

Do Overseas-Trained Hedge Fund Managers Perform Better in China?

Lu Li[^], Yan Lu[#], Sugata Ray⁺, and Hong Yan^{*}

Abstract

We document that Chinese hedge fund managers with relevant overseas experience outperform their local peers in terms of both raw returns and fund alpha. They do this while taking less risk, thus generating significantly higher Sharpe and Information ratios. Funds run by overseas-returnees are also associated with lower fund mortality. These results continue to hold after using an instrumental variable framework to mitigate potential endogeneity concerns, suggesting overseas work experience may be causally linked with superior fund management skills.

Keywords: Hedge funds; overseas returnee; overseas education; work experience; performance evaluation; Haigui

JEL Classification: G11; G14; G15; G23

[^]Lu Li is from Shanghai International Studies University, School of Economics and Finance, 550 Dalian Road (W), Shanghai 200083, China, and Shanghai Jiao Tong University, China Hedge Fund Research Center, 211 West Huaihai Road, Shanghai 200030, China. Email: lilucf@163.com. Tel: 15221969707.

[#]Yan Lu is from the University of Central Florida, College of Business, Box 161400, Orlando FL 32816, USA. E-mail: yan.lu@ucf.edu. Tel: +1-407-823-1237.

⁺Sugata Ray is from the University of Alabama, Culverhouse College of Business, Box 870224, Tuscaloosa, AL 34587, USA. E-mail: sugata.ray@cba.ua.edu. Tel: +1-205-348-5726.

^{*}Hong Yan is from Shanghai Jiao Tong University, Shanghai Advanced Institute of Finance and China Hedge Fund Research Center, 211 West Huaihai Road, Shanghai 200030, China. Email: hyan@saif.sjtu.edu.cn.

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1. Introduction

Investment performance of portfolio managers crucially depends on their skills. Early studies, such as Golec (1996) and Chevalier and Ellison (1999), have examined the effects of age and reputation of college education of mutual fund managers on their performance and found mixed results. Recent literature, however, has documented positive impact of experiences of mutual fund managers on asset selection and trading efficiency (Greenwood and Nagel, 2009, Kempf, et al., 2017, and Cici, et al., 2018). Yet professional experience is only one aspect that contributes to managerial skills, other aspects, such as intellectual capacity, or talent, may also affect managerial performance (see, e.g., Chaudhuri, et al, 2020). How to identify the relevant elements of skills that matter for performance and tease out the role of innate capability from that of training experience remains an important and challenging question to answer.

More specifically, whether more sophisticated education and work experience obtained from overseas is valuable in generating better performance in the asset management industry is also an open question. While Chaudhuri, Ivkovich, Pollet, and Trzcinka (2020), and Kostovetsky and Ratushny (2016) document the value of specialized “Western” degrees in the asset management field and Chevalier and Ellison (1999) show that managers who “attended higher - SAT undergraduate institutions have systematically higher risk-adjusted excess returns,” there are also studies showing that localized knowledge and work experience generate outperformance (see, for example, Jagannathan, Jiao, and Karolyi (2018)). In the Chinese asset management industry context, the relative importance of overseas training and work experience versus local knowledge and upbringing is an empirical question to sort out.

We examine this question using data from the hedge fund industry in China. We obtain data for 1,099 hedge fund managers, 7,321 hedge funds and study whether the funds' return and risk characteristics are significantly different based on whether they are managed by returnee managers or local managers.¹ The hedge fund industry is well suited for studying this question as there is ample data on the productivity of these enterprises, as measured by the returns they produce. The managers of these funds are easily identified and have a disproportionate share of influence over the operations of their funds.² Additionally, there is a significant cross-sectional variation in terms of returnee and local managers. For example, in our sample, about one fifth of hedge fund managers have had overseas experiences, of which about half have only foreign educational experiences and about half have both foreign educational and work experiences.

Analyzing the data, we find that returnee hedge fund managers perform significantly better than their local counterparts. Their annualized return and alpha measures are significantly higher (0.91% and 1.26% higher, respectively), they take less risk (2.49% lower standard deviation of raw returns and 2.22% lower standard deviation in terms of idiosyncratic returns) and they have higher Sharpe ratios and Information ratios (10.62% and 8.74% higher, respectively). Separating returnee managers into those who had both foreign work and educational experience, and those who only have foreign educational experience, we find the improved results are only exhibited by the former group. These results suggest that foreign work experience is critical to the improved fund manager performance and simply studying abroad does not yield such a result.

¹ There were no foreign manager hedge funds in China before the Chinese Securities Regulatory Commission and Asset Management Association of China eased the entry restriction of foreign-funded hedge fund companies in 2018. Such funds started appearing in 2018 and by the end of 2018, there were only 16 foreign hedge fund companies managing 20 hedge fund products in China. Since our sample period for this study ends in 2019, there are no foreign hedge fund companies with foreign managers with a meaningful performance record to include in our analysis.

² See Brown, Lu, Ray, and Teo (2018) for a discussion of fund managers' influence over fund decisions and realizations.

In addition to improved performance, we also find that returnee managers' funds experience lower levels of operational risk, exhibiting significantly lower likelihoods of fund termination and loss of communication (18% and 35% lower likelihoods of termination and loss of communication, respectively).³ Again, we find these decreased operational risks to be concentrated in the sample of returnee managers with both foreign educational and work experience.

However, results correlating overseas experience and fund performance do not allow us to definitively attribute the improved performance to overseas experiences. It is possible that there are some other omitted variables (level of ambition, or aptitude in quantitative subjects, for example) that drive both the decision to pursue overseas experience and outperformance in the hedge funds. To mitigate this concern, we perform several tests to address the possible endogeneity problem. Our tests involve carefully controlling for the educational experiences fund managers have had in both China (before going overseas) and overseas. We use information whether managers did an undergraduate degree in a STEM field to proxy for some of these variables.⁴ We find that outperformance of managers with overseas experiences is limited to the sample of managers whose domestic undergraduate educational background is in science or engineering.

Finally, we use an instrumental variable approach to control for some of the endogeneity concerns regarding unobserved variables correlated with foreign training and returnee manager performance. We instrument foreign experience using the rate of graduates going on to study abroad in a fund manager's Chinese undergraduate institution. Using this instrumented foreign

³ Loss of communication: If the fund cannot be reached through the registered number and does not reply to e-mails or messages from AMAC (Asset Management Association of China), the AMAC will release an announcement on its website to urge the fund to make contacts. If the fund is still unreachable within five business days after the announcement, the fund will be identified as "Loss of communication". (https://www.amac.org.cn/businessservices_2025/privatefundbusiness/xggz/xggz1gl/202001/t20200101_5402.html)

⁴ STEM fields include degrees in science, technology, engineering and mathematics. In robustness tests, we also use other proxies for innate differences driving the decision to go overseas for training, such as university rankings and our inferences hold.

training variable, we show that the instrumented foreign experience variable has significant predictive power for fund performance measures. These results provide further evidence that our correlation documented above is likely to be causal and that returnee hedge fund managers do, indeed, outperform their local counterparts.

Our study contributes to several strands of literature. First, we add to the literature documenting the link between fund manager background and fund performance. Chaudhuri, Ivkovich, Pollet, and Trzcinka (2020) document the value of higher education to fund performance. We show that such cutting-edge educational training pays dividends in foreign contexts as well. Also related, Covrig, Lau, and Ng (2006) and Chan, Covrig, and Ng (2005) document the link between fund manager country of origin and asset allocation, along with implications for home-bias and fund performance. Related to this literature, Jagannathan, Jiao, and Karolyi (2018), argue that there is a “home field” advantage in global investing markets and that foreign-origin managers in US-based mutual funds tend to outperform in investments in their home countries. We add to these studies by showing that exposure to foreign training and work experience leads to outperformance in the case of Chinese hedge fund managers.

Next, we add to the nascent but growing literature examining hedge fund performance in China. Studies such as Huang, Yao, and Zhu (2018), Ling, Yao, and Liu (2015), and Hong, Jiang, Yan, and Zhao (2017) document various performance and risk characteristics of the hedge fund industry in China. We add to this literature by documenting significant cross-sectional variation across these hedge funds, based on whether managers have overseas training and work experience.

Finally, this paper contributes to the emerging literature on “haigui” and brain gain and deepens our understanding of the sources of brain gain. Giannetti, Liao and Yu (2015) find that

in China, firms hiring directors with oversea experience will enhance firm performance. Yuan and Wen (2018) document a positive relationship between overseas experience and corporate innovation, especially for senior managers. Conyon, Haß, Vergauwe, and Zhang (2018) find that CEOs with overseas experience receive significant compensation premiums compared to local CEOs. Li, Wei and Lin (2016) document that US-listed Chinese firms whose top executives have US work experience or educational qualifications will attract more US investors and analysts. For entrepreneurship, returnees outperform local counterparts due to the advantage of higher education and overseas experience, which overcomes the lack of local managerial experience (Li, Zhang, Li, Zhou and Zhang, 2012). Returnees can also bridge the knowledge gap between Chinese firms and foreign firms, which leads to reverse brain gain, according to Liu, Lu and Choi (2013).

The rest of the paper is organized in following orders: Section 2 provides a description of the data and methodology. Section 3 reports the results from the empirical analysis. Section 4 presents robustness tests while Section 5 concludes.

2. Data and methodology

We collect data on the characteristics of China's hedge funds and managers from a variety of sources. The majority of the information on funds and managers come from the database compiled by the China Hedge Fund Research Center at Shanghai Jiao Tong University, based on the data from various sources, including Wind database, Suntime, Hedge Fund Cloud, Simuwang, and Great Wisdom, as well as the official data published by Asset Management

Association of China (hereafter AMAC).⁵ These data are merged on fund names. Based on the information from these databases, we construct a dataset of fund manager characteristics, such as their work experience, their education background, the number of investment years, their age and the strategies they employ. In addition, our dataset also captures data on fund performance and characteristics, such as monthly returns, fund age, incentive fees, management fees, lock-up period, redemption period, high-water mark indicator, scale of asset under management, and the use of leverage.⁶ Our sample includes data from April 2010 to December 2019.⁷

Our sample includes both live and dead funds during the period under study to mitigate the potential problem of survivorship bias (Li, Zhang, and Zhao, 2011). We exclude hedge funds with less than six monthly returns reported over our sample period as well as funds with missing data for the control variables. Our final sample comprises 1,099 hedge fund managers and 7,321 hedge fund products, which are owned by 563 different hedge fund companies. Table 1 provides definitions of the variables used in our study.

[Insert Table 1 here]

Key explanatory variables measuring overseas experiences of fund managers are *Returnee*, *Returnee after Education* and *Returnee after Work*. *Returnee* takes a value of one if the manager had any overseas experience. *Returnee after Education* is a dummy variable which

⁵ The Wind database (<http://www.wind.com.cn>) is a leading financial information service company in China. Suntime (<http://www.go-goal.com>) is a provider of forecast data for Chinese listed companies. The Hedge Fund Cloud (<http://www.fofpower.com>) is an independent service provider focused on fund information data services and fund research. Simuwang (<https://www.simuwang.com>) is a Chinese professional private equity fund information, rating, and sales provider. Great Wisdom (<http://www.gw.com.cn/>) is an internet financial information service provider of timely and professional financial data and data analysis. As premier providers of Chinese financial information, all these datasets are frequently quoted by Chinese and international media, in research reports, and in academic papers (Huang, Yao and Zhu, 2018; Li, Li, Wang and Xiao, 2020).

⁶ From 2010 to 2019, compared with overseas hedge funds, China's hedge funds have the following characteristics: a large number of products (2-3 times of the total number of overseas hedge funds), smaller and scale (only 1 / 60 of the total number of overseas hedge funds), a short period of history (1 / 3 of the total number of overseas hedge funds), a higher return (2-3 times of the total number of overseas hedge funds), a greater volatility (2-3 times of the total number of overseas hedge funds) and the sharp ratio is lower (0.8-0.9 times that of overseas products in the same period). The numbers in our summary statistics reflect these differences.

⁷ It was not until April 16, 2010, when China Securities Regulatory Commission (CSRC) granted permission for margin trading and short sales on individual stocks and approved the launching of financial futures on major indices that the China's hedge fund industry started to emerge (Chen, Chen, Xu, and Chen, 2014).

takes a value of one when the manager only had education experience abroad, while *Returnee after Work* takes a value of one if the manager had only work experience or both study and work abroad. In Table 2, we present the study experience and career path of a typical hedge fund manager in our sample to illustrate the data. This manager went abroad to pursue Master's and Doctoral degree after obtaining his bachelor's degree in China and started his career in the United States after graduation. He then worked at several commercial banks in the United States but finally came back China to start his own business in asset management. A large proportion of the returnee managers in our sample exhibit a similar pattern in their careers. We use this data to code whether managers have overseas experiences. In this example, the value of *Returnee*, *Returnee after Education* and *Returnee after Work* is 1, 0 and 1 respectively. In our fund universe, out of the 1099 managers, we find 215 fund managers with overseas experience, of which 106 fund managers only have overseas educational experience and 109 fund managers have overseas work experience.

[Insert Table 2 here]

Compared to the hedge fund industry in the United States and Europe, China's hedge fund industry has a relatively short history, so there is no standard strategy classification method in China at present. We map investment strategies from all three databases to those employed by Hedge Funds Cloud following the technique in Zhao, Li and Chen (2018). Following Agarwal, Daniel, and Naik (2009), we then classify funds into four broad investment styles: Directional Trader, Relative Value, Security Selection and Multi-process. Appendix A shows the mapping from Chinese hedge fund strategies to these four broad investment styles. Directional Trader funds bet on the direction of market prices of currencies, commodities, equities, and bonds in the futures and cash market. Relative Value funds take positions on spread relations between prices

of financial assets or commodities and aim to minimize market exposure. Security Selection funds take long and short positions in undervalued and overvalued securities, respectively, and reduce systematic risks in the process. Usually, they take positions in equity markets. Multi-process funds employ multiple strategies that take advantage of opportunities created by significant transactional events, such as spin-offs, mergers and acquisitions, bankruptcy reorganizations, recapitalizations, and share buybacks.

Throughout this paper, we model the risks of hedge funds in China following the Fung and Hsieh (2004) seven-factor model. We make adjustments to the model factors since the Chinese options markets are not fully liquid over the sample period and the momentum investing strategy performs effectively in Chinese market. The set of factors we use comprises: Fama-French's (1993) 3-factor model: the excess return on the CSI 300 index, a small minus big factor constructed as the difference between the small-cap stocks and large-cap stocks in Chinese stock market, a high minus low factor constructed as the difference between the high and low book-to-market ratio stocks in Chinese market. In addition to these three factors, we also have four other factors: Interest rate, measured by sensitivity to the month-end to month-end change in 10-year China Treasury yields; credit, measured by the sensitivity to month-end to month-end change in the difference between China corporate bond (AA-level) yield and the 10-year China Treasury yields, momentum, measured as the per Carhart (1997), and, commodity, measured as per the sensitivity to monthly returns of Nanhua Commodity Index⁸. These seven factors have been shown to have considerable explanatory power on Chinese hedge fund returns.⁹ We regress returns on these factors and use the residuals to estimate alpha in this paper. Similarly,

⁸ We collect the data of Fama-French's 3-factor model, 10-year Treasury yields, corporate bond (AA-level) yield, Carhart 12-month momentum anomaly and Monthly Returns of Nanhua Commodity Index from WIND.

⁹ Huang, Yao and Zhu (2018) employed Fama-French's 3-factor and momentum factor to explain variations of hedge fund returns. We added another three risk factors, and get a much higher R-Squared, which is around 40%.

information ratios are computed by using the alphas above, divided by the risk of idiosyncratic returns from this seven-factor model.

3. Empirical results

3.1 Descriptive statistics

We first report summary statistics of key variables in our sample. In China, it is quite common that one fund manager runs more than one fund product. In our sample, one hedge fund manager runs about six fund products on average. To obtain an overview of the characteristics, we report the summary statistics at both fund product and fund manager levels in Table 3.

[Insert Table 3 here]

The total sample includes 1,099 hedge fund managers over the period of April 16, 2010 to December 31, 2019, running 7,321 hedge fund products. The mean of *Returnee*, *Returnee after Education* and *Returnee after Work* of fund manager is 0.196, 0.096 and 0.099 respectively, indicating that about 19.6% hedge fund managers in China have oversea experiences. The mean and median of annualized *RETURN* of hedge funds are 8.838% and 6.826% respectively, and the mean (4.840%) and median (1.963%) of *ALPHA* are both positive over the sample period. The positive mean (23.712%) and median (16.750%) of *SHARPE* shows the good profitability adjusted for risk of hedge fund industry in China. The mean and median of *RISK* is 14.888% and 14.501%, indicating the relative even distribution of the data. The average age of hedge fund managers is 39.1 and the mean investment year is 14.52. The average age of hedge fund products is 2.006, which is relatively short compared to the fund age in the United States. The average hedge fund in our sample has a management fee of 1.20%, an incentive fee of 16.03%, a lockup

period of 1.886 months and a redemption frequency of 1.98 months, respectively. About 31.5% of hedge fund products have a high water-mark on their incentive fees and about 17.0% hedge funds state they use leverage.

[Insert Table 4 here]

To obtain an overview of the potential differences in the characteristics of having overseas experiences or not, we report the descriptive statistics of four subsamples in Table 4. The mean return (9.58%), alpha (5.86%), Sharpe ratio (32.36%), and information ratio (31.15%) in the *Returnee* sample are significantly greater than the mean return (8.67%), alpha (4.61%), Sharpe ratio (21.73%), and information ratio (22.41%) in the *non-Returnee* sample. The standard deviation of returns (12.86%) in the *Returnee* sample is smaller than the return standard deviation (15.35%) in the *non-Returnee* sample. These results provide suggestive evidence that managers with overseas experience obtain superior performance while taking significantly lower risk compared to their local peers. We also compare the sample of hedge funds with only overseas educational experience (column 2) and the sample of hedge funds with overseas working experience (column 3) to the sample of no overseas experience (column 4). We report both point differences and statistical significance levels of these two sets of spreads. The sample with only educational experience generates lower returns compared to the *non-Returnee* sample, but differences of alphas are statistically indifferent. Moreover, the sample with only educational experience takes lower total risk compared to the sample without overseas experience. The sample of returnees with overseas working experience show both statistically higher performance and lower risks compared to the *non-Returnee* sample. These results suggest that simply obtaining overseas educational experience does not yield better performance, and that returnee managers need overseas work experience to garner the observed superior performance.

3.2 Fund Performance and risks

To further test the explanatory power of foreign experience on fund performance and risks, we estimate the following panel regression:

$$\begin{aligned}
 & \text{Performance, Risks}_{i,t} \\
 & = \alpha_0 + \alpha_1 \cdot \text{Returnee}_i + \alpha_2 \cdot \text{Age}_{i,t} + \alpha_3 \cdot \text{InvestmentYears}_{i,t} \\
 & + \alpha_4 \cdot \text{ManagementFee}_i + \alpha_5 \cdot \text{IncentiveFee}_i + \alpha_6 \cdot \text{HighWaterMark}_i + \alpha_7 \\
 & \cdot \text{LockupPeriod}_i + \alpha_8 \cdot \text{Leverage}_i + \alpha_9 \cdot \text{FundAge}_{i,t} + \alpha_{10} \\
 & \cdot \text{RedemptionFrequency}_i + \alpha_{11} \cdot \text{AssetScale}_{i,t} + \sum_k \alpha_{12}^k \cdot \text{STRATEGYDUM}_i^k \\
 & + \sum_k \alpha_{13}^L \cdot \text{YEARDUM}_i^L + \varepsilon_{i,t}
 \end{aligned}$$

We investigate the effect of overseas experience with several proxies for hedge fund performance and risk. Specifically, our dependent variables are *RETURN*, *ALPHA*, *RISK*, *SHARPE*, *IDIOSYNCRATIC*, and *INFORMATION*. *RETURN* is hedge fund annualized net-of-fee return. *ALPHA* is annualized China seven-factor monthly alpha where factor loadings is estimated using 24 months. *RISK* is the standard deviation of the annualized fund return. *SHARPE* is average annualized fund excess returns divided by standard deviation of annualized fund returns. *IDIOSYNCRATIC* is annualized standard deviation of the monthly residuals from the China seven-factor model. *INFORMATION* is annualized abnormal return divide by annualized idiosyncratic risk. All performance and risks are average annualized numbers across the fund's life. Our key independent variables, *Returnee*, *Returnee after education*, and *Returnee after work*, capture whether a manager has overseas experience, and if so, what type. Other independent variables include *Age*, which is the natural logarithm of the age of fund manager. *Investment Years* is the natural logarithm of the number of years of investing experience of the fund manager in this year and month, a time-variate variable. *Management Fee* is the fixed management fee of fund. *Incentive Fee* is the proportion by which the fund manager can draw

from the excess return. *High Water Mark* is high watermark indicator. *Lockup Period* is lockup period indicator. *Leverage* is leverage indicator. *Fund Age* is the natural logarithm of age of fund, it is measured by the number of years from the raising date. *Redemption Frequency* is redemption frequency indicator. *Asset Scale* is the natural logarithm of size of fund. We include strategy and year fixed effects in the regression. We base statistical inferences on robust standard errors that are clustered by fund (i.e. White, 1980 standard errors).

[Insert Table 5 here]

[Insert Table 6 here]

The results from the multivariate regression analysis are reported in Table 5&6. We stratify the regression by using different measures of overseas experiences. *Returnee* is a dummy variable equals to 1 if the fund manager has the experience of studying or working abroad and 0 otherwise. *Returnee after Education* is a dummy variable equals to 1 if the fund manager only has the experience of studying abroad and 0 otherwise. *Returnee after Work* is a dummy variable equals to 1 if the fund manager has the experience of working abroad and 0 otherwise. Specifically, the coefficient estimates on *Returnee* variables in the RETURN regression reported in column one to three of Table 5 indicates that, controlling for other factors that could explain fund performance, overseas work experience is positively related to hedge fund performance. The results reported in column four to six of Table 5 indicate that inferences do not change when we estimate the regression on alpha suggesting that our prior findings still hold after adjusting for risk factors. We also find that fund returns and alphas are negatively associated with age of managers, Incentive fee, high water-mark indicator, the use of leverage and asset scale, while positively associated with Investment years, Management fee and Lockup period.

We also estimate analogous regressions on *RISK*, *SHARPE*, *IDIOSYNCRATIC*, *INFORMATION*. The results reported in Panel A of Table 6 indicate that overseas working experiences are associated with lower total risk and higher Sharpe ratio. The results reported in Panel B of Table 6 indicate that overseas work experience leads to lower idiosyncratic risk and higher information ratio. Inferences do not hold for funds whose managers only have overseas educational experience.

3.3 Fund Mortality

Our analysis of fund termination is motivated by Brown, Goetzmann, Liang, and Schwarz (2009) who find that separate from poor returns, fund failure itself is a costly event for investors. To explore the relationship between overseas experiences and fund termination, we estimate a multivariate logit regression on an indicator variable for fund termination with the set of independent variables used in the Eq. (1) regressions. The indicator variable, *TERMINATION*, takes a value of 1 when a fund stops reporting returns for that month and states that it has liquidated, and takes a value of 0 otherwise. The coefficient estimation on *Returnee* is negative and statistically significant at one percent level. The marginal effect indicates that fund managers with overseas experience are 14.3% less likely to report abnormal condition of winding up.

[Insert Table 7 here]

The results reported in Table 7 indicate that, controlling for other factors that can explain fund termination, returnees, especially returnees with overseas work experience are less likely to terminate their funds. As a robustness test, we also estimate semi-parametric Cox (1972) hazard rate panel regression on fund termination. The time variable *t* is in months, and the failure

variable (dead) takes a value of 1 if the fund is terminated in the year and month t, and takes a value 0 otherwise.

$$h(t)_{i,t} = h_0(t) \exp (\beta_0 + \beta_1 \cdot d(\text{Returnee}_i) + \beta_2 \cdot \text{Age}_{i,t} + \beta_3 \cdot \text{InvestmentYears}_{i,t} + \beta_4 \cdot \text{ManagementFee}_i + \beta_5 \cdot \text{IncentiveFee}_i + \beta_6 \cdot \text{HighWaterMark}_i + \beta_7 \cdot \text{LockupPeriod}_i + \beta_8 \cdot \text{Leverage}_i + \beta_9 \cdot \text{RedemptionFrequency}_i + \beta_{10} \cdot \text{AssetScale}_{i,t} + \sum_k \beta_{11}^k \cdot \text{STRATEGYDUM}_i^k + \sum_k \alpha_{12}^L \cdot \text{YEARDUM}_i^L + \varepsilon_{i,t})$$

As shown in Table 6, our inference is robust to the survival being modeled in this way. For example, column (2) shows that funds with oversea experience are 18.3% less likely to terminate in that specific month. The hazard ratio difference is statistically significant at the 5% level.

In addition to explicitly stating a fund is terminating, a number of funds simply stop reporting returns and cease communications with investors. In China, a large number of hedge fund managers choose to escape to another country when they are caught in fraudulent behavior. AMAC updates the “escaped” fund list on its website. These events are reported in the AMAC online bulletin of out of contact institutions. We term these funds “UNREACHABLE”. To explore the relationship between overseas experience and violations of expected standards of business conduct, we estimate multivariate logit regressions on an indicator variable for a fund becoming unreachable. The indicator variable *UNREACHABLE* takes a value of 1 when the fund is listed in the AMAC online bulletin of out of contact institutions, and takes a value of 0 otherwise. The coefficient estimate on *Returnee* is negative and statistically significant at the 1% level. The marginal effect indicates that fund managers with overseas experience are 17.6% less likely to be unreachable.

[Insert Table 8 here]

The results reported in Table 8 indicate that, controlling for other factors that can explain fund unreachable risk, managers with overseas experiences are less likely to be out of contact. As a robustness test, we also estimate semi-parametric Cox (1972) hazard rate panel regression on fund unreachable risk. The time variable t is in months, and the failure variable (dead) takes on a value of 1 if the fund is out of contact in the year and month t , and takes a value 0 otherwise. As shown in Table 7, the inference is robust to this specification. For example, column (2) shows that funds with overseas experience are 35.4% less likely to be out of contact in any given month. The difference of hazard ratio is statistically significant at the 1% level. Results still hold for returnees with only educational experience and those with work experience.

3.4 Controlling for innate skill

To mitigate potential endogeneity concerns that an unobserved variable, such as level of ambition, is driving both the decision to go abroad, as well as outperformance, we use educational background as a proxy for such unobserved variables. In China, the ability to get into a major of science and/or engineering shows a person's talent, innate level of skill, and ambition. In other words, we can control for manager's innate levels of skills based on their domestic ungraduated majors. For those managers, overseas experience gives them opportunities for improving their skills further.

[Insert Table 9 here]

Panel A Table 9 indicates that returnee managers whose domestic undergraduate majors are science and engineering are associated with higher return, alpha, Sharpe ratio and information ratio, lower total risk and idiosyncratic risk. Thus, even after controlling for these innate qualities using undergraduate major as a proxy, our results still hold. It is notable that

Panel B indicates that the above effect does not hold in cases where the manager’s undergraduate major does not fall into the category of science and engineering. This suggests that overseas training helps most for innately skilled and ambitious managers.

[Insert Table 10 here]

Table 10 reports results from multivariate regressions on hedge fund performance of returning managers sorted on their domestic undergraduate majors. The variable of interest is the interaction term of *Returnee* and *Undergraduate SE* dummy. *Undergraduate SE* takes a value of one if the manager’s domestic undergraduate major is science or engineering.

Performance, Risks $_{i,t}$

$$\begin{aligned}
 &= \alpha_0 + \alpha_1 \cdot \text{Returnee}_i + \alpha_2 \cdot \text{Undergraduate SE}_i + \alpha_3 \cdot \text{Returnee}_i \\
 &\times \text{Undergraduate SE}_i + \alpha_4 \cdot \text{Age}_{i,t} + \alpha_5 \cdot \text{InvestmentYears}_{i,t} \\
 &+ \alpha_6 \cdot \text{ManagementFee}_i + \alpha_7 \cdot \text{IncentiveFee}_i + \alpha_8 \cdot \text{HighWaterMark}_i + \alpha_9 \\
 &\cdot \text{LockupPeriod}_i + \alpha_{10} \cdot \text{Leverage}_i + \alpha_{11} \cdot \text{FundAge}_{i,t} + \alpha_{12} \\
 &\cdot \text{RedemptionFrequency}_i + \alpha_{13} \cdot \text{AssetScale}_{i,t} + \sum_k \alpha_{14}^k \cdot \text{STRATEGYDUM}_i^k \\
 &+ \sum_k \alpha_{15}^L \cdot \text{YEARDUM}_i^L + \varepsilon_{i,t}
 \end{aligned}$$

Results show that our result that returnees deliver better performance is concentrated on the sample of managers with undergraduate training at science and engineering majors.

[Insert Table 11 here]

To further mitigate endogeneity issues, we re-estimate regressions of Table 5 using two-stage least squares estimation in Table 11. Column 1 reports result of the first stage prediction, and column 2 to 6 present results of second stage estimations. In the first stage, we collect Chinese undergraduate schools’ ratio of students who go on to study abroad. We then use this

ratio as an instrument to estimate the likelihood of managers in our sample going abroad based on their undergraduate institution. We then use the predicted *Returnee* variable from the first stage regression to estimate the its effect on manager performance. Our findings remain unchanged. Returnees (predicted or otherwise) generate higher returns, alphas, and Sharpe ratios, and takes lower total risk.

[Insert Table 12 here]

Table 12 reports results from multivariate regressions on hedge fund performance of manager's alumni relations network. We construct hedge fund manager's alumni relations network using the centrality degree theory, which mainly include the centrality degree, the vector center degree and the betweenness centrality degree (El-Khatib, Fogel, and Jandik, 2015; Wan and Zheng, 2014). Since every indicator above is part of the concept of centrality and should not be used alone (Wasserman and Faust ,1994), we extract a common factor from the centrality degree, the vector center degree and the betweenness centrality degree to measure the degree of manager's alumni relations network centrality (Qian, Yang and Xu, 2010). The detailed measurements of each degree are as follows.

The centrality degree in this paper is measured as the number of direct alumni (direct alumni relationship) in the network of hedge fund managers, without considering the indirect relationships. Specifically, it measures the quantity of information and the frequency of interaction between them and treats every fund manager in the network equally. The greater number of information exposed, the greater distribution of redundant information. Thus, the larger the indicator meaning that there are much richer resources from broader alumni relationships. The formula is as follows.

$$Degree_i = \sum_j X_{i,j}/(g - 1)$$

i represents the hedge fund manager, while j represents the other hedge fund manager. X is a dummy variable representing the network connection between i and j , if the two have an alumni relationship, X is 1, otherwise it is 0. g is the total number of nodes, that is the number hedge fund managers in the network in that year. $(g-1)$ is used to eliminate the difference in scale due to the different numbers of hedge fund managers in different years.

The feature vector centrality index of alumni relationship network among hedge fund managers can well describe the quality of the network, that is, the network relationship of hedge fund managers depends not only on the number of people who he directly connects with, but also on the strength of their relationships. The formula is as follows.

$$Eigenvector_i = \frac{1}{\lambda} \sum_j b_{ij} E_j$$

This centrality degree index can be obtained by solving the standard equation about “eigenvalue-feature vector”, which is $BE=\lambda E$. In the formula, b_{ij} is an adjacency matrix, and b_{ij} is 1 when manager i and manager j have alumni relationships, otherwise b_{ij} is 0. λ is the maximum eigenvalue of B , and E_j is the characteristic value of the manager j center degree.

The betweenness centrality emphasizes the degree to which hedge fund managers control information, that is, he can control the communication and action of other participators by concealing and distorting the information (Chen and Xie, 2011). It can be used to specifically measure the degree to which a hedge fund manager in alumni networks controls the paths of communication of other managers. The formula is as follows.

$$Betweenness_i = \frac{\sum_{j < k} g_{jk(ni)} / g_{jk}}{(g - 1)(g - 2) / 2}$$

g_{jk} is the number of shortcuts that must be passed when manager i contacts with k . $g_{jk(ni)}$ indicates the number of occurrences of hedge fund manager i appearing in the shortcut path of between manager i and k . $g_{jk(ni)} / g_{jk}$ represents the extent to which hedge fund managers i appear in shortcuts among all other “manager – manager” across the network. Similarly, g is the total number of hedge fund managers in the alumni network that year. This paper eliminates the size difference of hedge fund managers networks in different years by $(g-1)(g-2)/2$ processing (Freeman, 1979).

During the research process, we regress by using indexes of the centrality degree, the vector center degree and the betweenness centrality degree respectively and find these three indexes have significant negative impacts on the fund performance. Given the consistency of the results, principal component analysis that extracts a common factor from the centrality degree, the vector center degree and the betweenness centrality degree, can be used to measure the degree of alumni network centrality (Qian, Yang and Xu, 2010). The results of Table 12 shows that managers’ alumni relations network has negative effect on fund performance, however, the overseas experience mitigate this effect. Specifically, manager with overseas experience and alumni relations generate higher returns, alphas, and Sharpe ratios, and takes lower total risk.

4. Robustness tests

In this section, we conduct a variety of robustness tests to ascertain the strength of our empirical results.

[Insert Table 13 here]

We also examine the trading behavior metrics for funds sorted on returnees and non-returnees samples. The trading behavior metrics include TURNOVER, NONHSRATIO, ACTIVESHARE, NRSQUARED, DISTINCTIVENESS and LOTTERY. TURNOVER is the annualized turnover of a hedge fund manager's long-only stock portfolio. NONHSRATIO is the ratio of the number of non-CSI 300 index stocks bought in a quarter to the total number of new positions in the quarter. ACTIVESHARE is Active Share (Cremers and Petajisto, 2009) relative to the CSI 300. NRSQUARED is one minus the R-squared from the regression of fund excess returns against the seven factors. DISTINCTIVENESS is the Sun, Wang, and Zheng (2012) strategy distinctiveness index measure. LOTTERY is the maximum daily stock return over the past one month averaged across stocks held by the fund. The trading behavior metrics NONHSRATIO, ACTIVESHARE, NRSQUARED, and DISTINCTIVENESS are defined such that an increase in any one of them represents a more active or unconventional portfolio.¹⁰ Results in table 13 show that funds managed by returning managers tend to trade less actively and have lower beta in bear market, which indicates they are less likely drift with the market and are superior in risk managing.

[Insert Table 14 here]

4.1 Backfill bias

If backfilled returns are higher than non-backfilled returns, and hedge funds managed by managers with overseas experience are more likely to backfill their returns, this could explain

¹⁰ Due to the fact that portfolio holding data is manually collected from quarterly long holdings of top 10 investors of each security, we are unable to retrieve portfolio holding data if the fund is not one of the top10 holders.

why we find that they outperform. To address backfill bias concerns, we redo the baseline performance regressions after dropping returns reported prior to fund listing. The results reported in Panel A of Table 14 indicate that our findings are not driven by backfill bias.

4.2 Fund termination

There are concerns that because funds that terminated their operations may have stopped reporting returns prematurely, the portfolio alphas are biased upward. To allay such concerns, we assume that, for the month after a fund liquidates, its return is -10%. As shown in Panel B of Table 14, with the adjustment for fund termination, the coefficient estimates on overseas experiences in the RETURN and ALPHA regressions remain positive and statistically significant for *returnee* and *returnee after work*.¹¹ We also experiment with more extreme termination returns of -20% and -30%, and obtain qualitatively similar results.

4.3 Style-adjusted returns

Managers with overseas experiences may select into funds that employ different investment strategies relative to managers without overseas experiences. The China seven-factor model may not adequately capture the risk exposures of the funds given the heterogeneity in investment styles. To mitigate such concerns, we redo the performance regressions with style-adjusted return and alpha. Fund style-adjusted return is simply the return of a fund minus the average return of the funds in the same investment style for that month. Fund style-adjusted alpha is defined analogously. The results reported in Panel C of Table 14 indicate that the baseline findings are robust to adjusting for investment style.

¹¹ This is consistent with the fact that returnee managers' funds are less likely to terminate than non-returnee funds, thus, any bias from this source would disproportionately affect non-returnee funds.

4.4 Risk model

There is still debate over how to model the risks of hedge funds in China. To test for the robustness of annual abnormal returns of fund products (alpha), we use the Fama-French's (1993) 3-factor and Carhart (1997) 12-month momentum factor to model the risks. The estimation results reported in Panel D of Table 14 are consistent with those using the China seven-factor model in the specification.

4.5 Fama-MacBeth regressions

Panel E of Table 13 reports results from Fama and MacBeth (1973) regressions on hedge fund performance. They are derived from Newey and West (1987) standard errors with six-month lag and consistent with those using multivariate OLS model. The results reported in Panel E of Table 14 indicate that the baseline findings are robust to adjusting for Fama-MacBeth regressions.

4.6 Stock strategy

The results reported in Panel F of Table 14 indicate that the baseline findings are robust to adjusting for stock strategy using Fama-French three factors models.

4.7 Experience of working abroad

The results reported in Panel G&H of Table 14 indicate that the baseline findings are robust to adjusting for Experience of Working Abroad.

4.8 US-based overseas experience

The results reported in Panel I of Table 14 indicate that the baseline findings are robust to adjusting for US-based overseas experience. US-based overseas experience refers to the educational and work experience in US-based universities and/or enterprises. Including a dummy variable of US-based overseas experience does not change our inference.

4.9 Managers' gender

The results reported in Panel J of Table 14 indicate that the baseline findings are robust to adjusting for Managers' Gender. Our main results are not affected by the gender effect.

4.10 Managers with first-tier undergraduate university

The results reported in Panel K of Table 14 indicate that the baseline findings are robust to adjusting for Managers with First-tier Undergraduate University. However, the manager with a first-tier undergraduate education background generates a higher RETURN and ALPHA.

5. Conclusion

We study how returnee Chinese hedge fund managers with overseas experiences perform compared to their local peers. We find that these returnee managers outperform significantly on a variety of dimensions, take lower risk and consequently have higher Sharpe ratios. Additionally, they also have lower measures of operational risk. Together, these lead to lower fund mortality.

These findings are unlikely to be driven by unobserved variables such as innate manager skill levels, and are robust to a variety of specifications. We use these findings to add to the debate on whether and how *Haigui* contribute to the Chinese economy: at least in the case of the

hedge fund industry, it appears that such managers contribute at a level that provides their investors significantly better outcomes than those provided by their local counterparts.

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Table 1
Variable Definition

Variables	Definition
Returnee	Dummy variable: 1 if the fund manager has the experience of studying or working abroad and 0 otherwise.
Returnee after Education	Dummy variable: 1 if the fund manager only has the experience of studying abroad and 0 otherwise.
Returnee after Work	Dummy variable: 1 if the fund manager has the experience of working abroad and 0 otherwise.
Raw Return	Annualized raw return of fund (R_i). $R_i = (1 + \bar{r}_i)^N$, in which $\bar{r}_i = \frac{\sum_{t=1}^T r_{it}}{T}$, T is the number of yield rate and N is the number of computing cycle in a year.
Alpha	Annualized alpha of fund adjusted by the China seven-factor model. Fama-French's (1993) 3-factor model, the month-end to month-end change in 10-year Treasury yields, the month-end to month end change in the difference between corporate bond (AA-level) yield and the 10-year Treasury yields, Carhart (1997) 12-month momentum anomaly, Monthly Returns of Nanhua Commodity Index.
Total Risk	Annualized total risk of fund (S_i). $S_i = \sqrt{N} \times \sqrt{\frac{\sum_{t=1}^T (r_{it} - \bar{r}_i)^2}{T-1}}$, in which r_{it} is the yield sequence of fund and \bar{r}_i is the mean rate of return of fund in its survival period.
Sharpe Ratio	Annualized sharpe ratio of fund (SR_i). $SR_i = \frac{R_i - R_f}{S_i}$, in which R_i is the annual rate of return of fund in its survival period, R_f is the one-year bond yield, S_i is the annual total risk of fund.
Idiosyncratic Risk	Annualized standard deviation of the monthly residuals from the China seven-factor model.
Information Ratio	Annualized abnormal return divide by annualized idiosyncratic risk.
Age	The logarithm of the mean age of fund manager (Years).
Investment Years	The logarithm of the investment year of fund manager, beginning from the time fund manager starts investing (Years).
Undergraduate SE	Dummy variable: 1 if the fund manager with undergraduate education majored in SE (Science and Engineering) and 0 otherwise.
Management Fee	The fixed management fee of fund.
Incentive Fee	The proportion by which the fund manager can draw from the excess return.
High Water-mark	Dummy variable: 1 if the fund has the rule of High-water mark and 0 otherwise.
Lockup Period	The lockup period in month since the fund operate.
Leverage	Takes a value of 1 when a fund uses leverage and takes a value of 0 otherwise.
Fund Age	The logarithm of the age of fund (Years). It is measured by the number of years from the raising date to today.
Redemption Frequency	The redemption frequency of fund.
Asset Scale	The logarithm of reporting size of fund.
TERMINATION	Takes a value of 1 when a fund reports abnormal condition of winding up and takes a value of 0 otherwise.
UNREACHABLE	Takes a value of 1 when the fund is listed in the China Securities Investment Fund Association online bulletin of out of contact institutions and takes value of 0 otherwise.
Ratio of Studying Abroad	The ratio of under-graduates going abroad for further studying to other under-graduates of the school in the graduation year of the fund manager.

Table 2

An Example of Fund Manager Experience Data

This table presents an example of the data regarding fund manager experience in our sample (Hedge Fund Manager Name: Yin Ke).

Education Experience					
	School	Location	Start	End	
	Peking University (Bachelor)	China	1995	1999	
	State University of New York (Master)	USA	1999	2001	
	State University of New York (Doctor)	USA	2001	2005	
Work Experience					
	Company	Location	Position	Start	End
	The Royal Bank of Scotland	USA	Analyst	2005.11	2007.04
	United Bank of Switzerland	USA	Analyst; Associate director	2007.04	2008.04
	Goldman Sachs	USA	Director of quantitative analysis department	2008.04	2009.04
	Amherst Securities Group	USA	Director of strategy	2009.04	2010.05
	Pine River Capital	USA	General Manager (Branch Company in China)	2010.05	2013.12
	Confiance Capital	China	Legal representative; Chairman of the Board; Director of Investment	2014.01	2017.04

Table 3
Summary Statistic of Fund and Manager Characteristics

Variables	Obs.	Fund Product/ Fund Manager		
		Mean	S.D.	Median
Returnee Background:				
Returnee (dummy)	1099	0.196	0.397	0.000
Returnee after Education (dummy)	1099	0.096	0.295	0.000
Returnee after Work (dummy)	1099	0.099	0.299	0.000
Fund Performance:				
RETURN (%)	7321	8.838	12.749	6.826
ALPHA (%)	7321	4.840	22.189	1.963
RISK (%)	7321	14.888	9.224	14.501
SHARPE (%)	7321	23.712	156.316	16.750
IDIOSYNCRATIC (%)	7321	15.462	12.346	12.855
INFORMATION (%)	7321	24.040	176.250	20.166
Fund Manager Characteristic:				
Age (years)	1099	39.006	6.255	38.000
Investment Year (years)	1099	14.521	5.762	13.000
Fund Characteristic:				
Management Fee (%)	7321	1.200	0.805	1.500
Incentive Fee (%)	7321	16.029	9.182	20.000
High Water Mark (dummy)	7321	0.315	0.464	0.000
Lockup Period (months)	7321	1.886	3.689	0.000
Conditional Lockup Period (months)	1969	7.012	3.828	6.000
Leverage (dummy)	7321	0.170	0.375	0.000
Fund Age (years)	7321	2.006	0.983	1.833
Redemption Frequency (months)	7321	1.984	5.958	1.000
Asset Scale (CNY¥m)	7321	188.386	315.208	100.000
TERMINATION (dummy)	7321	0.222	0.415	0.000
UNREACHABLE (dummy)	7321	0.099	0.298	0.000

Table 4
Summary Statistic of Funds with and without Returnee Experience

Returnee Background:	Returnee	Returnee after Education	Returnee after Work	None	Spread	Spread	Spread
	(1)	(2)	(3)	(4)	(1)-(4)	(2)-(4)	(3)-(4)
Fund Performance:							
RETURN (%)	9.58	9.23	9.90	8.67	0.91**	0.56	1.23**
ALPHA (%)	5.86	3.64	7.88	4.61	1.26*	-0.97	3.28***
RISK (%)	12.86	14.70	11.20	15.35	-2.49***	-0.65*	-4.15***
SHARPE (%)	32.36	31.23	33.38	21.73	10.62**	9.49	11.65*
IDIOSYNCRATIC (%)	13.65	15.52	11.96	15.88	-2.22***	-0.35	-3.92***
INFORMATION (%)	31.15	22.58	38.94	22.41	8.74*	0.17	16.52**
Fund Manager Characteristic:							
Age (years)	41.66	41.12	42.15	42.22	-0.56***	-1.10***	-0.07
Investment Year (years)	16.68	15.83	17.44	17.53	-0.85***	-1.70***	-0.09
Fund Characteristic:							
Management Fee (%)	1.25	1.31	1.19	1.19	0.06**	0.12***	0.00
Incentive Fee (%)	17.02	16.81	17.21	15.80	1.22***	1.01***	1.40***
High Water Mark (dummy)	0.35	0.37	0.32	0.31	0.04***	0.07***	0.02
Lockup Period (months)	1.22	1.36	1.09	2.04	-0.82***	-0.68***	-0.95***
Conditional Lockup Period (months)	6.49	6.79	6.18	7.09	-0.60**	-0.30	-0.91***
Leverage (dummy)	0.15	0.16	0.15	0.17	-0.02*	-0.01	-0.03*
Fund Age (years)	1.91	1.99	1.84	2.03	-0.12***	-0.04	-0.19***
Redemption Frequency (months)	2.42	3.76	1.20	1.88	0.54***	1.88***	-0.68***
Asset Scale (CNY¥m)	206.54	189.30	222.19	184.23	22.31**	5.07	37.96***
TERMINATION (dummy)	0.17	0.16	0.17	0.23	-0.07***	-0.07***	-0.07***
UNREACHABLE (dummy)	0.09	0.13	0.05	0.10	-0.01	0.03**	-0.05***

Table 5
Multivariate regressions on hedge fund returns and alphas

This table reports results from multivariate regressions on hedge fund return and alphas. The dependent variables include hedge fund raw return (RETURN) and alpha (ALPHA). RETURN is hedge fund annualized net-of-fee return. ALPHA is annualized China seven-factor monthly alpha where factor loading is estimated over the last 24 months. The primary independent variable of interest is whether the fund manager has foreign experiences. Returnee is a dummy variable equals to 1 if the fund manager has the experience of studying or working abroad and 0 otherwise. Returnee after Education is a dummy variable equals to 1 if the fund manager only has the experience of studying abroad and 0 otherwise. Returnee after Work is a dummy variable equals to 1 if the fund manager has the experience of working abroad and 0 otherwise. The other independent variables include fund characteristics such as fund manager age (Age), investment years (Investment Years), fund age (Fund Age), high water mark(High Water Mark), incentive fee (Incentive Fee), lockup period (Lockup Period), management fee (Management Fee), redemption frequency (Redemption Frequency), asset scale (Asset Scale), leverage (Leverage), as well as dummy variables for fund investment strategy. For all the regressions, the t-statistics in parentheses are derived from robust standard errors that are clustered by fund. The sample period is from April 2010 to December 2019. * Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

Independent Variables	Dependent Variables					
	RETURN			ALPHA		
	(1)	(2)	(3)	(4)	(5)	(6)
Returnee	0.017*** (5.33)			0.017*** (3.22)		
Returnees after Education		0.006 (1.47)			-0.002 (-0.20)	
Returnees after Work			0.027*** (6.26)			0.037*** (5.83)
Age	-0.109*** (-5.83)	-0.110*** (-5.59)	-0.113*** (-5.79)	-0.088*** (-3.03)	-0.089*** (-2.91)	-0.087*** (-2.89)
Investment Years	0.041*** (5.02)	0.033*** (3.86)	0.045*** (5.34)	0.037*** (2.84)	0.026* (1.86)	0.041*** (3.03)
Management Fee	0.073 (0.46)	0.010 (0.06)	0.103 (0.63)	0.183 (0.72)	0.048 (0.17)	0.204 (0.78)
Incentive Fee	-0.035** (-2.18)	-0.035** (-2.13)	-0.044*** (-2.63)	-0.053** (-1.98)	-0.057** (-2.06)	-0.054** (-2.02)
High Water Mark	-0.002 (-0.68)	-0.004 (-1.29)	-0.001 (-0.34)	-0.014** (-2.54)	-0.017*** (-2.94)	-0.017*** (-2.95)
Lockup Period	0.002*** (6.52)	0.002*** (6.22)	0.002*** (5.86)	0.002*** (3.78)	0.002*** (3.73)	0.002*** (3.62)
Leverage	-0.011*** (-3.12)	-0.010*** (-2.74)	-0.014*** (-3.94)	-0.005 (-0.81)	-0.006 (-0.81)	-0.009 (-1.36)
Fund Age	0.012*** (4.95)	0.013*** (5.43)	0.012*** (4.86)	-0.021*** (-3.23)	-0.021*** (-3.05)	-0.023*** (-3.55)
Redemption Frequency	-0.000 (-1.50)	-0.000 (-1.59)	-0.000 (-0.19)	0.001 (1.48)	0.001* (1.67)	0.001** (2.09)
Asset Scale	-0.002 (-1.54)	-0.002 (-1.48)	-0.001 (-0.60)	-0.002 (-0.87)	-0.001 (-0.57)	-0.000 (-0.23)
Strategy Fixed Effects	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES
Observations	29896	27270	27238	16882	15497	15447
R-squared	0.359	0.363	0.365	0.093	0.091	0.099

Table 6**Multivariate regressions on hedge fund risks and performance ratios**

This table reports results from multivariate regressions on hedge fund risks and performance ratios. The dependent variables include hedge fund total risk (RISK), Sharpe ratio (SHARPE), idiosyncratic risk (IDIOSYNCRATIC) and information ratio (INFORMATION). RISK is the standard deviation of the annualized fund return. SHARPE is average annualized fund excess returns divided by standard deviation of annualized fund returns. IDIOSYNCRATIC is annualized standard deviation of the monthly residuals from the China seven-factor model. INFORMATION is annualized abnormal return divide by annualized idiosyncratic risk. The primary independent variable of interest is whether the fund manager has foreign experiences. Returnee is a dummy variable equals to 1 if the fund manager has the experience of studying or working abroad and 0 otherwise. Returnee after Education is a dummy variable equals to 1 if the fund manager only has the experience of studying abroad and 0 otherwise. Returnee after Work is a dummy variable equals to 1 if the fund manager has the experience of working abroad and 0 otherwise. The other independent variables include fund characteristics such as fund manager age (Age), investment years (Investment Years), fund age (Fund Age), high water mark (High Water Mark), incentive fee (Incentive Fee), lockup period (Lockup Period), management fee (Management Fee), redemption frequency (Redemption Frequency), asset scale (Asset Scale), leverage (Leverage), as well as dummy variables for fund investment strategy. For all the regressions, the t-statistics in parentheses are derived from robust standard errors that are clustered by fund. The sample period is from April 2010 to December 2019. * Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

Panel A		Dependent Variables				
Independent Variables	RISK	RISK	RISK	SHARPE	SHARPE	SHARPE
	(1)	(2)	(3)	(4)	(5)	(6)
Returnee	-0.007*** (-3.37)			0.071** (2.15)		
Returnees after Education		0.002 (0.83)			-0.059 (-1.46)	
Returnees after Work			-0.016*** (-5.97)			0.197*** (4.13)
Control Variables	YES	YES	YES	YES	YES	YES
Strategy Fixed Effects	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES
Observations	29896	27270	27238	29710	27091	27068
R-squared	0.290	0.284	0.286	0.262	0.271	0.270
Panel B		Dependent Variables				
Independent variables	Idiosyncratic	Idiosyncratic	Idiosyncratic	Information	Information	Information
	(1)	(2)	(3)	(4)	(5)	(6)
Returnee	-0.008*** (-2.63)			0.338*** (8.56)		
Returnees after Education		-0.001 (-0.26)			0.198*** (4.09)	
Returnees after Work			-0.017*** (-3.77)			0.481*** (8.02)
Control Variables	YES	YES	YES	YES	YES	YES
Strategy Fixed Effects	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES
Observations	16882	15497	15447	16882	15497	15447
R-squared	0.181	0.177	0.185	0.096	0.103	0.097

Table 7**Multivariate regressions on hedge fund operational risk metrics**

This table reports results from multivariate regressions on hedge fund operational risk metrics. The dependent variables include fund termination indicator (TERMINATION). TERMINATION takes a value of 1 when a fund reports abnormal condition of winding up, and takes a value of 0 otherwise. The primary independent variable of interest is whether the fund manager has foreign experiences. Returnee is a dummy variable equals to 1 if the fund manager has the experience of studying or working abroad and 0 otherwise. Returnee after Education is a dummy variable equals to 1 if the fund manager has the experience of studying abroad and 0 otherwise. Returnee after Work is a dummy variable equals to 1 if the fund manager has the experience of working abroad and 0 otherwise. The other independent variables include fund characteristics such as fund manager age (Age), investment years (Investment Years), fund age (Fund Age), high water mark(High Water Mark), incentive fee (Incentive Fee), lockup period (Lockup Period), management fee (Management Fee), redemption frequency (Redemption Frequency), asset scale (Asset Scale), leverage (Leverage), as well as dummy variables for fund investment strategy. For all the regressions, the t-statistics in parentheses are derived from robust standard errors that are clustered by fund. The sample period is from April 2010 to December 2019. * Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

Independent Variables	TERMINATION					
	Logit (1)	Cox (2)	Logit (3)	Cox (4)	Logit (5)	Cox (6)
Returnee	-0.361*** (-4.41)	0.817** (2.55)				
Returnee after Education			-0.249** (-2.28)	0.824* (1.78)		
Returnee after Work					-0.436*** (-3.80)	0.832* (1.73.)
Control Variables	YES	YES	YES	YES	YES	YES
Strategy Fixed Effects	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES
Observations	29896	29896	27270	27270	27238	27238
Pseudo R2	0.059	0.019	0.061	0.021	0.057	0.018

Table 8**Multivariate regressions on hedge fund unreachable risk metrics**

This table reports results from multivariate regressions on hedge fund unable to contact risk metrics. The dependent variables include fund Unreachable indicator (UNREACHABLE). UNREACHABLE takes a value of 1 when the fund is listed in the China Securities Investment Fund Association online bulletin of out of contact institutions and takes value of 0 otherwise. The primary independent variable of interest is whether the fund manager has returnee experience. Returnee is a dummy variable equals to 1 if the fund manager has the experience of studying or working abroad and 0 otherwise. Returnee after Education is a dummy variable equals to 1 if the fund manager has the experience of studying abroad and 0 otherwise. Returnee after Work is a dummy variable equals to 1 if the fund manager has the experience of working abroad and 0 otherwise. The other independent variables include fund characteristics such as fund manager age (Age), investment years (Investment Years), fund age (Fund Age), high water mark(High Water Mark), incentive fee (Incentive Fee), lockup period (Lockup Period), management fee (Management Fee), redemption frequency (Redemption Frequency), asset scale (Asset Scale), leverage (Leverage), as well as dummy variables for fund investment strategy. For all the regressions, the t-statistics in parentheses are derived from robust standard errors that are clustered by fund. The sample period is from April 2010 to December 2019. * Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

Independent Variables	UNREACHABLE					
	Logit (1)	Cox (2)	Logit (3)	Cox (4)	Logit (5)	Cox (6)
Returnee	-0.564*** (-4.64)	0.646*** (3.63)				
Returnee after Education			-0.288** (-2.19)	0.768* (1.86)		
Returnee after Work					-1.022*** (-4.44)	0.465*** (3.70)
Control Variables	YES	YES	YES	YES	YES	YES
Strategy Fixed Effects	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES
Observations	27058	27058	24560	24560	24580	24580
Pseudo R2	0.305	0.100	0.302	0.099	0.290	0.096

Table 9

Univariate table on managers' undergraduate educational background

Variable	Returnee	Returnee after Education	Returnee after Work	None	Spread	Spread	Spread
	(1)	(2)	(3)	(4)	(1)-(4)	(2)-(4)	(3)-(4)
Panel A: Undergraduate Education Major: SE (Science and Engineering)							
RETURN (%)	9.66	8.56	10.45	8.25	1.41***	0.30	2.20***
ALPHA (%)	6.06	3.67	7.67	3.56	2.50***	0.11	4.11***
RISK (%)	10.82	10.99	10.70	15.72	-4.90***	-4.73***	-5.02***
SHARPE (%)	39.50	27.91	47.74	23.87	15.63***	4.05	23.87***
IDIOSYNCRATIC (%)	11.18	12.49	10.29	17.10	-5.92***	-4.60***	-6.81***
INFORMATION (%)	57.88	28.28	77.91	22.67	35.21***	5.61	55.25***
Panel B: Undergraduate Education Major: Non-SE (Science and Engineering)							
RETURN (%)	9.74	10.22	9.11	8.66	1.08	1.56*	0.45
ALPHA (%)	5.28	4.05	6.84	4.15	1.14	-0.09	2.70**
RISK (%)	16.55	17.74	14.96	14.73	1.82***	3.01***	0.23
SHARPE (%)	24.29	27.82	19.63	22.77	1.52	5.05	-3.14
IDIOSYNCRATIC (%)	16.27	16.40	16.11	14.44	1.84***	1.97***	1.67***
INFORMATION (%)	31.77	28.09	36.45	23.01	8.76	5.08	13.44

Table 10

Multivariate regressions on hedge fund performance of manager's undergraduate educational background

This table reports results from multivariate regressions on hedge fund performance of returnee managers using domestic undergraduate school ranking. The dependent variables include hedge fund raw return (RETURN), alpha (ALPHA), total risk (RISK), Sharpe ratio (SHARPE), idiosyncratic risk (IDIOSYNCRATIC) and information ratio (INFORMATION). RETURN is hedge fund annualized net-of-fee return. ALPHA is annualized China seven-factor monthly alpha where factor loading is estimated over the last 24 months. RISK is the standard deviation of the annualized fund return. SHARPE is average annualized fund excess returns divided by standard deviation of annualized fund returns. IDIOSYNCRATIC is annualized standard deviation of the monthly residuals from the China seven-factor model. INFORMATION is annualized abnormal return divide by annualized idiosyncratic risk. The primary independent variable of interest is Returnee. Returnee is a dummy variable equals to one if the fund manager has the experience of studying or working abroad and zero otherwise. Undergraduate SE is a dummy variable equals to one if the fund manager's domestic undergraduate major is science or engineering. The other independent variables include fund characteristics such as fund manager age (Age), investment years (Investment Years), fund age (Fund Age), high water mark (High Water Mark), incentive fee (Incentive Fee), lockup period (Lockup Period), management fee (Management Fee), redemption frequency (Redemption Frequency), asset scale (Asset Scale), leverage (Leverage), as well as dummy variables for fund investment strategy. For all the regressions, the t-statistics in parentheses are derived from robust standard errors that are clustered by fund. The sample period is from April 2010 to December 2019. * Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

Independent Variables	Dependent Variables					
	RETURN (1)	ALPHA (2)	RISK (3)	IDIOSYNCRATIC (4)	SHARPE (5)	INFORMATION (6)
Returnee	0.001 (0.13)	0.012 (1.38)	0.013*** (3.05)	0.015** (2.57)	-0.092* (-1.72)	0.087 (1.34)
Undergraduate SE	-0.005 (-1.57)	-0.005 (-0.97)	0.009*** (3.54)	0.021*** (5.43)	-0.012 (-0.40)	-0.001 (-0.04)
Returnee * Undergraduate SE	0.030*** (3.93)	0.025** (2.23)	-0.034*** (-6.52)	-0.051*** (-6.74)	0.314*** (4.46)	0.363*** (4.08)
Control Variables	YES	YES	YES	YES	YES	YES
Strategy Fixed Effects	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES
Observations	18542	10305	18542	10305	18414	10305
R-squared	0.366	0.137	0.302	0.224	0.303	0.137

Table 11**Two-stage least squares estimation on hedge fund performance: Ratio of Studying Abroad**

This table reports the results of a two-stage least squares estimation. In the first stage, we collected Chinese undergraduate schools' ratio of studying abroad as one instrumental variable. Returnee is logit regressed on Ratio of Studying Abroad and other independent variables including fund manager age (Age), investment years (Investment Years), fund age (Fund Age), high water mark (High Water Mark), incentive fee (Incentive Fee), lockup period (Lockup Period), management fee (Management Fee), redemption frequency (Redemption Frequency), asset scale (Asset Scale), leverage (Leverage), as well as dummy variables for fund investment strategy. In the second stage, fund performance measured as raw return (RETURN) and alpha (ALPHA) is regressed on the predicted value of Returnee obtained from the first stage and all the independent variables in the first stage except the instrumental variable. For all the regressions, the t-statistics in parentheses are derived from robust standard errors that are clustered by fund. The sample period is from April 2010 to December 2019. * Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

Independent Variables	Dependent Variables						
	Returnee	RETURN	ALPHA	RISK	SHARPE	IDIOSYN- CRATIC	INFORMA- TION
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Ratio of Studying Abroad	2.185*** (44.20)						
Returnee(predicted)		0.016** (2.37)	0.031*** (2.68)	-0.026*** (-5.98)	0.167** (2.15)	-0.046*** (-6.37)	0.537*** (5.53)
Age	-0.048 (-0.88)	-0.100*** (-4.95)	-0.086*** (-2.67)	-0.012 (-0.77)	-0.014 (-0.05)	0.041 (1.63)	0.077 (0.26)
Investment Years	0.067*** (2.96)	0.035*** (4.03)	0.034** (2.32)	0.022*** (3.29)	-0.154 (-1.39)	-0.001 (-0.09)	0.030 (0.23)
Management Fee	0.989** (2.15)	0.019 (0.11)	0.014 (0.05)	0.279** (2.33)	-4.949** (-2.51)	0.689*** (3.72)	-7.918*** (-3.39)
Incentive Fee	0.635*** (15.16)	-0.046*** (-2.66)	-0.045 (-1.47)	0.004 (0.35)	0.012 (0.07)	0.051*** (2.74)	0.107 (0.44)
High Water Mark	-0.020** (-2.18)	-0.005 (-1.46)	-0.020*** (-3.25)	0.003 (1.24)	0.074* (1.94)	0.006 (1.54)	-0.113** (-2.49)
Lockup Period	-0.005*** (-4.53)	0.002*** (4.92)	0.003*** (3.77)	0.001*** (2.95)	0.013** (2.56)	0.002*** (3.51)	0.023*** (4.05)
Leverage	0.030*** (2.72)	-0.016*** (-4.20)	-0.006 (-0.75)	-0.002 (-0.60)	-0.196*** (-4.36)	0.005 (1.05)	-0.115** (-2.28)
Fund Age	-0.036*** (-6.42)	0.020*** (7.53)	-0.022*** (-2.91)	0.011*** (6.86)	0.049* (1.72)	0.009** (2.18)	-0.186*** (-3.31)
Redemption Frequency	0.000 (0.60)	-0.000 (-0.76)	0.001 (1.26)	-0.001* (-1.84)	0.015*** (2.66)	0.000 (0.46)	0.011* (1.74)
Asset Scale	0.006 (1.49)	-0.005*** (-3.16)	-0.004 (-1.46)	-0.006*** (-6.47)	-0.025 (-1.48)	-0.015*** (-9.78)	-0.036* (-1.70)
Strategy Fixed Effects	YES	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES
Observations	21754	21754	12524	21754	21615	12524	12524
R-squared	0.419	0.378	0.103	0.298	0.275	0.195	0.107

Table 12

Multivariate regressions on hedge fund performance of manager's alumni relations network.

This table reports results from multivariate regressions on hedge fund performance of returnee managers using manager's alumni relations network. The dependent variables include hedge fund raw return (RETURN), alpha (ALPHA), total risk (RISK), Sharpe ratio (SHARPE), idiosyncratic risk (IDIOSYNCRATIC) and information ratio (INFORMATION). RETURN is hedge fund annualized net-of-fee return. ALPHA is annualized China seven-factor monthly alpha where factor loading is estimated over the last 24 months. RISK is the standard deviation of the annualized fund return. SHARPE is average annualized fund excess returns divided by standard deviation of annualized fund returns. IDIOSYNCRATIC is annualized standard deviation of the monthly residuals from the China seven-factor model. INFORMATION is annualized abnormal return divide by annualized idiosyncratic risk. The primary independent variable of interest is Returnee. Returnee is a dummy variable equals to one if the fund manager has the experience of studying or working abroad and zero otherwise. Network is the centrality of hedge fund managers' alumni networks, a common factor is extracted from degree centrality, eigenvector centrality and intermediate centrality using principal component analysis. The other independent variables include fund characteristics such as fund manager age (Age), investment years (Investment Years), fund age (Fund Age), high water mark (High Water Mark), incentive fee (Incentive Fee), lockup period (Lockup Period), management fee (Management Fee), redemption frequency (Redemption Frequency), asset scale (Asset Scale), leverage (Leverage), as well as dummy variables for fund investment strategy. For all the regressions, the t-statistics in parentheses are derived from robust standard errors that are clustered by fund. The sample period is from April 2010 to December 2019. * Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

Independent Variables	Dependent Variables					
	RETURN (1)	ALPHA (2)	RISK (3)	IDIOSYNCRATIC (4)	SHARPE (5)	INFORMATION (6)
Returnee	0.025*** (6.06)	0.023*** (3.24)	-0.002 (-0.86)	0.007 (1.49)	0.085* (1.79)	0.241*** (4.23)
Network	-0.011* (-1.75)	-0.029*** (-2.58)	0.033*** (6.83)	0.046*** (5.71)	-0.153* (-1.84)	-0.319*** (-3.08)
Returnee * Network	0.032*** (4.37)	0.074*** (5.75)	-0.036*** (-6.94)	-0.032*** (-3.84)	0.268*** (3.07)	0.278** (2.42)
Control Variables	YES	YES	YES	YES	YES	YES
Strategy Fixed Effects	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES
Observations	22002	12709	22002	12709	21864	12709
R-squared	0.387	0.106	0.312	0.202	0.279	0.111

Table 13**Robustness tests: Trading Behavior Analysis**

This table reports trading behavior metrics for funds sorted on returnees and non-returnees samples. The trading behavior metrics include TURNOVER, NONHSRATIO, ACTIVESHARE, NRSQUARED, DISTINCTIVENESS and LOTTERY. TURNOVER is the annualized turnover of a hedge fund manager's long-only stock portfolio. NONHSRATIO is the ratio of the number of non-CSI 300 index stocks bought in a quarter to the total number of new positions in the quarter. ACTIVESHARE is Active Share (Cremers and Petajisto, 2009) relative to the CSI 300. NRSQUARED is one minus the R-squared from the regression of fund excess returns against the seven factors. DISTINCTIVENESS is the Sun, Wang, and Zheng (2012) strategy distinctiveness index measure. LOTTERY is the maximum daily stock return over the past one month averaged across stocks held by the fund. The trading behavior metrics NONHSRATIO, ACTIVESHARE, NRSQUARED, and DISTINCTIVENESS are defined such that an increase in any one of them represents a more active or unconventional portfolio. The sample period is from April 2010 to December 2019. * Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

Panel A							
Sample	Returnee	Returnee after Education	Returnee after Work	None	Spread	Spread	Spread
	(1)	(2)	(3)	(4)	(1)- (4)	(2)- (4)	(3)- (4)
TURNOVER	0.815	0.828	0.803	0.840	-0.025**	-0.013	-0.037**
NONHSRATIO	0.938	0.945	0.931	0.955	-0.016*	-0.009	-0.024*
ACTIVESHARE	0.499	0.500	0.497	0.500	-0.001***	-0.000**	-0.002***
NRSQUARED	0.464	0.469	0.459	0.468	-0.003	0.002	-0.009*
DISTINCTIVENESS	0.592	0.595	0.588	0.602	-0.010**	-0.007	-0.014*
LOTTERY	0.079	0.082	0.076	0.079	0.000	0.004*	-0.003*

Panel B			
Beta	Bear Market	Bull Market	Difference
	(1)	(2)	(3)
Returnee	0.325	0.370	-0.045**
None	0.353	0.365	-0.012
Difference	-0.028***	-0.005	-0.033**

Table 14

Robustness tests: Others

This table reports results from multivariate regressions on hedge fund performance. The dependent variables include hedge fund raw return (RETURN) and alpha (ALPHA). RETURN is hedge fund annualized net-of-fee return. ALPHA is annualized China seven-factor monthly alpha where factor loadings are estimated over the last 24 months. The primary independent variable of interest is whether the fund manager has returnee experience. Returnee is a dummy variable equals to 1 if the fund manager has the experience of studying or working abroad and 0 otherwise. Returnee after Education is a dummy variable equals to 1 if the fund manager has the experience of studying abroad and 0 otherwise. Returnee after Work is a dummy variable equals to 1 if the fund manager has the experience of working abroad and 0 otherwise. The other independent variables include fund characteristics such as fund manager age (Age), investment years (Investment Years), fund age (Fund Age), high water mark (High Water Mark), incentive fee (Incentive Fee), lockup period (Lockup Period), management fee (Management Fee), redemption frequency (Redemption Frequency), asset scale (Asset Scale), leverage (Leverage), as well as dummy variables for fund investment strategy. For all the regressions, the t-statistics in parentheses are derived from robust standard errors that are clustered by fund. The sample period is from April 2010 to December 2019. * Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

Independent Variables	Dependent Variables	
	RETURN (1)	ALPHA (2)
Panel A: Adjusted for backfill bias		
Returnee	0.019*** (5.14)	0.018*** (2.81)
Returnees after Education	0.009* (1.83)	0.002 (0.18)
Returnees after Work	0.028*** (5.84)	0.034*** (4.96)
Panel B: Adjusted for termination returns		
Returnee	0.013*** (4.86)	0.011*** (2.64)
Returnees after Education	0.006* (1.73)	0.000 (0.05)
Returnees after Work	0.018*** (5.42)	0.023*** (4.85)
Panel C: Style-adjusted return and alpha		
Returnee	0.012*** (4.64)	0.014*** (3.31)
Returnees after Education	0.004 (1.17)	0.001 (0.18)
Returnees after Work	0.020*** (5.69)	0.028*** (5.49)
Panel D: Four factors model-adjusted return and alpha		
Returnee	0.016*** (4.41)	0.017*** (2.77)
Returnees after Education	0.005 (0.98)	0.000 (0.00)
Returnees after Work	0.027*** (5.56)	0.036*** (4.73)
Panel E: Fama-MacBeth regressions		
Returnee	0.025** (2.91)	0.017* (1.88)
Returnees after Education	0.025 (1.45)	0.007 (0.36)
Returnees after Work	0.021*** (4.52)	0.029** (2.99)
Panel F: Stock strategy		
Returnee	0.025*** (6.81)	0.015** (2.49)
Returnees after Education	0.007 (1.55)	-0.011 (-1.36)

Returnees after Work	0.044*** (8.20)	0.045*** (5.79)
<hr/>		
Panel G: Experience of working abroad (<= 3years)		
Returnee	0.010*** (2.95)	0.004 (0.71)
Returnees after Education	0.006 (1.47)	-0.002 (-0.20)
Returnees after Work	0.020*** (3.27)	0.022** (2.32)
<hr/>		
Panel H: Experience of working abroad (>3years)		
Returnee	0.016*** (4.54)	0.016*** (2.68)
Returnees after Education	0.006 (1.47)	-0.002 (-0.20)
Returnees after Work	0.033*** (5.81)	0.046*** (5.74)
<hr/>		
Panel I: Control for the US-based overseas experience		
Returnee	0.013*** (3.75)	0.014** (2.31)
Returnees after Education	0.002* (1.77)	0.001 (0.09)
Returnees after Work	0.019*** (4.11)	0.026*** (3.36)
<hr/>		
Panel J: Control for gender		
Returnee	0.017*** (5.27)	0.017*** (3.21)
Returnees after Education	0.006 (1.46)	-0.002 (-0.21)
Returnees after Work	0.027*** (6.18)	0.037*** (5.77)
<hr/>		
Panel K: Returnees with first-tier undergraduate university (985 & 211 Project)		
Returnee	-0.012 (-1.27)	-0.007 (-0.87)
First-tier Undergraduate	-0.002 (-0.34)	-0.000 (-0.04)
Returnee * First-tier Undergraduate	0.050*** (4.37)	0.037*** (3.69)

Appendix A

Style Mapping of China Hedge Fund Strategy to Broad Investment Style

Strategy	China Hedge Fund Strategy
Security Selection	Stock Strategy: Long
Security Selection	Stock Strategy: Long/Short
Multi-process	Event-Driven Strategy: Private Placement
Multi-process	Event-Driven Strategy: M&A
Multi-process	Event-Driven Strategy: Other
Multi-process	Multi-Strategy
Multi-process	Multi-Strategy: Other
Multi-process	New Third Board (NEEQ) Strategy
Multi-process	Managed Futures Strategy: Other
Directional Trader	Managed Futures Strategy: Trend Following
Directional Trader	Bond Strategy
Directional Trader	Macro Strategy
Relative Value	Relative Value Strategy: ETF Arbitrage
Relative Value	Managed Futures Strategy: Futures Arbitrage
Relative Value	Stock Strategy: Market Neutral
Relative Value	Other Relative Value Strategy