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Socially Responsible Institutional Investment in Private Equity

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ABSTRACT. This article studies institutional investor allocations to the socially responsible asset class. We propose two elements influence socially responsible institutional investment in private equity: internal organizational structure, and internationalization. We study socially responsible investments from Dutch institutional investments into private equity funds, and compare socially responsible investment across different asset classes and different types of institutional investors (banks, insurance companies, and pension funds). The data indicate socially responsible investment in private equity is 40–50% more common when the decision to implement such an investment plan is centralised with a single chief investment officer. Socially responsible investment in private equity is also more common among institutional investors with a greater international investment focus, and less common among fund-of-fund private equity investments.

KEYWORDS: socially responsible investment, international institutional investment, private equity

Introduction

This study empirically investigates the factors that influence institutional investors to allocate capital to socially responsible private equity investments. Private equity fund managers act as financial intermediaries between institutional investors and entrepreneurial firms. Private equity is a viable and important asset class for institutional investors,[1] and there has been a growing trend towards socially responsible investment practices.[2] While prior work has examined the role of business ethics in entrepreneurship (see Hannafey, 2003 for a literature review; see also Miles et al., 2004; Spence et al., 2003; Wempe, 2005), no prior study has considered an empirical analysis of the direct intersection between socially responsible investment and private equity (although there has been related work[3]). This issue is nevertheless important for institutional investor capital allocation, as well as for private equity funds and companies seeking capital for undertaking socially responsible entrepreneurial activities.

We propose two elements influence socially responsible institutional investment in private equity (1) institutional organizational structure and (2) internationalization. In the spirit of research on corporate governance and institutional investors (e.g., Mallin, 2001; Mallin et al., 2005), we introduce in this article a new dataset from a survey of Dutch institutional investors that was carried out in 2005. The survey data comprise information from 100 Dutch institutions, 24 of which currently have a socially responsible investment program (of these, 14 include socially responsible private equity investment programs), and 19 which plan on adopting a socially responsible investment program over the period 2006–2010 (of these, 5 include socially responsible private equity investment programs). The data comprise extremely specific details on the institutions' portfolio management practices, as well as their perceptions of the importance of various economic, legal and institutional factors that influence their portfolio allocation decisions. Institutional investors' positions regarding their objectives in their strategic asset allocation were sought. More significantly, views regarding the perceived risks and hurdles faced by such investors were sought to determine main concerns in adopting socially responsible investment. The data enable an empirical

assessment of institutional investor allocations to socially responsible investment with consideration to controls for a variety of factors potentially pertinent to asset allocation.

The new data indicate two primary findings. First, and perhaps most importantly, the data indicate socially responsible private equity investment is more common when the decision to implement such an investment plan is placed in the hands of a chief investment officer (''CIO'', or the head of capital investments), as opposed to a broader investment team. When a CIO is in charge, a socially responsible private equity investment program is approximately 40–50% more likely to be adopted. This finding is strongly supportive of independent but related work that indicates organizational structure influences corporate social responsibility (Guyatt, 2005, 2006), as discussed in detail in the first part of this article. Second, socially responsible private equity investments tend to be more common among institutional investors that invest internationally in Europe (outside the Netherlands) and in the United States, but not in Asia.

The data further indicate socially responsible private equity investment programs are also more common among larger institutional investors and those expecting greater economic returns from socially responsible investments. We find no statistically significant differences in the propensity to carry out socially responsible investments depending on the type of investor (pension fund, insurance company or bank/financial institution). We do find evidence that socially responsible investment is less common among institutional investors that invest a greater proportion in private equity fund-of-funds, which is expected as fund-of-funds remove the decision-making from the institutional investors to the fund-of-funds managers. The data further suggest socially responsible investment is more common among institutional investors that are more sensitive to the new International Financial Reporting Standards (''IFRS'') (2005), although the statistical relation is sensitive to the econometric specification. We also proffer evidence that the factors that affect socially responsible investment decisions for private equity are quite similar to those for other asset classes.

This article is organized as follows. The next section outlines the theoretical propositions and testable hypotheses. The data are then introduced alongside summary statistics and multivariate empirical analyses of socially responsible asset allocations by Dutch institutional investors. Limitations are discussed and suggestions for future research are outlined after the multivariate analyses. Concluding remarks follow in the last section.

Testable hypotheses

Institutional investors have various motivations in their investment strategies when deciding to allocate capital to equities, bonds, derivatives, and alternative investments, such as private equity. Portfolios are specifically designed to optimally trade-off risk and return by allocation of the portfolio to appropriately diversified combinations of assets, with consideration to institutional and regulatory factors, and possibly behavioral biasses and decision-making processes. Following upon the potential effect behavioral biasses and decision-making processes may have on an institution determining current and projected levels of asset allocation, this study seeks to ascertain a potential trend towards investing in a more specialised form of private equity, socially responsible private equity, also sometimes referred to as sustainable private equity.

We propose two central elements influence socially responsible institutional investment in private equity: (1) the institutions' internal organizational structure and (2) the institutions' external environment in terms of internationalization. The intuition underlying our two main hypotheses applies not only to socially responsible investment in private equity but also other asset classes. However, we focus on socially responsible investment in private equity because it is a new ''alternative'' asset class that is now being closely scrutinized internally by institutions' decision makers as well as externally by the media for its diversification properties and consistent annual returns. Some of the factors discussed below, however, are more directly pertinent only to socially responsible investment in private equity.

First, in regards to internal organizational structure, institutions (or rather their human resource) will have to balance the conflicting needs of their stakeholders. The practice of socially responsible investment does not mean that returns need to be sacrificed (Geczy et al., 2003), even though some

may hold this perception (for recent survey evidence, see Guyatt, 2005).[4] An effective socially responsible investment program should incorporate the objective to gain the maximum possible return for stakeholders in the institution, at an acceptable risk, with the idea of combining social, moral, legal, and environmental concerns. Any decision made by management, or the board of directors, will affect each stakeholder differently. As such, decisions on important policies regarding investment and asset allocation, which will directly affect the returns of the institution, are not taken lightly. In an institution where there is the decentralized investment decision-making, where a general investment team comprising employees compete with one another, each employee is more likely to seek to maximize expected returns as this is the most obvious performance indicator to the management and less likely to risk adopting potentially less profitable socially responsible investment. In an organization where investment decisions are centralized through a CIO, who is not only a member of management but also the board of directors, it is more probable that innovative (thus untested and risky) socially responsible investment policies be formulated, approved, and implemented. The board of directors, in the exercise of their discretion, will deem their reliance on the CIO's advice sufficient to meet their duty of care to stakeholders, regardless of the outcome of the implementation of the program. This suggests that the presence of a CIO who will take ''ownership'' and responsibility for the program can facilitate a socially responsible investment policy.[5]

Guyatt (2005, 2006) argues that an impediment to non-standard investment approaches is the need to justify decisions to those above one in the organizational hierarchy, using 'conventional' arguments. Thus even if socially responsible investment does not lose money, there is a disincentive to invest that way because you have to 'stick your neck out' and do without recourse to conventional justifications of investment decisions. This problem is removed or reduced when investment decision-making is centralized.

Moreover, there are reputation incentives for compliance with norms of corporate social responsibility that institutions are more likely to comply with when decisions are made centrally. It has also been argued that corporations will adopt corporate social responsibility when they recognize their stakeholders prefer such policies (thereby increasing firm value); corporations will be more likely to recognize and implement the corporate social responsibility preferences of their stakeholders and implement such preferences when decisions about socially responsible investment are made centrally (Small and Zivin, 2002).

Hypothesis 1: Socially responsible investment programs are more likely to be adopted by institutions that centralize investment decision-making.

Our second primary hypothesis relates to the extent to which an institution internationalizes its investments. On the one hand we may expect socially responsible investment to be more common domestically in view of the fact that institutional investors' stakeholders are primarily based within the country in which they reside, particularly for The Netherlands. Socially responsible investments are not only on the rise as a result of increasing social awareness by institutions, but primarily as a result of the increasing public (beneficiary) interest in social responsibility. Thus, the public perception is that institutions need to 'return to society,' a sense of social responsibility that has been given to them by their stakeholders. And as 'charity begins at home,' domestic stakeholders likely want to enjoy the benefits that increased corporate social responsibility brings, such as increased adherence to labor and environmental laws by local companies.

On the other hand, there are two primary factors that may lead to a greater focus on socially responsible investment policies among institutions with an international investment focus (Dowell et al., 2000; Dunning, 2003). First, larger corporations and those with an international or multinational presence typically face public scrutiny with regard to their socially responsible investment policies (Dunning, 2003). Second, long term returns to socially responsible investments, particularly for international investments over the long run, are reported as being viewed as being very favorable by a significant number of institutional investors in a recent survey (for details, see Guyatt, 2005). Third, it may be easier for Dutch institutions to find viable socially responsible investment opportunities outside The Netherlands in view of its size and a dearth of suit-

able local socially responsible investments (with the caveat that they may prefer to invest locally because they have greater knowledge of local conditions).

Different regions around the world have different legal standards and social norms in regards to socially responsible investment policies. Most notably, in Asia (Dunning, 2003; Hanna, 2004) and less well-developed countries with high levels of corruption (Doh et al., 2003), there is comparatively weaker spirit towards socially responsible investments as well as weaker legal standards compared to Europe and North America (Dunning, 2003; Hanna, 2004). Corporate accountability standards tend to be more lax in some countries (particularly less developed countries) as a way to encourage foreign direct investment. While there is some evidence (e.g., Angel and Rock, 2004) that global corporations often operate at higher standards than those required by local regulation, this has traditionally not been observed in Asia. Therefore, we expect international institutional investments to be less socially responsible in Asia.

In sum, there may be different reasons for investing outside The Netherlands and finding a difference between Europe (outside The Netherlands) North America, and Asia. First, sustainable private equity opportunities will be limited in any one country, especially a relatively small one such as The Netherlands. This will tend to make sustainable investments more international than conventional investments, ceteris paribus. Second, it may not just be a question of where other sustainable opportunities are actually located – information about those opportunities is critical. Linguistic, cultural, geographical, and transparency factors are likely to be more favorable to the discovery and take-up of opportunities in Europe (outside The Netherlands) and North America versus Asia and less developed countries. Both these issues are discussed with respect to empirical evidence in Cowton (2004).

Hypothesis 2: Socially responsible investment opportunities are likely to be limited in The Netherlands, which will tend to make such investments more international than conventional investments, ceteris paribus. Institutional investors are more likely to invest in socially responsible investment in Europe (outside The Netherlands) and North America than in Asia and less developed countries.

Other factors relevant to socially responsible private equity investments

The primary objective of institutional investors' asset allocation is to achieve the most optimal trade-off of risk and return. The achievement of this objective however will differ in accordance with specific institutional characteristics. For example, a pension fund and a bank will have different funding and solvency requirements, assets and liabilities, and extent of regulatory oversight. Different institutions may exhibit differences in corporate objectives, contributor/stakeholder/beneficiary demographics, and sensitivity to regulatory oversight and accounting rules. Hence, our empirical analyses control for the type of institutional investor (pension funds, insurance companies and banks/financial institutions).

Private equity fund managers are financial intermediaries between institutional investors and entrepreneurial firms. Institutional investors do not have the time and specialized skill sets to carry out due diligence in screening potential private entrepreneurial firms in which to invest; institutional investors also do not have the time and skills to efficiently monitor and add value to the investee entrepreneurial firms. The pronounced risks, information asymmetries and agency problems associated with investments in small, illiquid, and high-tech entrepreneurial firms is a primary explanation for the existence of private investment funds with specialized skill sets to mitigate such problems. We conjecture that institutional investors with larger asset bases are more inclined to invest in private equity and in socially responsible investments which require more extensive due diligence.

Investments in private equity can be carried out as direct fund investments, direct company investments, or fund-of-fund investments. Private equity fund-of-funds allocate their institutional investors' assets in what they perceive to be the top private equity funds; therefore, fund-of-funds remove the decision to invest in a socially responsible manner from the institutional investor. As such, fund-of-funds investments are less likely to be socially responsible because they need to balance the needs of many institutional investors and do so by following a strict profit-maximizing

objective. We control for fund-of-fund investments in our empirical tests.

Socially responsible private equity investment decisions may further be influenced by the extent to which institutions are concerned about reporting standards. We may expect increased transparency of investment decisions via the IFRS (adopted in 2005, and relevant for reports of private equity investments) and increased vulnerability to public perception and pressure to lead to a greater tendency towards socially responsible investments (consistent with Hillman and Kleim, 2004; Kolk, 2005; Kolk and Tulder, 2001; Kolk et al., 1999; Mallin et al., 2005; McInerney, 2005; Shaffer, 1995).

We consider other control variables in the empirical analyses. For instance, we control for the expected return on socially responsible investments relative to that of other investments. This expectation is a qualitative ranking of socially responsible investment returns relative to other returns (returns are based on the institutions' self-formed reported ranking of the risk-adjusted return on a simple 1 (low) to 5 (high) scale). The higher the relative expected return for socially responsible investments, the greater the allocation to socially responsible investments. As a qualitative matter, in our interviews most investors felt that socially responsible investment opportunities were lower risk sustainable investments than most other asset classes (see Guyatt, 2005, for consistent evidence). But we do not separately quantitatively rank risk and return,[6] and just use the risk-adjusted return ranking. The survey data and summary statistics are described in the next section. Thereafter multivariate empirical tests are provided and followed by a discussion of future research.

Data

Methods and survey instrument

We introduce in this article a new dataset from 100 Dutch institutional investors. The data assembled for this article are derived primarily from a survey of Dutch institutional investors carried out between February 2005 and May 2005. This use of surveys was necessary for the research questions considered in this article. Data on past and current institutional asset allocation and investment levels in private equity do exist from some venture capital/private equity associations and annual financial reports,[7] but other information such as projected or future asset allocation, investment objectives and current and projected socially responsible investment activity are not available in the public domain, and in our opinion, could only be obtained by survey. Our survey instrument also enabled us to determine the perceived effect the IFRS had on socially responsible investment activity. To verify and enhance data obtained by the survey, follow up interviews were carried out and where possible, reference was made to institutions' web sites and publications.

There is no clear industry definition of socially responsible investment programs. Institutions, while provided with general guidelines by both regulators and stakeholders, are not as yet bound by any legislation, rules or regulations, and instead create their own internal policies.[8] Alternative definitions we provided in our survey included ''negative screens'' (e.g., excluding investments in areas or industries where moral and/or legal rights are violated, or environmental standards are not met, or firms involved in the production of weapons), ''positive screens'' (e.g., including investments in alternative fuel industries, or educational industries), and ''best in class'' (an extension of positive screens for investments that demonstrate socially responsible leadership within specific areas or industries). The examples we have listed here are of course not exhaustive, but only meant to illustrate the ''ingredients'' of a socially responsible investment program to guide the survey respondents. The institutions surveyed in this study were left to decide if their socially responsible investment policies and practices, if any, fell within the scope of an integrated socially responsible investment program that is consistent with industry definitions (Social Investment Forum, 2003).[9]

The instrument we used to obtain the detailed data required about domestic and international socially responsible investment activity by Dutch institutions is a 13-page questionnaire, comprising 32 questions. Robustness is achieved chiefly by framing questions in a way that calls for numeric responses, or a simple ''yes'' or ''no'' response. In view of the fact that the potential respondents, while financial institutions, are from different branches of finance, a glossary of terms was provided in the

survey to ensure uniformity in defining terms which may not necessarily be used in the same manner across sectors. An overview of the information collected is summarized in Table I, which defines the primary variables used in this study.

While it is easy to see why institutions are moving towards socially responsible investment, we have to acknowledge that the majority of institutional investors do not currently have socially responsible investment programs. Of the 100 institutions surveyed, only 24 currently have a socially responsible investment program for any asset class (of these, 14 include socially responsible private equity investment programs). However, 19 institutions plan on adopting a socially responsible investment program over the period 2006–2010 (of these, 5 include socially responsible private equity investment programs). Reasons for the hesitance on the part of institutions to enter the socially responsible investment arena may include the perception that with corporate social responsibility, optimal returns may be forfeited. Institutions, at the end of the day, have the main goal of creating and maintaining stakeholder value. While some stakeholders deem social responsibility to be an important factor, others may see it as separate from their main aim of obtaining the best financial returns. The ability to balance stakeholder needs may be more easily achieved by some institutions (or rather the managers and board of directors of these institutions) than by others. The human resource factor in formulating and implementing socially responsible investment programs is also analyzed in this study. Also, many institutions are able to hide behind the cloak of confidentiality to evade calls by their stakeholders to increase social responsibility. They can easily justify their secrecy about policies by the need to protect the same stakeholders who seek increased transparency. This cloak of confidentiality is also the main reason why in this study we have relied on survey responses provided confidentially by respondents.

Potential sample selection bias

The potential respondents, the population of institutional investors in The Netherlands, were identified from various sources including, but not limited to the following:

(1) Pensioen & Verzekeringskamer (Pensions and insurance supervisory authority of The Netherlands, PVK);
(2) De Nederlandsche Bank (DNB);
(3) Autoriteit Financiële Markten (The Netherlands authority for the financial markets, AFM);
(4) The Dutch private equity and venture capital association (NVP) and the European venture capital association; and
(5) Web sites of Dutch financial institutions.

Pursuant to identifying the appropriate contact persons, the survey instrument was sent to approximately 1114 Dutch institutions, comprising:

(a) 797 Pension Funds,[10] including company pension funds, industrial pension funds, and occupational pension funds;
(b) 205 Insurance companies;[11] and
(c) 112 Banks,[12] including Universal Banks, Securities credit institutions, Savings banks, Mortgage banks, and other financial service providers.

Participation was chiefly solicited with the promise that the aggregated survey results would be disseminated to respondents. Only one questionnaire was disseminated in hard copy by mail to each institution, and addressed specifically to the institution's CIO or an equivalent manager of private equity investments for an institution where such contact details are available.

One limitation to obtaining data through a survey is the possibility of sample selection bias. While we acknowledge that this is a possibility, we believe from a detailed analysis of the responses received, and the data obtained from the responses, that this concern does not arise in this exercise. First, survey data were gathered for a final sample of 100 institutional investors comprising company pension funds, industrial pension funds, occupational pension funds, life and non-life insurance companies, banks and other financial service providers. Our sample of respondent institutions includes 56 pension funds, 25 insurance companies, and 19 banks (see Table II). Limitations in our sample size from each sector of the finance industry from which we derived data, as well as the limited information about comparable

TABLE I

Variable definitions and summary statistics

Variable name	Definition	Mean	Median	Standard deviation	Minimum	Maximum	Number of observations
Social responsible investment program 2005–2010	A dummy variable equal to 1 for institutions that currently have a socially responsible investment program as at 2005, or plan on adopting one in 2006–2010	0.43	0	0.50	0.00	1.00	100
Social responsible investment program 2005	A dummy variable equal to 1 for institutions that currently have a socially responsible investment program as at 2005	0.24	0	0.46	0.00	1.00	100
Social responsible private equity investment program 2005–2010	A dummy variable equal to 1 for institutions that currently have a socially responsible private equity investment program as at 2005, or plan on adopting one in 2006–2010	0.19	0	0.39	0.00	1.00	100
Social responsible private equity investment program 2005	A dummy variable equal to 1 for institutions that currently have a socially responsible private equity investment program as at 2005	0.14	0	0.35	0.00	1.00	100
The Netherlands domestic private equity investment	The percentage of the institutions' total assets invested in private equity in the Netherlands expected for 2006–2010	0.25	0	1.27	0.00	9.00	100
European (outside The Netherlands) private equity investment	The percentage of the institutions' total assets invested in private equity in Europe excluding The Netherlands expected for 2006–2010	0.69	0	1.58	0.00	11.25	100
U.S. private equity investment	The percentage of the institutions' total assets invested in private equity in the U.S. expected for 2006–2010	0.41	0	1.00	0.00	5.63	100
Asia private equity investment	The percentage of the institutions' total assets invested in private equity in Asia expected for 2006–2010	0.05	0	0.25	0.00	2.06	100
Fund-of-fund investment 2006–2010	The percentage of the institutions' total assets invested in private equity fund-of-fund investments expected for 2006–2010	0.62	0	1.49	0.00	8.00	100

TABLE I

Continued

Variable name	Definition	Mean	Median	Standard deviation	Minimum	Maximum	Number of observations
International financial reporting standards	The institutional investor's rank (1 = low and 5 = high) of the importance of the new International Financial Reporting Standards (IFRS) (2005) for the decision to invest	2.23	2	0.92	1.00	5.00	100
Rank of attractiveness of returns to sustainable investment	The institutional investor's rank (1 = low and 5 = high) of the comparative attractiveness of the returns (relative to the risk) of adopting a socially responsible investment program relative to not adopting such a program	2.49	3	1.16	1.00	5.00	100
Chief Investment Officer responsibility	A dummy variable equal to 1 for institutions that allocate the responsibility to adopting a socially responsible investment program to a single Chief Investment Officer	0.08	0	0.27	0.00	1.00	100
Assets (millions of Euros)	The total assets managed by the institutional investor (in millions of 2005 Euros)	4,753.00	800	9,060.41	300	50,000	100
Pension fund	A dummy variable equal to 1 for a pension fund institutional investor	0.56	1	0.50	0	1	100
Insurance company	A dummy variable equal to 1 for an insurance company institutional investor	0.25	0	0.44	0	1	100
Bank/financial institution	A dummy variable equal to one for a bank/financial institutional investor	0.19	0	0.39	0	1	100

This table presents selected variables and descriptive statistics in the dataset of 100 Dutch institutional investors, based on data collected in 2005. Dummy variables have minimum values of 0 and maximum values of 1, and the mean reflects the percentage of observations that take the value 1.

academic work on institutional investor behavior in private equity, however, makes reliable statistical comparisons of our sample relative to the population of other types of investors in private equity intractable.

Second, a broad array of respondents replied to the survey. For example, the data show the median respondent asset size of 800,000,000 and the average being 4,665,000,000, indicating respondents were of a variety of asset sizes. The possibility of sample selection bias is further reduced by the presence of institutions that do not currently allocate any of their assets to private equity, and do not plan to allocate any up to 2010, institutions that plan to increase current allocations in the near future and also institutions that plan to reduce allocations by 2010. We further did not find a statistically significant difference between average assets of respondents versus non-respondents. However, we unfortunately realise that we cannot absolutely rule out the possibility of a response bias due to the unique nature of the data.

Summary statistics

The data indicate that the 100 institutional investors comprising pension funds, insurance companies, banks, and other financial institutions invested on average 1.09% of their assets in private equity as at 2005, and plan on investing 1.44% of their assets in private equity over the period 2006–2010 (Table II Panel B). Of these 100 institutions, 19 plan on (over the period 2006–2010) investing on average more than 2.5% of their assets in private equity, 10 plan on investing more than 5% of their assets in private equity, and 6 plan on investing more than 7.5% of their assets in private equity. Total private equity investment accounted for approximately 10.5 billion as at 2005. The proportional allocations to private equity in The Netherlands are consistent with institutional investor allocations to private equity funds in the United States (see, e.g., Gompers and Lerner, 1999) and Australia (see, e.g., Cumming et al., 2005).

Figure 1 indicates 24 (of 100) institutions currently have a socially responsible investment program (of these, 14 include socially responsible private equity investment programs), and 19 which plan on adopting a socially responsible investment program over the period 2006–2010 (of these, 5 include socially responsible private equity investment programs). Figure 2 shows the investment in socially responsible investment programs by type of institutional investor (pension fund, insurance company, and bank). The picture in Figure 2 does not suggest there is a material difference in the propensity to invest in socially responsible investments across different types of Dutch institutions.

Tables III and IV provide comparison tests and a correlation matrix, respectively. These univariate tests indicate relations between the variables without simultaneously controlling for other factors. The univariate summary statistics and tests in Tables III and IV indicate socially responsible private equity investment is observed more often for European investments (outside The Netherlands), and investments in the United States from Dutch institutional investors. Socially responsible investment is observed more often when institutional investors rank the importance of the IFRS as being more important. Socially responsible investment is also observed more often among larger institutions, and among institutions that centralize decision-making responsibility via a CIO. Note as well that socially responsible private equity investment is observed more often for fund-of-funds investments, but fund-of-fund investments are also correlated with size (and hence the effect is shown to be different in the multivariate tests below). In the next section we provide multivariate analyses of the determinants of socially responsible investment in private equity (and other asset classes) that simultaneously control for a wide range of variables.

Tables III and IV provide useful preliminary insights into the relations between the variables. These summary statistics also enable assessment of potential problems with the multivariate empirical tests in regards to, for example, collinearity across explanatory variables or some other type of misspecification error. For example, due to the high correlation between the regional variables, such variables are not included simultaneously in the multivariate regressions presented in the next section. Alternative multivariate models are presented and discussed below in the next section.

TABLE II

Summary statistics

Panel A. Characteristics of the institutional investors in the dataset

Type of financial institution	Number of institutions in the dataset	Average assets (millions of Euros)	Number of institutions with a socially responsible investment program	Number of institutions with a socially responsible investment program in 2005 or planning to adopt one in 2006–2010
Pension fund	56	2,942.86	14	23
Insurance company	25	5,008.00	10	13
Bank	19	9,752.63	5	7
All types of institutional investors	100	4,753.00	29	43

Panel B. Asset allocations (percentage of assets invested in different asset classes)

	Current (as at 2005)						
Type of financial institution	Publicly traded equities	Bonds	Cash/ currencies	Index funds	Private equity	Other types of alternative investments	Other
Pension fund	33.38	50.89	4.32	1.60	1.17	7.43	1.21
Insurance company	23.80	55.72	9.56	0.48	0.73	6.23	3.48
Bank	27.32	48.43	5.11	0.58	1.36	16.05	1.16
All types of institutional investors	29.83	51.63	5.78	1.13	1.09	8.77	1.77
	Planned (for the period 2006–2010)						
Pension fund	31.51	51.73	2.86	1.97	1.67	9.53	0.73
Insurance company	24.71	59.02	2.52	2.16	0.62	8.37	2.60
Bank	24.95	47.59	2.68	1.05	1.86	21.34	0.53
All Types of institutional investors	28.56	52.77	2.74	1.85	1.44	11.48	1.16

This table summarizes the data by the characteristics of the institutional investors in terms of assets and number of institutions with a socially responsible investment program (Panel A), and their current and future asset allocations (Panel B). Other types of alternative investments primarily encompass hedge funds and real estate.

Multivariate empirical analyses

The multivariate empirical tests in this section focus on logit regression analyses of the probability that an institutional investor has a socially responsible private equity investment program. In Table V Panel A, we consider all 100 institutional investors in the dataset, regardless of whether or not they invest in private equity of any type. In Table V Panel B we consider logit regression analyses of the subset of 35 institutional investors that are (2005) or expect to be (2006–2010) invested in private equity. Table V Panel B also considers in Model (11) bivariate logit analyses involving two steps: (1) the probability that an institutional investor invests in private equity, and (2) the probability that an institutional investor is invested in socially responsible private equity. The Model (11) specification is a useful robustness check to ascertain whether there are statistical differences in the subset of firms that invest in private equity versus

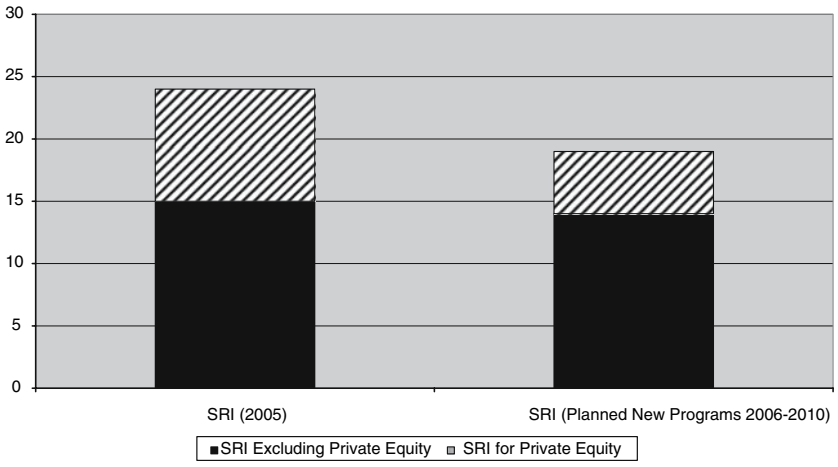

Figure 1. Socially responsible investment (SRI) programs for private equity and other asset classes among 100 Dutch institutional investors.

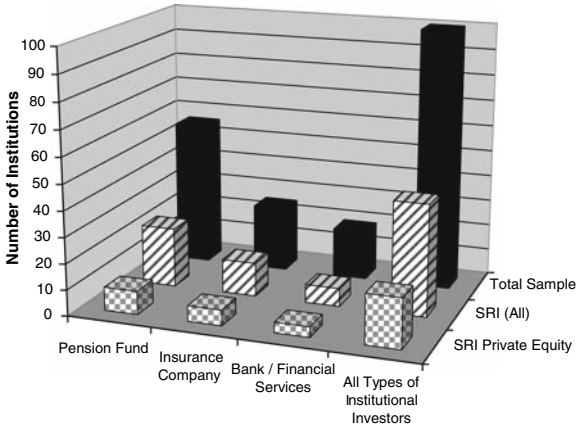

Figure 2. Socially responsible investment (SRI) programs by type of institution (Current as at 2005 or Planned for 2006–2010).

those that do not, and to econometrically correct for those potential differences in the spirit of Heckman (1976, 1979). Table VI thereafter considers logit regression analyses of the probability that an institutional investor invests in social responsibility for any asset class, not only private equity. Each of the regression models (17 in total) are provided to show robustness to alternative subsets in the sample, alternative definitions of the dependent variable, and alternative explanatory variables. The variables are as defined above (see also Table I). The structure of the data in terms of the questions put to the institutional investors in the survey was also designed to mitigate any concern with potential endogeneity in the relations studied, as indicated by the variable definitions in Table I. The alternative specifications across the 17 regression models provide further robustness checks for potential collinearity across the variables, and other specifications not explicitly reported are available upon request from the authors.

Table V provides interesting evidence in respect of the three primary hypotheses outlined above. In regards to Hypothesis 1, note regression evidence indicates socially responsible private equity investment is more common when the decision to implement such an investment plan is placed in more the hands of a CIO, as opposed to a broader investment team. When a CIO is in charge, a socially responsible private equity investment program is approximately 40–50% more likely to be adopted. As discussed above (note 4 and accompanying text), socially responsible investments may be perceived to involve a sacrifice in expected returns by some investors, and when investment personnel within an organization compete with each other on the basis of their returns performance, they are less likely to invest in socially responsible investments. By contrast, when a CIO takes responsibility for the type of investments to be carried out, socially responsible investment programs are much more likely to be adopted.

In regards to Hypothesis 2, the regressions indicate that socially responsible private equity investments are more common among institutional

TABLE III

Difference of means, proportions and medians tests

	Socially responsible private equity investment program (current at 2005 or planned for 2006–2010)			No socially responsible private equity investment program (current at 2005 or planned for 2006–2010)			Difference of means test	Difference of medians test (or difference of proportions test for dummy variables)
	Number of observations	Mean	Median	Number of observations	Mean	Median		
The Netherlands domestic private equity investment	19	0.34	0.00	81	0.2353	0.00	0.52	$p \leq 0.146$
European (outside The Netherlands) private equity investment	19	2.39	1.88	81	0.30	0.00	3.55***	$p \leq 0.000$***
U.S. private equity investment	19	1.67	1.13	81	0.12	0.00	3.98***	$p \leq 0.000$***
Asia private equity investment	19	0.16	0.00	81	0.03	0.00	1.92*	$p \leq 0.213$
Fund-of-funds private equity investment	19	1.35	0.88	81	0.45	0.00	2.35**	$p \leq 0.000$***
International Financial Reporting Standards	19	2.63	3.00	81	2.14	2.00	1.89*	$p \leq 0.677$
Rank of attractiveness of returns to socially responsible investment	19	2.89	3.00	81	2.40	3.00	1.76*	$p \leq 0.171$
Chief Investment Officer responsibility	19	0.32	0.00	81	0.02	0.00	2.62**	4.21***
Log (assets)	19	12336.84	6500.00	81	2974.07	800.00	3.10***	$p \leq 0.001$***
Pension fund	19	0.47	1.00	81	0.58	1.00	−0.82	−0.84
Insurance company	19	0.32	0.00	81	0.23	0.00	0.72	0.77
Bank	19	0.21	0.00	81	0.19	0.00	0.24	0.25

This table presents difference of means, proportions, and medians tests for the population of institutional investors that do and do not have as at 2005 (or plan on having for 2006–2010) a socially responsible private equity investment program. *, **, *** Statistically significant at the 10%, 5%, and 1% levels, respectively.

TABLE IV

Correlation matrix

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1)	Social responsible investment program 2005–2010	1.00													
(2)	Social responsible investment program 2005	0.74	1.00												
(3)	Social responsible private equity investment program 2005–2010	0.56	0.48	1.00											
(4)	Social responsible private equity investment program 2005	0.46	0.63	0.83	1.00										
(5)	The Netherlands domestic private equity investment	−0.07	−0.07	0.03	−0.01	1.00									
(6)	European (outside The Netherlands) private equity investment	0.20	0.19	0.52	0.44	0.03	1.00								
(7)	U.S. private equity investment	0.28	0.25	0.61	0.50	0.00	0.50	1.00							
(8)	Asia private equity investment	0.07	0.00	0.22	0.09	0.02	0.32	0.53	1.00						
(9)	Fund-of-funds private equity investment	−0.01	−0.01	0.24	0.16	0.34	0.45	0.32	0.41	1.00					
(10)	International Financial Reporting Standards	0.07	0.22	0.21	0.25	0.19	0.25	0.23	−0.10	0.29	1.00				
(11)	Rank of attractiveness of returns to socially responsible investment	0.26	0.05	0.17	0.05	−0.14	0.04	0.08	0.05	−0.09	−0.14	1.00			
(12)	Chief Investment Officer responsibility	0.19	0.06	0.42	0.20	0.00	0.17	0.21	0.26	0.37	0.13	0.07	1.00		
(13)	Log (assets)	0.17	0.18	0.46	0.40	−0.02	0.26	0.36	0.12	0.31	0.37	−0.17	0.27	1.00	
(14)	Pension fund	−0.04	−0.10	−0.08	−0.05	0.09	0.02	0.07	0.11	0.18	−0.26	0.18	−0.11	−0.33	1.00
(15)	Insurance company	0.10	0.14	0.07	0.03	−0.06	−0.14	−0.14	−0.09	−0.16	0.11	−0.07	0.09	0.09	−0.65

This table presents correlation coefficients across selected variables as defined in Table I. Correlations significant at the 5% level are highlighted in bold and underline font.

TABLE V

Logit regression analyses for sustainable/socially responsible private equity investment

Panel A. Full sample of 100 dutch institutions

	Model (1)		Model (2)		Model (3)		Model (4)		Model (5)		Model (6)	
	Marginal effect	*t*-Statistic	Marginal effect	*t*-Statistic	Marginal effect	*t*-Statistic	Marginal effect	*t*-Statistic	Marginal effect	*t*-Statistic	Marginal effect	*t*-Statistic
Constant	−0.966	−4.144***	−0.824	−2.821***	−0.741	−2.626***	−0.969	−4.083***	−0.794	−2.421**	−0.661	−2.868***
The Netherlands domestic private equity investment	0.015	0.632										
European (outside The Netherlands) private equity investment			0.111	2.180**					0.075	1.710*	0.040	1.818*
U.S. private equity investment					0.262	1.549						
Asia private equity investment							0.145	0.998				
Fund-of-funds private equity investment	−0.014	−0.577	−0.069	−1.685*	−0.095	−1.303	−0.025	−0.788	−0.042	−1.302	−0.028	−1.322
International Financial Reporting Standards	0.015	0.386	−0.006	−0.172	0.021	0.475	0.034	0.823	0.005	0.178	0.027	1.117
Rank of attractiveness of returns to socially responsible investment									0.046	1.875*	0.020	1.096
Chief Investment Officer responsibility	0.496	2.044**	0.661	2.423**	0.621	2.190**	0.459	1.893*	0.512	1.414	0.096	0.817
Log (assets)	0.085	3.454***	0.069	2.591***	0.049	1.692*	0.080	3.356***	0.056	2.164**	0.044	2.464**
Pension fund	0.137	1.376	0.130	1.167	0.072	0.590	0.136	1.361	0.097	1.086	0.101	1.348
Insurance company	0.110	0.798	0.201	1.041	0.173	0.992	0.107	0.793	0.154	0.887	0.088	0.818
Model diagnostics												
Number of observations	100		100		100		100		100		100	
Number of observations where dependent variable = 1	19		19		19		19		19		14	
Adjusted R^2 (pseudo R^2 for Model 1)	0.314		0.541		0.530		0.323		0.596		0.393	
Loglikehood function	−33.348		−22.318		-22.837		-32.906		-19.633		−24.596	
Chi-square statistic	30.549***		52.608***		51.570***		31.434***		57.978***		31.801***	

TABLE V
Continued

Panel B. Subsample of private equity investments (Models (7)–(10)) and bivatiate logit estimates with sample selection (Model (11))

	Model (7) subsample of institutions in private equity		Model (8) subsample of institutions in private equity		Model (9) subsample of institutions in private equity		Model (10) subsample of institutions in private equity		Model (11)			
									Step 1: Probability of investment in private equity		Step 2: Probability of socially responsible private equity	
	Marginal effect	*t*-Statistic	Marginal effect	*t*-Statistic	Marginal effect	*t*-Statistic	Marginal effect	*t*-Statistic	Marginal effect	*t*-Statistic	Marginal effect	*t*-Statistic
Constant	−0.716	−1.155	−2.477	−2.207**	−1.349	−1.376	−2.173	−2.103**	−3.490	−3.315***	−4.451	−2.786***
The Netherlands domestic investment	−0.025	−0.339										
European (outside The Netherlands) investment			0.204	1.764*							0.274	2.039**
U.S. investment					0.574	2.227**						
Asia investment							0.217	0.680				
Fund-of-funds investment	−0.113	−1.4814	−0.188	−1.950*	−0.271	−1.983**	−0.173	−1.574				
International Financial Reporting Standards	−0.088	−0.711	−0.063	−0.392	0.002	0.016	0.011	0.067			−0.380	−1.622
Rank of attractiveness of returns to socially responsible investment	0.375	1.851*	0.207	1.621	0.245	1.837*	0.237	1.955*				
Attractiveness of returns to private equity versus public equity									0.013	3.506***		
Chief Investment Officer responsibility			0.470	2.506**	0.404	2.125**	0.450	1.983**			0.700	1.448
Log (assets)	0.122	1.566	0.211	2.018**	0.060	0.567	0.188	1.944*	0.243	1.587	0.290	2.883***
Pension fund	0.151	0.528	0.324	0.962	0.037	0.110	0.279	0.920				
Insurance company	0.159	0.579	0.289	1.064	0.194	0.862	0.083	0.256				
Model diagnostics												
Number of observations	35		35		35		35		100		35	
Number of observations where dependent variable = 1	19		19		19		19		35		19	

TABLE V
Continued

Adjusted R^2 (pseudo R^2 for Model 1)	0.193	0.406	0.440	0.296	
Loglikehood function	−19.466	−14.323	−13.520	−16.990	−46.219
Chi-square statistic	9.331	19.618**	21.223***	14.282*	

This table presents logit regression estimates of the probability adoption of a socially responsible investment policy in private equity by a Dutch institutional investor. Panel A considers all 100 institutional investors in the sample regardless of whether or not they are or plan on investing in private equity. In Models (1)–(5), adoption of a socially responsible investment policy includes means either adoption has taken place as at 2005, or the institution plans to adopt such a policy sometime within the period 2006–2010. In Model (6) adoption only refers to the current practice as at 2005. Panel B considers the subsample of institutional investors that will be invested in private equity in the period 2006–2010 in Models (7)–(10). Model (11) in Panel B involves a 2-step bivariate regression in the spirit of Heckman (1976, 1979) whereby in the first step the probability that the institution invests in private equity is estimated, while in the second step the probability that the institution makes socially responsible private equity investments is estimated. The independent variables are as defined in Table I. The coefficients on the independent variables are robust to potential problems associated with collinearity of included and excluded variables. The total population of firms comprises 100 Dutch institutional investors described in Tables I and II. The values presented are not the standard logit coefficients; rather, they are the marginal effects so that the economic significance is shown alongside the statistical significance. *, **, *** Significant difference for the sample of all other firms in the group at the 10%, 5%, and 1% levels, respectively.

TABLE VI

Logit regression analyses for sustainable/socially responsible investment

	Model (12)		Model (13)		Model (14)		Model (15)		Model (16)		Model (17)	
	Marginal effect	*t*-Statistic	Marginal effect	*t*-Statistic	Marginal effect	*t*-Statistic	Marginal effect	*t*-Statistic	Marginal effect	*t*-Statistic	Marginal effect	*t*-Statistic
Constant	−0.819	−2.280**	−0.840	−2.142**	−0.622	−1.451	−0.871	−2.361**	−1.185	−2.755***	−1.029	−3.014***
The Netherlands domestic investment	−0.021	−0.373										
European (outside The Netherlands) investment			0.156	1.975**					0.144	1.698*	0.071	1.598
U.S. investment					0.412	1.717*						
Asia investment							0.229	0.867				
Fund-of-funds investment	−0.073	−1.363	−0.173	−2.191**	−0.229	−1.809*	−0.102	−1.575	−0.157	−1.962**	−0.088	−1.631
International Financial Reporting Standards	0.033	0.504	0.014	0.201	0.021	0.294	0.048	0.688	0.018	0.247	0.113	1.915*
Rank of attractiveness of returns to socially resopnsible investment									0.121	2.344**	0.027	0.648
Chief Investment Officer responsibility	0.406	2.327**	0.476	3.219***	0.459	2.957***	0.400	2.252**	0.441	2.415**	0.047	0.233
Log (assets)	0.071	1.740*	0.066	1.531	0.038	0.776	0.073	1.793*	0.077	1.707*	0.048	1.409
Pension fund	0.227	1.481	0.269	1.631	0.210	1.195	0.233	1.516	0.203	1.143	0.189	1.313
Insurance company	0.219	1.341	0.286	1.726*	0.257	1.555	0.220	1.353	0.262	1.480	0.275	1.566
Model diagnostics												
Number of observations	100		100		100		100		100		100	
Number of observations where dependent variable = 1	43		43		43		43		43		29	
Adjusted R^2 (pseudo R^2 for Model 1)	0.072		0.124		0.143		0.076		0.167		0.120	
Loglikehood function	−63.440		−59.866		−58.559		−63.120		−56.929		−52.994	
Chi-square statistic	9.783		16.930**		19.545***		10.424***		22.805***		14.442***	

This table presents logit regression estimates of the probability adoption of a socially responsible investment policy in any asset class by a Dutch institutional investor. In Models (12)–(16), adoption of a socially responsible investment policy includes means either adoption has taken place as at 2005, or the institution plans to adopt such a policy sometime within the period 2006–2010. In Model (17) adoption only refers to the current practice as at 2005. The independent variables are as defined in Table I. The coefficients on the independent variables are robust to potential problems associated with collinearity of included and excluded variables. The total population of firms comprises 100 Dutch institutional investors described in Tables I and II. The values presented are not the standard logit coefficients; rather, they are the marginal effects so that the economic significance is shown alongside the statistical significance. *, **, *** Significant difference for the sample of all other firms in the group at the 10%, 5% and 1% levels, respectively.

investors that invest internationally. In particular, socially responsible investment is approximately 1–2% more common among institutional investors with a 10% greater international investment focus in Europe (outside The Netherlands) (see Models 2, 5, 6, 8, and 11 in Table V Panels A and B).[13] The economic significance of a 10% change is as low as 0.4% in Model 6 and as high as 2.7% in Model 11. All of these estimates are statistically significant at at least the 10% level of significance, and robust to control variables for other factors that influence institutional investor investment allocations.

Table V Model 3 indicates that socially responsible private equity investment is not statistically different for private equity investments in the United States by Dutch institutional investors, when all 100 Dutch institutional investors are considered together regardless of whether or not they invest in private equity. However, when we consider the subsample of Dutch institutional investors that invest in private equity separately, the data indicate that socially responsible private equity investment is approximately 5–6% more common among institutional investors with a 10% greater international investment focus in the United States. By contrast, there is no evidence from any specification that socially responsible private equity investment is statistically related to cross-border investment decisions in Asia and/or for domestic investments in The Netherlands.

In regards to the control variables, recall in the description of the data above that there was univariate correlation evidence that socially responsible investment is more common among institutional investors that are more sensitive to the IFRS. However, it appears that other factors independently affect the association between the importance of the IFRS to an institution and the propensity to invest in socially responsible private equity investments: the relation between these variables is not robust in a multivariate context with controls for other factors in Table V, Panels A and B. As such, the data offer suggestive but not conclusive evidence that institutions are sensitive to reporting standards and public perception of their socially responsible private equity investment activities. It is nevertheless noteworthy that Model (17) in Table VI (for all types of investment, including public stock markets and not just private equity) that the IFRS is statistically related (at the 10% level of significance) to the propensity to invest in socially responsible investments. Model 17 indicates that an increase in the ranking of the importance of the IFRS by 1 (on a scale of 1–5, where 5 is the most important) increases the likelihood that an institutional investor will adopt a socially responsible investment program by 1.1%. The data therefore suggest that reporting standards are more closely connected to public investments as opposed to private investments, but again, these statistical differences are not very pronounced in the data.

Many of the other control variables in the regression models are statistically significant and worth mentioning. Socially responsible private equity investment programs are more common among larger institutional investors and those institutions in the data expecting greater economic risk-adjusted returns from socially responsible investments. An increase in the rank of the relative returns to socially responsible investments by 1 (on a scale of 1–5, where 1 is the lowest) increases the probability of a socially responsible investment by 1–3% depending on the specification of the model (see Models 5 and 7–10). We find no statistically significant differences in the propensity to carry out socially responsible investments depending on the type of investor (pension fund, insurance company or bank/financial institution) in any specification in Tables V and VI. We do find evidence that socially responsible investment is approximately 1–3% less common among institutional investors that invest a 10% greater proportion in fund-of-funds (see Models 8–9 and 13–16, but the statistical significance of this evidence is not robust in some of the other specifications), which is expected as fund-of-funds remove the decision-making from the institutional investors to the fund-of-funds managers.

Finally, note by comparison of Table VI to Table V that the evidence that the factors that give rise to socially responsible investment decisions for private equity are quite similar to those for other asset classes. This is a somewhat unexpected result, as private equity is widely viewed as a distinctive asset classes.[14] We did make note of the fact that the IFRS appears to be somewhat more closely related to investments other than private equity, but these differences were not statistically pronounced in the data. It is possible that regulatory factors not captured by the data could better explain differences across

asset classes, but that issue is beyond the scope of this article and the new dataset used herein. This issue, along with other related issues is discussed further in the next section.

Extensions and future research

This article introduced the first international dataset on socially responsible private equity investments. As the data obtained in this article are new and unique and extremely difficult to obtain from institutional investors, there are of course limitations in the number of observations. We nevertheless gathered sufficient details in the data to control for a variety of factors that could affect institutional investor allocations to different asset classes and to socially responsible investments. And as we have discussed in the article, we do not have any reason to believe there are biasses with regard to sample selection in the data we were able to obtain.

Our analysis focussed on Dutch institutional investor allocations to socially responsible private equity investment in The Netherlands, Europe (outside The Netherlands) (our data cannot distinguish between specific countries in Europe due to the confidential nature of the data considered), the United States and Asia (again, we cannot distinguish between specific regions). We provided suggestive evidence, although not conclusive, that regulations might have different effects for different asset classes in regards to social responsibility. Further work could consider expanding the data in terms of more closely investigating different asset classes, as well as possibly for different time periods and different countries (in the spirit of Manignan and Ralston, 2002; see also Mayer et al., 2005, for a discussion of differences in institutional investor decisions in the United Kingdom versus the United States).

Given the increase in institutional investor propensity to adopt socially responsible investment programs in private equity (and other asset classes), further research could also investigate the factors that give rise to private equity fund managers to themselves offer such investment alternatives to their institutional investors. The data introduced in this article suggest there is an increasing demand by institutional investors to invest responsibly, and as such it is natural to expect the market to be more sensitive to the socially responsible asset class. There is ample scope for further research to consider when, why and how private fund managers implement such programs.

Conclusions

The study investigated for the first time the factors that influence institutional investors to allocate capital to sustainable socially responsible private equity investments. We introduced a new detailed dataset from a survey of Dutch institutional investors. Perhaps most importantly, there was very strong evidence in the data introduced herein that socially responsible investments are more likely among institutions that centralize decision-making in the hands of a CIO. Institutions that make use of an internal competitive model among investment personnel are 40–50% less likely to consider social responsibility in their decisions.

The data indicated strong evidence that Dutch institutional investors are more likely to invest in socially responsible private equity investments in Europe (outside The Netherlands) and in the United States, in contrast to domestic Dutch investments and Asian investments. That socially responsible investment is more likely in Europe (outside The Netherlands) and the United States relative to within The Netherlands likely reflects investment opportunities. Similarly, prior work has shown that socially responsible investment is less widely regarded generally among Asian countries.

Finally, the data indicated socially responsible investment is more common among larger institutional investors and those investors expecting greater risk-adjusted returns from such investments. There was also some, albeit less robust, support for the view that socially responsible investment was more likely among institutions that consider adherence to the IFRS to be more important.

Overall, we did not find pronounced differences across factors that lead to socially responsible investing in private equity versus other asset classes. Further empirical research on other asset classes and/or institutional investors different countries would shed more light on topic.

Notes

[1] For recent literature on private equity and venture capital, see, e.g., Black and Gilson (1998), Cumming and Johan (2006), Gompers and Lerner (1999), Manigart et al. (2000), Mayer et al. (2005), Sapienza et al., (1996), Wright and Lockett (2003).

[2] For recent literature on corporate social responsibility and socially responsible investment, see, e.g., Cowton (2002, 2004), Dillenburg et al. (2003), Sparkes and Cowton (2004), Waring and Lewer (2004), Guay et al. (2004), Mill (2006), and Lockett et al. (2005).

[3] Most notably, see Maula et al. (2003) for an analysis of social capital and knowledge acquisition in the context of corporate venture capital.

[4] In our data (described in the next section), some of the institutional investors ranked socially responsible investment returns quite highly and to be comparable with other asset classes, consistent with recent empirical evidence (see, e.g., Ali and Gold, 2002; Derwall and Koedijk, 2005; Doweell et al., 2000; Geczy et al., 2003; Plantinga and Scholtens, 2001; Schroder, 2003). As well, note that recent evidence indicates socially responsible investments provide significant diversification benefits (Guyatt, 2005; although see also Bello, 2005, for a less optimistic view of the diversification benefits associated with a sample of socially responsible investment funds).

[5] A related argument could be that more socially responsible people go to work for corporations with centralized decision-making (Montgomery and Ramus, 2003).

[6] Investors felt that risk was more difficult to rank, since the benchmark against which risk is ranked could vary drastically, and differ at different points in time. As a matter of implementation, we were only able to obtain one ranking for risk-adjusted returns expectations.

[7] See, e.g., www.evca.com for European data and www.nvp.nl for Dutch data.

[8] Public pressure may eventually result in institutional investors being forced to declare to what extent social and environmental criteria are factors in their investment decisions. In some countries (e.g., the U.K.) some institutional investors already have to make a declaration.

[9] The Social Investment Forum (2003, page 9) defines SRI as follows: ''Socially responsible investing (SRI) is an investment process that considers the social and environmental consequences of investments, both positive and negative, within the context of rigorous financial analysis. It is a process of identifying and investing in companies that meet certain standards of Corporate Social Responsibility (CSR) and is increasingly practiced internationally. As the Prince of Wales Business Leaders Forum explains: ''Corporate Social Responsibility means open and transparent business practices that are based on ethical values and respect for employees, communities, and the environment. It is designed to deliver sustainable value to society at large, as well as to shareholders.'' Whether described as social investing, ethical investing, mission-based investing, or socially aware investing, SRI reflects an investing approach that integrates social and environmental concerns into investment decisions. Social investors include individuals, businesses, universities, hospitals, foundations, pension funds, corporations, religious institutions, and other nonprofit organizations. Social investors consciously put their money to work in ways designed to achieve specific financial goals while building a better, more just and sustainable economy. Social investing requires investment managers to overlay a qualitative analysis of corporate policies, practices, and impacts onto the traditional quantitative analysis of profit potential.''

[10] All types of pension funds were included to mitigate response bias. As of 2004, all pension funds in the Netherlands had assets at 442 billion, with Dutch company pensions having assets of over 141 billion. Pension funds with assets below 1 million have however been excluded (954 in total) primarily because the possibility of sample selection bias is mitigated by the breadth of asset size of the pension funds that were sent survey questionnaires. Of the 797 pension funds surveyed, 524 have assets between 10 million and 1 billion. A majority of those have assets less than 100 million. 34 Pension Funds control assets between 1 billion and 5 billion, while 12 have more than 5 billion within their control.

[11] Those institutions within this category but described as institutions with an office in the Netherlands, or with unrestricted services to the Netherlands and mutual benefit companies have not been included. While their inclusion will increase the approximate figure provided to 1916, they are not deemed as Dutch institutions for the purposes of this study. As in the case of the target pension funds, we believe that the breadth of asset size of the insurance companies that were sent survey questionnaires mitigates any possible sample selection bias. Of the number surveyed, 32 have assets between 100 million and 1 billion, 27 have more than 1 billion and 29 have less than 100 million.

[12] Non-EU and EU bank branches have not been included.

[13] The 10% change is simply hypothetical, and selected merely to illustrate the economic significance (the size) of the effect. The effect is modeled as linear in the econometric specification. Diagnostic tests (such as likelihood ratio tests) did not suggest a preference for a non-linear specification, and the linear specification

seemed most appropriate for the data. Alternative specifications are available upon request.

[14] See references *supra* note 1.

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