables that are significantly correlated. The findings are robust to inclusion/exclusion of different right-hand-side variables. Details are discussed below.

[Table 4 About Here]

4. Regression Analyses

In this section I report logit estimates of the probability that returns are reported as marginally positive, as opposed to zero or negative. The dependent variable in Table 5 Panel A is a dummy variable equal to one for positive returns between 0 and 0.0058, and zero for returns from -0.0058 and up to and equal to 0. The 0.0058 level is selected as the benchmark based on the summary statistics showing return discontinuity at that level, and based on the prior work of

Bollen and Pool (2007). I assess robustness to alternative bandwidths to define the dependent variable. In Panel B I use the cutoff at 0.0048, and in Panel C I use the cutoff at 0.0068.

[Table 5 Panels A-C About Here]

The explanatory variables in Table 5 include past performance, hedge fund regulations, fund characteristics and country-specific GDP per capita and legal origin. The specific variables were defined above in Table 2 in section 3. Five models are presented in each of Panels A-C to assess robustness. Models 1-3, 6-8 and 11-13 consider the full sample and different right-hand-side variables to assess the impact of collinearity. Models 4, 9 and 14 consider the subsample of offshore funds. Model 15 considers a two-step model to account for selection effects associated with the non-random selection of an offshore jurisdiction (analogous to a Heckman (1976, 1979) correction, but for a binary dependent variable in the second step; see Greene, 2003). I do not use the traditional Heckman approach, but use a modified selection effect approach that is consistent with that in other hedge fund work (most notably, see Baquero et al., 2005). The two step estimation in the first step considers the probability of registering offshore as a function of hedge fund strategies, the location of assets and whether or not the fund manager manages more than one fund. I had considered alternative specifications that are not explicitly reported but available upon request.[2]

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[2] For example, I considered different subsamples based on fund age to consider the possibility of survivorship bias, as well as different subsamples with different countries. I also considered multi-step models which first considered the probability of observing returns within the marginally negative or marginally positive bandwidth for which the dependent variable is defined. The results are quite robust.

The evidence in Table 5 shows a strong impact of hedge fund regulation on the likelihood of observing (misreported) marginally positive returns, and in many cases the regulation in fact exacerbates the likelihood of misreporting. First, note that minimum capitalization restrictions tend to increase the probability that returns are marginally positive, as opposed to zero or negative. This effect is statistically significant at the 5% level in Models 5,and 15 when controls are used for selection effects with offshore registrants, and significant at the 5% level in Model 13, but insignificant in Models 3, 4, 9 and 12. The economic significance is such that an increase in minimum capitalization by $100,000 gives rise to an increase in the probability of marginally positive returns by at least 4.5% (Model 13) and up to 7.3% (Model 15) (the economic significance falls within this range for the other models). This is evidence is consistent with the interpretation that minimum capitalization gives rise to incentives to misreport returns to attract capital to exceed the threshold.

Restrictions on the location of key service providers also tend to be associated with a greater probability of misreported returns in Table 5, and this effect is statistically significant at the 1% level in Models 1, 2, 6, and 12, and at the 5% level in Models 7 and 11. Note that the effect is statistically significant for all Models 1, 2, 6, 7, 11, and 12, for all the bandwidths; however, this effect is insignificant in Models 3-5, 8-10 and 13-15 which use extra explanatory variables that are correlated. In terms of the economic significance, jurisdictions which restrict location are approximately 31% (Model 11) to 71% (Model 2) more likely to report marginally positive returns than zero or marginally negative returns. Overall, this is fairly strong evidence that restrictions on location give rise to a greater propensity to misreport monthly returns.

Restrictions on location weaken fund governance and do not have offsetting benefits of added regulatory oversight in terms of reported returns.

I report alternative specifications with dummy variables for investment managers, fund distribution companies, banks and wrappers to assess the impact of distribution channels on misreported returns. Distributions via investment managers are associated with a significantly smaller probability of misreported returns, which suggests investment managers provide added governance in terms of monitoring returns reported by fund managers. In particular, distributions via investment managers are associated with a 35.0% (Model 12) to 57.5% (Model 5) lower probability of marginally positive monthly returns, and this effect is statistically significant in every model in Table 5 with the exception of Models 7-9 which are associated with the narrower bandwidth on the dependent variable. Distributions via fund distribution companies tend to not be associated with a significant change in the probability of misreporting returns; the fund distribution company variable is negative and significant only when the wrappers variable is also included, and these variables are highly correlated (Table 4). Wrapper distributions are associated with significantly positive increase in the probability of misreported returns at the level of at least 5% through all the models. Wrapper distributions increase the probability of misreporting by approximately 60.5%-77.1% in Models 2, 6 and 12; the economic significance is higher in the other specifications where the fund distribution company variable is also included, but that is due to collinearity.[3] The coefficients for bank distributions are positive and statistically significant at the 5% level in Models 4, 5, 14 and 15; at 10% in Model 9 and 10;

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[3] The inclusion / exclusion of these collinear variables does not impact the other reported coefficients.

and show a 46.7% (Model 15) to 52.7% (Model 4) increase in the probability of misreported returns; however, this effect is not statistically significant in Models 3, 8 and 13.

Note that dummy variables for private placements and other financial institutions are suppressed to avoid collinearity problems. When these variables are included and the other distribution variables are excluded (in specifications not explicitly shown in Table 5), the results show distributions via private placements are associated with an approximately 20% increase in the probability of misreporting, and this effect is significant at the 5% level.[4] Distributions via other regulated financial intermediaries and via nonregulated financial intermediaries, however, are statistically insignificant variables. Overall, therefore, the evidence supports the view that distributions via private placements, banks and wrappers offer weaker governance channels without monitoring discipline on hedge fund managers such that they may misreport monthly returns, while fund distribution companies and other financial intermediaries neither more nor less likely to be associated with misreported returns, but investment managers reduce the probability that returns will be misreported.

A variety of fund characteristics are controlled for in the regressions in Table 5. One of the more significant fund characteristics is the dummy variable for fund managers that operate more than one fund. These fund managers have greater scope to misreport because they can shift resources across funds. The data indicate that fund managers with multiple funds are more likely to misreport returns by at least 12.7% (Model 11) and up to 22.3% (Model 9). This effect is

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[4] This evidence is consistent with other unrelated evidence that shows less governance associated with private placements in different contexts; see, e.g., Barclay *et al.* (2007).

significant at at least the 10% level in all models, except for Models 3, 7, 8, 12 and 13. As expected (see subsection 2.2), funds with higher management fees are more likely to misreport (a 1% increase in management fees causes a 6-13% increase in the probability of misreporting depending on the specification), and this effect is statistically significant in Models 1, 6, 7, 8, 9, 10 and 11. Performance fees, by contrast, are statistically unrelated to misreporting. Lagged returns are positive, as expected (subsection 2.2), but statistically significant only in Models 11. As well, there is some statistically significant evidence consistent with the prediction (subsection 2.2) that fund age and size are negatively related to the probability of misreporting.

The market S&P 500 monthly return variable shows a significant and positively related to the probability of a marginally positive return in all the models. A 1% increase of the market return leads to a 4-8% increase in the probability to of a marginally positive return, depending on the specification. This may in part be explained by the simple fact that funds are more likely to have a positive return when the market return is positive. However, it may also be explained by the fact that when market returns are higher, negative fund returns appear comparatively worse to potential investors of the fund, and as such fund managers have a pronounced incentive to report a marginally positive return in order to protect a better image to potential investors.

I note that I control for other country-specific factors aside from hedge fund regulation. The data indicate higher GDP countries and civil law (French legal origin) countries are more likely to misreport. The GDP effect may reflect greater incentives to misreport in wealthier countries in terms of attracting more capital from larger institutional investors. Civil law

countries generally reflect weaker investor protection (La Porta et al., 1997, 1998, 2006), which likely explains the greater tendency therein to misreport.

Finally, note that the models show robustness to the inclusion/exclusion of dummy variables for fund strategies, location of assets and calendar effects. These variables are not reported for reasons of conciseness. The details are generally consistent with those reported in Table 3 and are available upon request.

5. Does Misreporting Pay?

In regression analyses not reported herein (but available upon request), I have conducted multivariate regressions on hedge fund capital flows relative to past performance and other variables used in Bollen and Pool (2007), Cumming (2007) and Ding et al. (2007). I use dummy variables for marginal positive ("misreported") returns for 1-month, 2-month and 3-month lags respectively for a sample of fund flows based on funds with returns within the sample range -0.0058 to +0.0058. The regression results consistently show that the 1-month marginal positive return dummy variable has a positive statistically significant coefficient at the 5% level, while the marginally positive return dummy variables are statistically insignificant for 2-month and 3-month lags. In terms of economic significance, capital inflows are 2 standard deviations higher when the 1-month return is reported as marginal positive. This evidence is consistent with other research (Bollen and Pool, 2007) that marginal positive returns attract more capital inflows. This also shows that regulation that mitigates misreporting behavior (section 4 above) has an important function in bringing about more efficient capital allocation.

6. Conclusion

This paper introduced a cross-country law and finance analysis of the impact of hedge fund on the reporting of returns. Consistent with Bollen and Pool (2007), I showed in Figure 1 of this paper that the distribution of hedge fund returns close to zero is discontinuous. Hedge fund managers have an incentive to misreport monthly returns that are either zero or marginally negative returns as being marginally positive in order to attract investors and new investment.

I extended the literature in this paper by analyzing when hedge fund returns are more likely to engage in this type of misreporting behavior. I found that hedge fund regulation plays a significant role in misreporting, and notably, I found that in some cases hedge fund regulation in fact exacerbates misreporting. Countries which use distribution channels via wrappers, banks and private placements tend to have a higher propensity of misreporting behavior. Restrictions on the location of key service providers and minimum capitalization requirements are also associated with a greater probability of misreporting. By contrast, other regulations mitigate misreporting where the regulation facilitates extra governance of fund managers. For example, I found that countries which make use of distribution channels via investment managers have experienced a much lower probability of misreporting behavior, and this evidence is consistent with the view that investment managers provide active monitoring of monthly reported returns by hedge fund managers.

The evidence in this paper is consistent across a wide variety of robustness checks. Also, it is consistent with companion evidence that shows a relation between hedge fund regulation and performance, structure and capital flows (Cumming, 2006, 2007). The evidence provides clear implications for guiding the ongoing policy debate on the efficient design of hedge fund regulations. Further research could investigate other aspects of hedge fund reporting, monitoring and regulatory oversight.

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Figure 1. Bin width and Discontinuity

Figure 1 displays histograms of raw monthly returns for sample funds from CISDM. The number of observations is 24,786. Tails are omitted to focus on the bins bracketing zero. Bold bars indicate bins that bracket zero. Figure 1A uses 0.0058, the bin size used in the empirical test models 1-5 (5,771 observations). Figure 1B and 1C provide alternative bin sizes for comparison, which are used in models 6-10 (4,794 observations) and 11-15 (6,601 observations).

Figure 1A. Bin Size 58 basis points
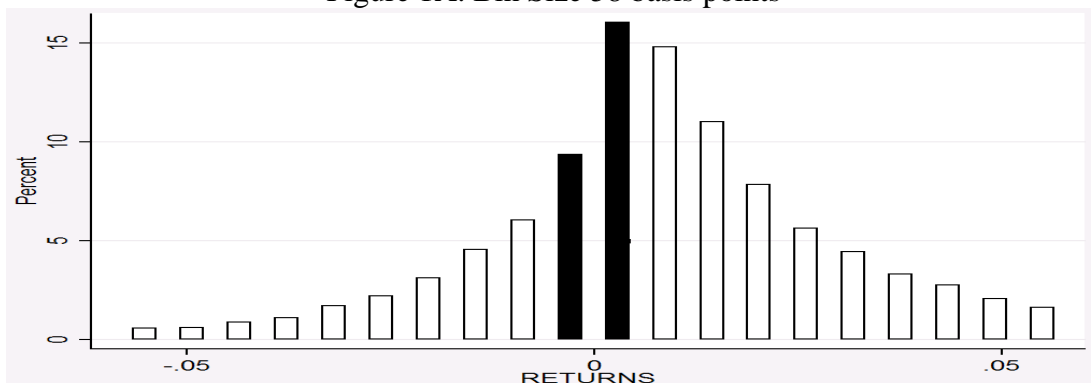
Figure 1B. Bin Size 48 basis points
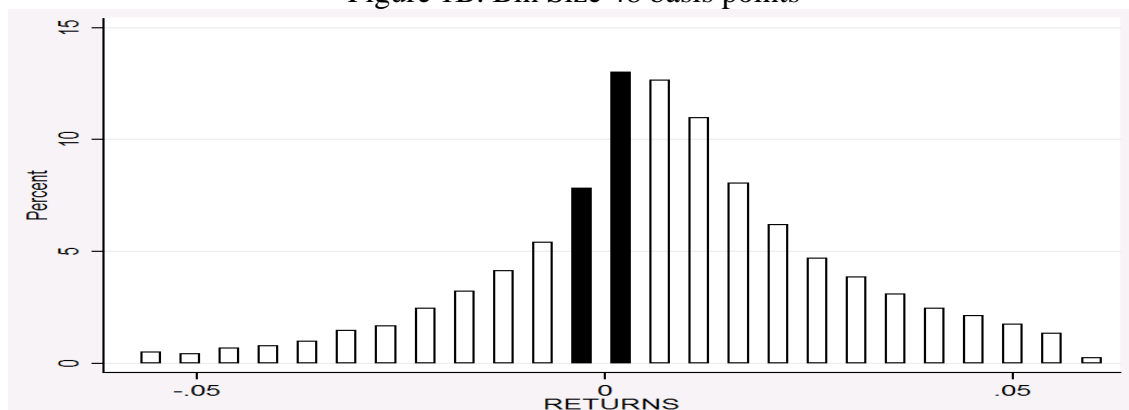
Figure 1C. Bin Size 68 basis points
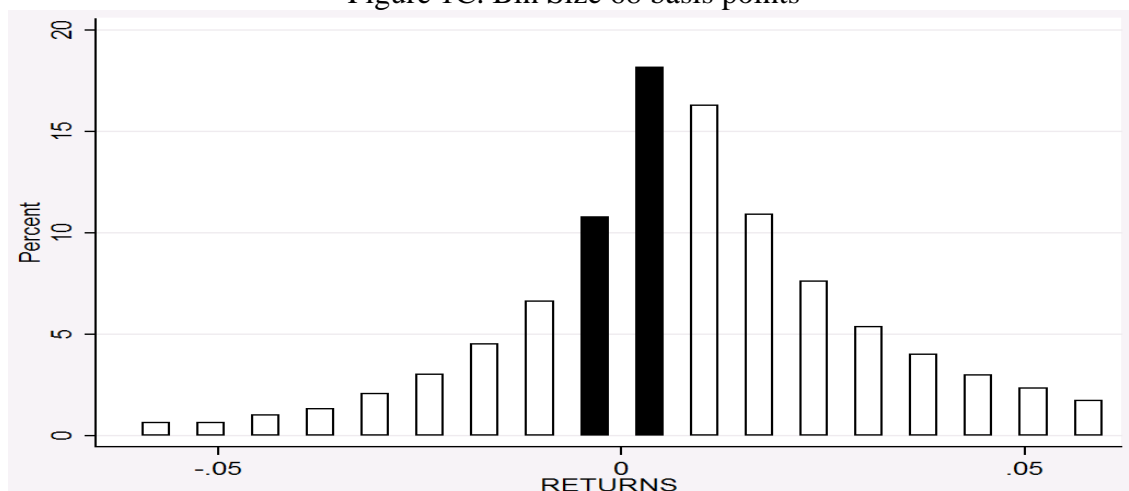
Table 1. Regulation of and Channels for Distribution of Hedge Funds by Country

This table summarizes by country the regulation of hedge funds across 16 countries, including the minimum capital requirements, permissible marketing channels and whether there exists restrictions on the location of key service providers. The minimum capital requirements to operate as a hedge fund manager are vary in some countries depending on fund characteristics and as such are proxied, as summarized in this table, for the purpose of empirical analyses in the subsequent tables (and the results are robust to alternative proxies).

Country	# Funds in CISDM Dataset	Proxy for minimum capital requirement to operate as hedge fund manager (2005 US $)	Main marketing channels								Restrictions on location of key service providers?	Legal Origin			GDP per Capita (2005 US $)
			Banks	Fund distribution companies	Via wrappers	Private placements	Investment managers	Other regulated financial services institutions	Non-regulated financial intermediaries	Total number of marketing channels		English	French	German	
Austria	1	$6,750,000	1	1	1	0	0	0	0	3	0	0	0	1	$31,300
Bahamas	14	$25,000	0	0	0	1	1	0	0	2	1	1	0	0	$17,700
Bermuda	27	$0	1	0	0	1	1	0	0	3	1	1	0	0	$36,000
Brazil	2	$362,000	1	1	0	1	1	1	0	5	1	0	1	0	$8,100
Canada	10	$0	1	1	1	1	1	1	0	6	0	1	0	0	$31,500
Cayman Islands	211	$500,000	1	0	0	1	0	0	0	2	1	1	0	0	$32,300
France	6	$168,750	0	1	1	1	1	0	0	4	0	0	1	0	$28,700
Guernsey	3	$0	1	1	1	1	1	1	0	6	0	0	1	0	$40,000
Ireland	14	$67,500	1	0	0	1	0	1	0	3	1	1	0	0	$31,900
Isle of Man	1	$142,500	0	1	1	1	1	0	0	4	1	1	0	0	$35,000
Luxembourg	4	$168,750	1	0	0	0	0	1	0	2	0	0	1	0	$58,900
Mauritius	1	$0	0	0	0	1	0	0	0	1	1	1	0	0	$12,800
Netherland Antilles	5	$0	0	0	0	1	0	0	0	1	1	0	1	0	$11,400
New Zealand	1	$0	1	1	1	1	1	1	0	6	0	1	0	0	$23,200
US	329	$0	0	0	0	1	0	0	0	1	0	1	0	0	$40,100
Virgin Islands	61	$500,000	1	0	0	1	1	0	0	3	1	1	0	0	$17,200

Table 2. Definition of Variables and Summary Statistics

This table defines the main variables used in the paper. Summary statistics are also provided for each variable. The data are for the period January 2003 - December 2005. The data comprise 690 funds from the CISDM database. Fund returns outside the range defined by the variable Return Dummy are excluded from the sample. For the cutoff at 0.0058 to define the return dummy, there are 5711 fund return observations in the sample.

Variable	Definition	Mean	Median	Standard Deviation	Minimum	Maximum
Fund Performance						
Marginally Positive Return Dummy	A dummy variable equal to one for funds with monthly returns between 0 and 0.0058, and equal to zero for returns between -0.0058 and 0. This cutoff is selected based on Bollen and Pool (2007). (The sensitivity of this dummy variable to specifications at the 0.0048 and 0.0068 cutoff points is assessed in the regressions.) Note that return observations that are outside this range are ommitted from the sample.	0.637	1.000	0.481	0.000	1.000
Return Lagged 1 Month	Raw Monthly Return with One Month Lag	0.006	0.004	0.022	-0.162	0.192
Return on S&P 500	Raw Monthly Return on S&P 500, a proxy for the market return	0.006	0.008	0.024	-0.034	0.081
Fund Regulation						
Minimum Capitalization	The minimum capitalization required to operate as a hedge fund manager in 2004 US dollars	$224,382	$25,000	$284,796	$0	$6,750,000
Restrictions on Location of Key Service Providers	A dummy variable equal to 1 where the country imposes restrictions on the location of key service providers (Figure 1)	0.515	1	0.500	0	1
Marketing Investment Manager Dummy	A dummy variable equal to 1 where the country allows fund distribution via investment managers	0.515	1	0.500	0	1
Marketing Funds Distribution Company Dummy	A dummy variable equal to 1 where the country allows fund distribution via fund distribution companies	0.0341	0	0.1816	0	1
Marketing Bank	A dummy variable equal to 1 where the country allows fund distribution via banks	0.509	1	0.500	0	1
Marketing via Wrappers Dummy	A dummy variable equal to 1 where the country allows fund distribution via wrappers	0.0327	0	0.178	0	1
Fund Characteristics						
Fund Manager with Multiple Funds	A dummy variable equal to one if the fund is run by a fund manager running 2 or more funds	0.735	1	0.442	0.000	1
Yearly Redemption	A dummy variable equal to 1 if capital redemptions are possible only on an annual basis	0.068	0	0.251	0.000	1
Management Fee	The fixed fee in percentages for management compensation	1.443	1	1.664	0.000	15
Performance Fee	The carried interest performance fee in percentages for management compensation	19.996	20	4.184	0.000	50
Assets under Management	The fund's assets in 2004 US dollars	$252,272,232	$78,900,000	$736,766,353	$93,000	$15,800,000,000
Minimum Investment	The minimum investment required for the fund in 2004 US dollars	$994,337	$500,000	$2,815,564	$0	$50,000,000
Onshore Dummy Variable	A dummy variable equal to one for onshore funds	0.478	0	0.500	0	1
Age	The fund's age in months from the date of formation to December 2005.	90.896	79	46.396	32	467
Country GNP and Legal Origin						
GNP Per Capita	The country's GNP per capita, expressed in 2004 US dollars	$34,985	$32,300	$6,511	$8,100	$58,900
French Legal Origin	A dummy variable equal to one for French legal origin countries (La Porta *et al.*, 1998)	0.039	0	0.193	0	1
German Legal Origin	A dummy variable equal to one for German legal origin countries (La Porta *et al.*, 1998)	0.001	0	0.023	0	1

Table 3. Comparison of Means and Medians Tests

This table presents comparison of means, proportions and medians tests for the subsample of observations for which returns fall within the range -0.0058 to 0.0058. There are 2094 observations for which returns are between -0.0058 and 0 (where the return dummy is assigned the value 0), and 3677 observations for which returns are between 0 and +0.0058 (where the return dummy is assigned the value 1). *, **, *** Significant at the 10%, 5% and 1% level, respectively.

Variable	Return Dummy = 0		Return Dummy = 1		Difference Tests	
	Mean (or Proportion for Dummy Variables)	Median	Mean (or Proportion for Dummy Variables)	Median	Mean (or Proportion for Dummy Variables)	Median (2 sided P-value)
Hedge Fund Regulation Variables						
Minimum Capitalization	215077	0	235453	67500	-2.763***	P<=0.003***
Restrictions on Location of Key Service Providers	0.514	1.000	0.526	1.000	-0.899	P<=0.369
Marketing Bank	0.499	0.000	0.528	1.000	-2.006**	P<=0.047**
Marketing Private Placement	0.992	1.000	0.986	1.000	1.770*	P<=0.077*
Marketing Via Wrappers	0.026	0.000	0.034	0.000	-1.222	P<=0.222
Marketing Fund Distribution Company	0.029	0.000	0.034	0.000	-0.663	P<=0.507
Marketing Investment Manager	0.507	1.000	0.525	1.000	-0.967	P<=0.334
Returns						
1-Month Prior Return	0.006	0.004	0.006	0.004	-1.018	P<=0.424
2-Month Prior Return	0.007	0.006	0.007	0.005	-0.045	P<=0.100*
S&P 500 returns	0.004	0.007	0.007	0.008	-4.080***	P<=0.001***
Fund Characteristics						
Fund Manager with more the 1 Fund	0.001	0.000	0.000	0.000	1.548	P<=0.008***
Yearly Redemption	0.065	0.000	0.070	0.000	-0.718	P<=0.473
Management Fee	1.329	1.000	1.508	1.000	-4.232***	P<=0.007***
Performance Fee	19.143	20.000	19.739	20.000	-4.056***	P<=0.000***
Assets Under Management	258951433	72000000	248354674	85220000	0.491	P<=0.000***
Minimum Investment	841346	500000	981387	500000	-1.991**	P<=0.000***
Onshore Fund Dummy	0.486	0.000	0.469	0.000	1.247	P<=0.213
Age (months)	89.252	76.000	87.728	75.000	1.177	P<=0.622
Location of Assets						
Asia	0.051	0.000	0.050	0.000	0.124	P<=0.901
Europe	0.062	0.000	0.063	0.000	-0.048	P<=0.962
South America	0.012	0.000	0.011	0.000	0.571	P<=0.568
North America	0.128	0.000	0.108	0.000	2.303**	P<=0.021**
United States	0.118	0.000	0.108	0.000	1.169	P<=0.243
Global	0.628	1.000	0.661	1.000	-2.473***	P<=0.013**

	Return Dummy = 0		Return Dummy = 1		Difference Tests	
Variable	Mean (or Proportion for Dummy Variables)	Median	Mean (or Proportion for Dummy Variables)	Median	Mean (or Proportion for Dummy Variables)	Median (2 sided P value)
Table 3. (Continued)						
Primary Fund Strategy:						
Other Arbitrage	0.007	0.000	0.010	0.000	-0.958	P<=0.338
Merger/Risk Arbitrage	0.053	0.000	0.082	0.000	-4.016***	P<=0.000***
Market Neutral Equity	0.415	0.000	0.282	0.000	10.305***	P<=0.000***
Multi-Strategy	0.134	0.000	0.164	0.000	-3.068***	P<=0.002***
Emerging Markets	0.053	0.000	0.046	0.000	1.242	P<=0.214
Convertible Arbitrage	0.086	0.000	0.083	0.000	0.440	P<=0.660
Macro	0.040	0.000	0.033	0.000	1.255	P<=0.209
Fixed Income Arbitrage	0.088	0.000	0.162	0.000	-7.924***	P<=0.000***
Technology Sector	0.058	0.000	0.046	0.000	1.986**	P<=0.047**
Distressed	0.034	0.000	0.042	0.000	-1.591	P<=0.112
Options Strategies	0.012	0.000	0.012	0.000	-0.009	P<=0.992
Capital Structure Arbitrage	0.001	0.000	0.012	0.000	-4.499***	P<=0.000***
Market Timer	0.007	0.000	0.006	0.000	0.081	P<=0.936
Short Bias	0.010	0.000	0.004	0.000	2.973***	P<=0.003***
Regulation D	0.002	0.000	0.016	0.000	-4.891***	P<=0.000***
Country GNI and Legal Origin						
GNI Per Capita	34793	32300	35087	32300	-1.638	P<=0.120
French Legal Origin	0.029	0.000	0.041	0.000	-2.392**	P<=0.017**
German Legal Origin	0.000	0.000	0.001	0.000	-1.333	P<=0.182
Calendar Effects Dummy Variables						
January	0.074	0.000	0.068	0.000	0.839	P<=0.078*
February	0.054	0.000	0.066	0.000	-1.734*	P<=0.083*
March	0.109	0.000	0.109	0.000	0.033	P<=0.973
April	0.095	0.000	0.078	0.000	2.276**	P<=0.023**
May	0.099	0.000	0.085	0.000	1.799*	P<=0.072*
June	0.094	0.000	0.086	0.000	0.966	P<=0.334
July	0.094	0.000	0.074	0.000	2.607***	P<=0.009***
August	0.107	0.000	0.109	0.000	-0.188	P<=0.851
September	0.084	0.000	0.095	0.000	-1.392	P<=0.164
October	0.093	0.000	0.086	0.000	0.883	P<=0.377
November	0.064	0.000	0.077	0.000	-1.826*	P<=0.068*
December	0.059	0.000	0.082	0.000	-3.310***	P<=0.001***

Table 4. Correlation Matrix

This table presents correlations across the variables defined in Table 2. The return dummy variable cutoff level is set at 0.0058 in this table. Correlations greater than 0.01 and 0.02 in absolute value are significant at the 5% and 1% levels, respectively.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
	Fund Performance																			
(1)	Return Dummy	1.00																		
(2)	Return Lagged 1 Month	0.01	1.00																	
(3)	S&P 500	0.05	-0.08	1.00																
	Fund Regulation																			
(4)	Minimum Capitalization	0.04	-0.04	0.02	1.00															
(5)	Restrictions on Location of Key Service Providers	0.01	-0.04	0.01	0.70	1.00														
(6)	Marketing Investment Manager Dummy	0.01	-0.04	-0.01	0.72	0.88	1.00													
(7)	Marketing Funds Distribution Company Dummy	0.01	-0.01	0.02	-0.01	-0.16	0.18	1.00												
(8)	Marketing Bank	0.03	-0.04	-0.01	0.75	0.89	0.85	-0.02	1.00											
(9)	Marketing via Wrappers Dummy	0.01	-0.02	0.02	-0.01	-0.17	0.17	0.98	-0.03	1.00										
	Fund Characteristics																			
(10)	Fund Manager with Multiple Funds	0.04	0.01	-0.04	0.11	0.12	0.13	0.05	0.15	0.04	1.00									
(11)	Yearly Redemption	0.00	0.03	0.02	-0.12	-0.18	-0.18	-0.05	-0.17	-0.05	-0.04	1.00								
(12)	Management Fee	0.05	-0.01	0.02	0.04	0.01	0.01	0.01	0.02	0.01	0.09	-0.04	1.00							
(13)	Performance Fee	0.02	-0.02	-0.02	0.04	0.04	0.01	-0.02	0.05	-0.02	0.06	0.04	0.11	1.00						
(14)	Assets under Management	-0.01	-0.01	0.00	0.09	0.11	0.11	-0.01	0.16	-0.01	0.06	0.02	0.07	-0.06	1.00					
(15)	Minimum Investment	0.03	-0.01	0.01	0.04	0.02	0.02	-0.05	0.04	-0.05	0.07	0.00	-0.02	-0.01	0.46	1.00				
(16)	Onshore Dummy Variable	-0.02	0.04	-0.03	-0.62	-0.83	-0.78	-0.05	-0.78	-0.05	-0.17	0.18	0.01	-0.01	-0.16	-0.03	1.00			
(18)	Age	-0.02	0.03	-0.03	-0.10	-0.14	-0.18	-0.09	-0.16	-0.08	0.00	0.17	-0.06	-0.10	0.09	0.02	0.13	1.00		
	Country GNP and Legal Origin																			
(18)	GNP Per Capita	0.02	0.03	0.00	-0.47	-0.73	-0.69	-0.16	-0.49	-0.13	-0.06	0.14	-0.01	-0.01	0.01	0.04	0.62	0.06	1.00	
(19)	French Legal Origin	0.03	-0.03	0.01	-0.06	-0.10	-0.01	0.50	-0.07	0.47	0.04	-0.05	-0.04	0.14	0.13	0.01	-0.17	0.10	-0.05	1.00
(20)	German Legal Origin	0.02	-0.02	-0.02	0.52	-0.02	-0.02	0.12	0.02	0.12	-0.04	-0.01	0.05	0.00	0.00	-0.01	-0.02	0.01	-0.01	0.00

Table 5. Regression Analyses: Determinants of Marginally Positive Returns

This table present logit regression analyses of the determinants of marginally positive monthly returns for 2003-2005. Panel A considers the left-hand-side dummy variable at the 0.0058 cutoff level (from Bollen and Pool, 2007). Panel B considers the 0.0068 cutoff level. Panel C considers the 0.0048 cutoff level. Variables are as defined in Table 2. Dummy variables are included for the calendar months, continents in which assets are primarily located, and the funds' primary strategy (31 dummy variables in total). Models (1) - (3) present the full sample and different right-hand-side variable to check for collinearity problems. Model (4) shows robustness exclusion of the onshore funds. Models (5) shows a two-step regression whereby the first step is a logit regression on a dummy variable equal to one for offshore registrations, and the second step is a logistical Heckman sample selection regression given the results in the first step. White's HCCME is used in all regressions. *, **, *** significant at the 10%, 5% and 1% levels, respectively.

Panel A. Left-hand-side dummy variable cutoff set at 0.0058

Variable	Model (1): Full Sample		Model (2): Full Sample		Model (3): Full Sample		Model (4): Excluding Onshore Funds		Model (5a): Heckman Selection [1st Step]		Model (5b): Heckman Selection [2nd Step]	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Constant	-1.044	-2.891***	1.494	2.137**	2.053	2.642***	0.948	1.056	19.997	27.897***	3.124	3.608***
Fund Performance												
Return Lagged 1 Month	1.794	1.410	1.168	0.895	1.248	0.953	0.999	0.480			1.313	1.001
S&P 500 return	4.544	3.841***	5.278	3.745***	5.301	3.756***	6.480	3.31409***			5.304	3.756***
Fund Regulation												
Minimum Capitalization					3.996E-07	1.581	2.319E-07	1.000			6.832E-07	2.167**
Restrictions on Location of Key Service Providers	0.433	3.020***	0.710	2.976***	0.328	0.957	0.276	0.721			0.391	1.144
Marketing Investment Manager Dummy			-0.382	-2.090**	-0.523	-2.563**	-0.452	-2.21691**			-0.575	-2.706***
Marketing Funds Distribution Company Dummy	0.138	0.697			-1.341	-1.477	-1.528	-1.635			-1.923	-2.026**
Marketing Bank					0.261	1.200	0.527	2.05972**			0.519	2.092**
Marketing via Wrappers Dummy			0.771	2.59271***	1.904	2.182**	2.074	2.22913**			2.760	2.879***
Fund Characteristics												
Fund Manager with Multiple Funds	0.132	2.083**	0.115	1.716*	0.103	1.529	0.204	1.8941*	0.703	6.138***	0.157	2.175**
Yearly Redemption	0.079	0.701	0.072	0.609	0.084	0.709	0.154	0.588			0.091	0.763
Management Fee	0.068	3.334***	0.026	1.203	0.026	1.209	0.045	1.289			0.022	1.036
Performance Fee	1.086E-03	1.583E-01	6.354E-04	8.924E-02	-7.111E-04	-9.941E-02	8.495E-03	7.745E-01			4.577E-04	0.065
Assets under Management	-7.768E-11	-2.014**	-9.364E-11	-2.252**	-1.067E-10	-2.350**	-1.321E-10	-2.66583*			-1.046E-10	-2.288**
Minimum Investment					1.434E-08	1.169	1.357E-08	1.051			1.490E-08	1.207
Onshore Dummy Variable	5.068E-02	0.436	9.878E-02	0.811	1.344E-01	1.095						
Age	-4.244E-04	-0.675	-9.163E-04	-1.395	-1.047E-03	-1.583	-1.017E-03	-0.957			-1.111E-03	-1.676*
Country GNP and Legal Origin												
GNP Per Capita	3.257E-05	4.462***	3.173E-05	4.07792***	1.758E-05	1.613	9.992E-06	0.814	-5.811E-04	-39.054***	-5.345E-06	-0.366
French Legal Origin	0.590	2.994***	0.133	0.619	0.285	1.211	0.327	1.142	13.332	28.562***	0.507	1.973**
Selection Effect Control											-0.954	-2.344**
Dummy Variables for Primary Location of Assets?	No		Yes		Yes		Yes		Yes		Yes	
Dummy Variables for Primary Fund Strategy?	No		Yes		Yes		Yes		Yes		Yes	
Calendar Effects Dummy Variables	No		Yes		Yes		Yes		No		Yes	
Model Diagnostics												
Number of Observations	5771		5771		5771		3011		5771		5771	
Pseudo R^2	0.010		0.044		0.046		1.943		0.597		0.046	
Loglikelihood	-3742.399		-3612.644		-3607.465		1845.689		-1610.386		-3605.307	
Chi Square Statistic	75.668***		335.180***		345.536***		221.168***		237.194***		349.853***	

Table 5. (Continued)												

Panel B. Left-hand-side dummy variable cutoff set at 0.0048

Variable	Model (6): Full Sample		Model (7): Full Sample		Model (8): Full Sample		Model (9): Excluding Onshore Funds		Model (10a): Heckman Selection [1st Step]		Model (10b): Heckman Selection [2nd Step]	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Constant	-1.033	-2.620***	1.309	1.776**	2.025	2.443**	0.608	0.633	19.925	25.579***	2.942	3.201***
Fund Performance												
Return Lagged 1 Month	2.082	1.494	1.392	0.971	1.402	0.974	0.765	0.331			1.423	0.988
S&P 500 return	3.672	2.819***	4.562	2.964***	4.602	2.985***	6.379	3.000***			4.631	3.003***
Fund Regulation												
Minimum Capitalization					3.269E-07	1.096	1.403E-07	0.506			5.760E-07	1.637
Restrictions on Location of Key Service Providers	0.475	3.045***	0.607	2.366**	0.141	0.375	0.129	0.308			0.166	0.445
Marketing Investment Manager Dummy			-0.224	-1.145	-0.328	-1.467	-0.191	-0.855			-0.379	-1.645*
Marketing Funds Distribution Company Dummy	0.129	0.576			-2.252	-1.907*	-2.386	-1.971**			-2.719	-2.230**
Marketing Bank					0.299	1.243	0.475	1.684*			0.507	1.865*
Marketing via Wrappers Dummy			0.605	1.838*	2.559	2.231**	2.466	2.053**			3.256	2.648***
Fund Characteristics												
Fund Manager with Multiple Funds	0.136	1.971**	0.113	1.550	0.106	1.448	0.223	1.903*	0.673	5.408***	0.147	1.868*
Yearly Redemption	0.125	1.015	0.115	0.897	0.124	0.959	0.220	0.775			0.128	0.993
Management Fee	0.104	3.995***	0.071	2.593***	0.071	2.605***	0.130	2.473**			0.069	2.512**
Performance Fee	-2.568E-03	-3.395E-01	-1.794E-03	-2.274E-01	-3.984E-03	-5.011E-01	7.839E-03	6.466E-01			-2.498E-03	-0.318
Assets under Management	-1.029E-10	-2.269E+00	-1.112E-10	-2.264**	-1.348E-10	-2.398**	-1.820E-10	-2.864***			-1.389E-10	-2.450**
Minimum Investment					1.436E-08	1.067	1.641E-08	1.126			1.554E-08	1.147
Onshore Dummy Variable	7.325E-02	0.581	1.485E-01	1.123	1.631E-01	1.225						
Age	-8.420E-04	-1.228	-1.264E-03	-1.768*	-1.507E-03	-2.082**	-1.666E-03	-1.429			-1.542E-03	-2.127**
Country GNP and Legal Origin												
GNP Per Capita	3.224E-05	4.036***	2.843E-05	3.357***	1.174E-05	9.774E-01	7.938E-06	0.588	-5.807E-04	-35.640***	-7.247E-06	-0.455
French Legal Origin	0.798	3.659***	0.403	1.704*	0.578	2.218**	0.675	2.136**	13.422	25.875***	0.736	2.588***
Selection Effect Control											-0.800	-1.792*
Dummy Variables for Primary Location of Assets?	No		Yes		Yes		Yes		Yes		Yes	
Dummy Variables for Primary Fund Strategy?	No		Yes		Yes		Yes		Yes		Yes	
Calendar Effects Dummy Variables	No		Yes		Yes		Yes		No		Yes	
Model Diagnostics												
Number of Observations	4794		4794		4794		2523		4794		4794	
Pseudo R^2	0.013		0.044		0.046		0.059		0.593		0.046	
Log Likelihood	-3115.732		-3017.039		-3012.181		-1547.930		-1349.852		-3011.329	
Chi Square Statistic	81.494***		278.881***		288.596***		192.818***		3932.939***		274.586***	

	Table 5. (Continued)											

Panel C. Left-hand-side dummy variable cutoff set at 0.0068

Variable	Model (11): Full Sample		Model (12): Full Sample		Model (13): Full Sample		Model (14): Excluding Onshore Funds		Model (15a): Heckman Sample Selection [1st Step]		Model (15b): Heckman Sample Selection [2nd Step]	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Constant	-0.744	-2.183**	1.752	2.694***	2.316	3.187***	1.105	1.305	18.378	29.142***	3.209	3.851***
Fund Performance												
Return Lagged 1 Month	2.506	2.139**	1.908	1.600	1.929	1.612	1.965	1.065			1.947	1.625
S&P500 return	5.364	4.831***	6.151	4.656***	6.163	4.658***	7.875	4.304***			6.169	4.663***
Fund Regulation												
Minimum Capitalization					4.542E-07	1.837**	2.638E-07	1.147			7.271E-07	2.377**
Restrictions on Location of Key Service Providers	0.298	2.264**	0.576	2.611***	0.170	0.519	0.115	0.312			0.274	0.836
Marketing Investment Manager Dummy			-0.350	-2.054**	-0.503	-2.595***	-0.393	-2.035**			-0.561	-2.794***
Marketing Funds Distribution Company Dummy	0.062	0.328			-1.051	-1.310	-1.228	-1.477			-1.568	-1.85239*
Marketing Bank					0.259	1.240	0.524	2.111**			0.467	1.980**
Marketing via Wrappers Dummy			0.670	2.389**	1.518	1.986**	1.747	2.117**			2.307	2.668***
Fund Characteristics												
Fund Manager with Multiple Funds	0.124	2.082**	0.097	1.544	0.085	1.351	0.183	1.810*	0.768	7.481***	0.142	2.052**
Yearly Redemption	0.022	0.209	0.002	0.020	0.008	0.071	0.258	1.017			0.0143	0.127
Management Fee	0.064	3.249***	0.024	1.136	0.023	1.115	0.045	1.333			0.020	0.954
Performance Fee	3.634E-03	5.659E-01	4.367E-03	6.619E-01	2.509E-03	3.778E-01	8.789E-03	8.698E-01			2.771E-03	0.420
Assets under Management	-7.087E-11	-1.967**	-8.825E-11	-2.277**	-1.083E-10	-2.466**	-1.383E-10	-2.865***			-1.049E-10	-2.383**
Minimum Investment					1.595E-08	1.413	1.666E-08	1.398			1.604E-08	1.416
Onshore Dummy Variable	-2.838E-02	-0.269	2.897E-02	0.264	4.264E-02	0.385						
Age	-6.500E-04	-1.098	-1.125E-03	-1.825*	-1.313E-03	-2.104**	-1.389E-03	-1.371			-1.396E-03	-2.232**
Country GNP and Legal Origin												
GNP Per Capita	2.718E-05	3.936***	2.672E-05	3.637***	1.309E-05	1.264E+00	6.803E-06	0.578	-5.395E-04	-41.558***	-7.552E-06	-0.517
French Legal Origin	0.5555	2.995***	0.116	0.573	0.232	1.040	0.285	1.039	11.801	29.607***	0.443	1.813*
Selection Effect Control											-0.823	-2.005**
Dummy Variables for Primary Location of Assets?	No		Yes		Yes		Yes		Yes		Yes	
Dummy Variables for Primary Fund Strategy?	No		Yes		Yes		Yes		Yes		Yes	
Calendar Effects Dummy Variables	No		Yes		Yes		Yes		No		Yes	
Model Diagnostics												
Number of Observations	6601		6601		6601		3433		6601		6601	
Pseudo R^2	0.010		0.043		0.044		0.052		0.567		0.044	
Log likelihood	-4259.153		-4118.474		-4112.264		-2098.199		-1980.456		-4110.312	
Chi Square Statistic	60.385***		365.776***		378.198***		231.958***		5179.375***		382.101***	