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Are You Smarter Than a CFA'er?

Manager Qualifications and Portfolio Performance

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Abstract

Several studies have examined whether a portfolio manager having an MBA degree or being a CFA charter holder leads to superior portfolio performance, with generally mixed results. Possible reasons for the mixed findings are that most studies have considered the impact of a manager having either an MBA or a CFA separately, have not controlled for managers' style targets, and have used different performance metrics. We examine separately and jointly the impact of portfolio managers having an MBA, a CFA and investment experience on portfolio performance, while controlling for market conditions and style targets, using five different portfolio performance measurements, and two different risk measurements. For individual models or methods, we find various weak evidence consistent with most previous literature. Once we take all the models and methods jointly into consideration, we find no significant difference in returns attributable to MBA, CFA or Experience, but more significantly, we find that on average, CFAs reduce and MBAs increase portfolio risk.

Keywords: CFA, MBA, Mutual fund, Portfolio performance, Portfolio risk

1. Introduction

Researchers have long been interested in the agency aspects of the management of investment portfolios. This has led to a large number of studies that attempt to relate manager characteristics to portfolio performance. Human capital theory implies that managers with

greater ability should, at least in the long run, have portfolios with better performance than "average". A natural extension of this is that managers with better education ought to exhibit better performance. Common forms of education for portfolio managers are generally a formal MBA degree, a CFA certification, or accumulated experience from the School of Hard Knocks.

Previous research in this area has found mixed and conflicting results, but has used a variety of different methods. We consider multiple methods to reconcile all the results. Collectively, we find that after adjusting for risk and portfolio style targets, there is no significant difference in the return performance of these portfolios that is attributable to manager educational qualifications. More importantly however, we find that managers with CFA designations have portfolios with substantially lower risk, while managers with MBA degrees have portfolios with higher levels of risk.

2. Related Literature

Previous research has focused primarily on two issues: First, does the CFA designation add value in terms of providing better portfolio performance? Second, does an MBA degree add value? The stream of studies on the value of an MBA has also had some interest in relating the “quality” of the MBA granting school to the portfolio performance of the manager. A few studies have included both the MBA and the CFA in their analysis and some have also included other manager characteristics, such as gender and age.

A review of the literature reveals that it is difficult to discern a pattern with respect to the relative value of a given educational degree. As noted recently in Wright (2010), one of the problems in finding consistency is the variation in methodologies and performance measures used. Studies use different measures of return, different comparison factors, and different samples. Some studies look only at the value of a CFA designation, others examine only the value of an MBA, and some look at both. With respect to methodology, some studies use returns in excess of a benchmark, some use CAPM, and others use 3- or 4-factor models.

Shukla and Singh (1994) were the first to examine the value of a CFA designation. They found that portfolios with at least one CFA manager on the team performed better than portfolios without such a person. Soon after, Golec (1996) took a similar approach, examining the performance of MBAs, but also considering age and job tenure, and adding style controls to the estimation model. He found evidence of better performance from younger managers with longer tenure, and from managers with MBAs.

In a similar vein, Chevalier and Ellison (1999) and Gottesman and Morey (2006) examine MBAs, but focus on the quality of the education, using average SAT or GMAT scores as the quality proxy. They find that higher quality schools produce managers who yield better performance, and that age reduces return, while experience decreases beta.

Gottesman and Morey (GM 2006), Boyson (2002), Friis and Smit (FS 2004), Switzer and Huang (SH 2007), and Li, Zhao and Zhang (LZZ 2008) consider MBA and CFA, most including tenure. For MBAs, all except Boyson find no impact, while Boyson finds MBAs underperform. For CFAs, GM find they underperform, SH and FS find CFAs outperform,

and Boyson finds mixed evidence. For tenure, SH and LZZ find no impact; GM and Boyson find a negative impact.

These widely varying results are somewhat disconcerting. The studies vary in approach using different models, with and without risk-controls, and over different time periods - some over strongly bullish periods, some strongly bearish. Further, they have used different CFA/MBA definitions, some have not controlled for survivor bias, and none have controlled for overlap between CFAs and MBAs.

What is missing from the current literature is a study that directly compares CFA, MBA and Experience, while controlling for CFA/MBA overlap, risk and style factors, survivor bias, and unusual market periods. This study does just that.

We examine performance using benchmark and market adjusted returns, risk-adjusted returns based on the Jensen (1968) alphas, the Fama-French (1993) three factor alphas and the Carhart (1997) four-factor model alphas. We do this with a survivor-bias-free dataset during a relatively flat market. We also control for portfolio size and the style targets employed by the managers. Specifically, we compare in risk-adjusted and style controlled models, the relative and marginal benefits of having an MBA, a CFA or Experience on portfolio performance.

3. Data and Empirical Methodology

3.1 Data

We use the PSN Database, a unique dataset which contains quantitative and qualitative information on over 11,000 independent equity and fixed income portfolios privately managed by over 2000 companies. The manager of each of the portfolios fills out a lengthy questionnaire, and PSN compiles this information into a flexible and searchable database. This data is marketed to investment professionals, primarily Pension Plan Sponsors, Endowments, Foundations and corporate and institutional money managers who use it as a tool to identify and select investment managers. Managers have a strong economic incentive to be complete and accurate in their reporting, since PSN is the only database widely used by institutions to identify funds for their clients.

Our sample is limited to those portfolios where we have CFA and MBA data, that are AIMR compliant, and which have at least 12 months of returns data over the study period, 2005-2007. (Note 1) We eliminate funds where the fund family has less than $100 million in assets under management (AUM), and individual portfolios with less than $1 million. In our final sample of 890 funds, over 500 list more than one manager. For each fund, there is a Primary manager, which PSN designates as the Key Portfolio Manager (KPM), and as many as nine other managers, although the maximum number of managers observed in our sample for any one fund is six.

For each manager, there is information on age, professional designation, graduate degree, etc. In some cases, the professional designation column was blank but the manager's name included 'CFA' -- in such cases, we considered that manager to be a CFA. For graduate degree, often the listing was unambiguously 'MBA'. However, sometimes it was entered as

'Master', and sometimes as 'Master-Finance' -- in the latter case, we considered that manager as an MBA, in the former we did not. (Note 2) Table 1 provides summary statistics for our sample. Of the funds in our sample, 356 of the Key Portfolio Managers (KPM) have the CFA designation, 253 have an MBA degree, and 159 have both. Among all of the portfolios, 408 have at least one CFA on the team and 309 had at least one MBA. The average job tenure for KPMs is 12.16 years.

Table 1. Descriptive Statistics on Manager Qualifications and Portfolios

Panel A: Portfolio size and Key Portfolio Manager or any team member having CFA or MBA Designations

Size Tertile	Size ($mill) Mean	MBAs	CFAs	MBAonly	CFAonly	MBA & CFA	AnyCFA	AnyMBA
1	61.6	26.7%	39.9%	7.4%	20.6%	19.3%	45.3%	31.8%
2	385.9	28.7%	40.2%	12.2%	23.7%	16.6%	47.5%	35.6%
3	2978.8	30.1%	39.9%	12.2%	22.0%	17.9%	44.9%	37.2%
ALL	**1143**	**28.4%**	**40.0%**	**10.6%**	**22.2%**	**17.9%**	**45.8%**	**34.7%**

Panel B: Descriptive Statistics on Portfolio Returns

Size Tertile	Return over Benchmark	Return over T-Bills	Return over SP500	Jensen alpha	FF alpha	Carhart alpha
1	0.037	0.441	0.062	0.006	-0.123	-0.096
2	0.045	0.431	0.062	0.002	-0.123	-0.088
3	0.032	0.425	0.06	0.017	-0.078	-0.063
ALL	**0.029**	**0.431**	**0.061**	**0.008**	**-0.108**	**-0.082**

Panel C: Risk and Performance Measures and portfolio style characteristics

Size Tertile	TE	Beta	Sharpe	IR	Growth	Value	Core
1	1.51	1.14	0.143	-0.005	39.50%	28.40%	16.90%
2	1.33	1.17	0.137	0.008	36.40%	28.20%	25.20%
3	1.18	1.12	0.148	0.016	38.20%	36.10%	17.20%
ALL	**1.34**	**1.14**	**0.142**	**0.006**	**38.20%**	**30.90%**	**19.70%**

For the 890 portfolios in our sample, the average Active return (portfolio return in excess of the benchmark) is 2.9 basis points, the average excess return over the SP500 is 6.1 bps, and performance measured by the Carhart alpha is -8.2 bps. In addition, the average Tracking

Error (TE) is 1.34, and the average Information Ratio (IR) is 0.6 bps. If we sort the sample into size quartiles, we do not see much difference in these averages, except in the case of the Information Ratio where the smallest funds have an IR value of -0.5 bps, while the largest group have an IR value of 1.6 bps.

In terms of style, we have data on what specific strategy the fund managers identify as important. For example, if the manager says that growth is important to their fund *i*, then our dummy variable is set equal to one (Gro_i= 1). About 38% of funds are Growth, 31% are Value, and 20% are Core (include both Growth and Value), and about 12% are some other characteristic (PSN has about 25 total possible style characteristics). Once again, fund size does not appear to reveal any consistent differences among these strategies.

One of the issues in portfolio analysis that is well-known to practitioners but often overlooked by academics, is that managers use different benchmarks and that managers often change their benchmarks. We provide in Appendix 1 the frequency distribution of the benchmarks used each year by our sample funds. If we have no benchmark reported, that fund is removed from our sample (rather than assume the typical SP500). In our sample, there are 32 different benchmarks used by funds at some point during our examination period, and about 8% of funds changed their benchmark during that time. The S&P 500, Russell 1000 Growth and Russell 1000 value are the most commonly used benchmarks, at 21.6%, 14.5% and 11.4%, respectively. (Note 3)

3.2 Empirical Methodology

In this section, we examine a variety of risk adjustment models in which we control for fund size and management styles. In order to examine the marginal performance of individual fund managers that is due to the type of education, we use a two-stage regression procedure. First, we estimate portfolio performance using five different but widely used performance measures: benchmark adjusted return (Active return), Market Out-performance (Note 4), the original Jensen (1968) alpha, the Fama and French (1993) three factor model and alpha from the Carhart (1997) 4-factor model:

(1) $$\text{ActiveRet}_i = mean\left(R_{i,t} - R_{B_{i_t},t}\right)$$

(2) $$\text{MktOutperformance}_i = mean\left(R_{i,t} - R_{SP500,t}\right)$$

(3) $$R_i = \alpha_{Jensen,i} + \beta_1 R_{SP500} + \varepsilon_i$$

(4) $$R_i = \alpha_{FF,i} + \beta_1 R_{SP500} + \beta_2 SMB + \beta_3 HML + \eta_i$$

(5) $$R_i = \alpha_{Carhart,i} + \beta_1 R_{SP500} + \beta_2 SMB + \beta_3 HML + \beta_4 MOM + \varepsilon_i$$

where:

R_i = return for fund *i*, in excess of fees and the 90 day US Tbill rate,

R_{SP500} = return on the S&P500, in excess of the 90 day US Tbill rate,

$R_{B_{i,t}}$ = return on fund *i*'s benchmark in year *t*, in excess of the 90 day US Tbill rate,

and SMB, HML and MOM are the Fama-French and Carhart factors.

In a second stage regression, we use each of these performance measures in a cross-sectional dummy variable regression to estimate the marginal contribution of the various factors on performance. We define dummy variables for each of our potential classifications as:

CFA	= 1 if the KPM (Key Portfolio Manager) has a CFA
MBA	= 1 if the KPM has an MBA
CFAonly	= 1 if the KPM has a CFA, but not an MBA
MBAonly	= 1 if the KPM has an MBA, but not a CFA
MBACFA	= 1 if the KPM has both a CFA and an MBA
AnyCFA	= 1 if at least one manager on the portfolio team has a CFA
AnyMBA	= 1 if at least one manager on the portfolio team has an MBA
KPMten	= years the KPM has been on the job

It should be noted however, that a regression based on these classifications and one of the performance measures does not take into consideration the fact that different types of managers have different objectives and styles. Moreover, Berk and Green (2004) and others have suggested a strong link between portfolio size and performance. Thus, we add as control variables: log of fund size, and 3 more dummy variables to control for the style target of the fund (Growth, Value or Core).

Our first model simply considers education type and experience for the Key Portfolio Manager:

$$\alpha_i = \gamma_0 + \beta_1 Gro_i + \beta_2 Val_i + \beta_3 Cor_i + \beta_4 \ln(Size_i) + \beta_5 CFA_i + \beta_6 MBA_i + \beta_7 KPMten_i + \varepsilon_i \quad (6)$$

Where α_i represents one of the five the performance metrics, and the other variables are defined as described above.

To account for the overlap between CFAs and MBAs, we also consider the unique

classifications of CFAonly, MBAonly, and MBA and CFA in the more comprehensive regression model:

$$\alpha_i = \gamma_0 + \beta_1 Gro_i + \beta_2 Val_i + \beta_3 Cor_i + \beta_4 \ln(Size_i) + \beta_5 CFAonly_i + \beta_6 MBAonly_i + \beta_7 MBACFA_i + \beta_8 KPMten_i + \varepsilon_i \quad (7)$$

In addition to considering the qualifications of the key portfolio management, we also examine the impact on performance of *any* member of the management team having a CFA or an MBA:

$$\alpha_i = \gamma_0 + \beta_1 Gro_i + \beta_2 Val_i + \beta_3 Cor_i + \beta_4 \ln(Size_i) + \beta_5 AnyCFA_i + \beta_6 AnyMBA_i + \varepsilon_i \quad (8)$$

An important aspect in the management of investment portfolios is controlling for risk. One way to measure risk is through estimating the standard market beta. Thus, similar to our return equations, we directly model risk in order to estimate the marginal contribution of the educational methods on portfolio risk as:

$$Jen\beta_i = \gamma_0 + \beta_1 Gro_i + \beta_2 Val_i + \beta_3 Cor_i + \beta_4 \ln(Size_i) + \beta_5 CFA_i + \beta_6 MBA_i + \beta_7 KPMten_i + \varepsilon_i \quad (9)$$

where *JenB* is the beta from Jensen's alpha model, estimated using equation (2). As with the return equations, we estimate the risk models both with the general CFA/MBA classifications, the CFAonly and MBAonly, and the AnyCFA and AnyMBA classifications.

Another common metric in the industry used to assess portfolio risk is through estimating the portfolios' tracking error. Although there are some competing definitions, the most widely used measure of TE is the standard deviation of the difference between the returns of the portfolio and the portfolio's benchmark:

$$d_{i,t} = R_{i,t} - R_{B_{i,t},t}$$
$$TE_i = std\left(d_{i,t}\right) \quad (10)$$

It is clear that a fund matching the benchmark exactly will have a TE=0, and the farther away the fund is from the benchmark the higher the TE. Obviously, for a manager to outperform the benchmark, he/she must have a non-zero tracking error. Thus, in addition to estimating the impact of educational level on portfolio risk as measured by market beta, we also examine its impact on risk as measured by the portfolio's tracking error. We estimate regression models exactly as those described in equation (8), replacing the dependent variable with TE as the risk metric.

4. Empirical Findings

4.1 Impact of Manager Qualifications on Portfolio Returns

We begin with the simplest model, estimating cross-sectional regressions with each of our performance metrics, in order to distinguish between the performance of portfolios whose managers have an MBA or a CFA. In Panel A of Table 2, we see that neither an MBA nor a CFA add value, regardless of the measure used, with or without control variables. Experience, on the other hand, shows a slight tendency (at 10% level) to underperform, when evaluated with Market Out-Performance (Note 5).

Table 2. Positive (+) or negative (-) significant impact on Returns

			RETURN MEASURES				
			Raw Return		Risk-Adjusted Return		
			Active Return	Market Out-performance	Jensen alpha	Fama-French alpha	Carhart alpha
Panel A							
		CFA					
		MBA					
		KPMtenure		-			
	with	**CFA**					
	controls	**MBA**					
		KPMtenure		-			
Panel B							
		CFAonly		+			
		MBAonly	+				
		MBA&CFA					
		KPMtenure		- -			
	with	**CFAonly**					
	controls	**MBAonly**	+				
		MBA&CFA					
		KPMtenure		- -		-	
Panel C							
		AnyCFA					
		AnyMBA	+				
	with	**AnyCFA**					
	controls	**AnyMBA**					

"+" indicates positive impact: "+ + +" significant at 1% level, "+ +" at 5%, "+" at 10%

"-" indicates negative impact: "- - -" significant at 1% level, "- -" at 5%, "-" at 10%

A more complete way of classifying managers is presented in Panel B of Table 2. In these regressions, we consider managers who only have a CFA or an MBA, as well as those who have both (compared against those who have neither), and also include the Experience of the key portfolio manager. An MBA who does not have a CFA seems to add value for Active return, but not for Market Out-Performance or any risk-adjusted return. CFAs slightly add value (at 10%) for Market Out-Performance, but only without controls. For Market Out-Performance, Experience again shows a tendency to underperform.

The result pertaining to the apparent superior portfolio performance for managers with MBAs is similar to the findings in some previous studies. However, once we add a more complete risk model, all such significant results vanish (Note 6). As shown in the "Risk-Adjusted Returns" columns of Table 2, whether we use the single-factor (Jensen) market model, the 3-factor Fama-French model, or the 4-factor Carhart model, the impact on portfolio performance from the key portfolio manager having an MBA or CFA is not significant.

Since most portfolios are managed by teams of managers, it is possible that any manager on the team having a particular education might help the portfolio. Similar to Shukla and Singh (1994), we show in Panel C of Table 2 the results of any one manager on the team having an MBA or a CFA, by estimating the relationship between the portfolio return measures on the variables AnyMBA and AnyCFA. As before, when measuring performance with active return, having an MBA on the team has a slightly significant benefit (only at the 10% level); but for any other return model, there is no significant impact of educational qualification on portfolio performance.

Summarizing the return estimations, what we have so far is that the type of education or experience a manager has does not have much impact on return. Furthermore, what little impact is found seems to be completely a function of exactly how we measure performance and how we categorize managers. This may shed some light on why many previous studies have had conflicting results.

4.2 Impact of Manager Qualifications on Portfolio Risk

While portfolio returns get more attention as a performance yardstick, controlling risk is just as important as generating large positive returns. In this subsection, we examine in detail whether manager qualification has a significant impact on the management of risk. We use both the portfolio's market beta and its tracking error to measure portfolio risk. We model each of these risk measures in a manner similar to the return equations described above.

Once again, we begin with the simplest model, regressing market beta and tracking error on MBA, CFA and Experience. We find (Table 3, panel A) that neither MBAs nor CFAs have any significant impact on Beta, and with the control variables, MBAs increase Beta (significant at the 1% level). We further find that Experience decreases Beta risk, both with and without the control variables. When we use Tracking Error as the risk measure, we again find that MBAs significantly add risk, and that CFAs significantly reduce risk (both with and without the control variables).

Table 3. Positive (+) or negative (-) significant impact on Risk

			RISK MEASURES	
			Market Beta	Tracking Error
Panel A				
		CFA		- - -
		MBA		+ +
		KPMtenure	- -	
	with	**CFA**		- - -
	controls	**MBA**	+ + +	+ + +
		KPMtenure	- -	
Panel B				
		CFAonly		- - -
		MBAonly	+ +	
		MBA&CFA		
		KPMtenure		
	with	**CFAonly**		- - -
	controls	**MBAonly**	+ +	
		MBA&CFA		
		KPMtenure	- -	
Panel C				
		AnyCFA		- - -
		AnyMBA	+	+ + +
	with	**AnyCFA**		- - -
	controls	**AnyMBA**	+ + +	+ + +

"+" indicates positive impact: "+ + +" significant at 1% level, "+ +" at 5%, "+" at 10%

"-" indicates negative impact: "- - -" significant at 1% level, "- -" at 5%, "-" at 10%

In Panel B of Table 3, we consider the classifications of Experience, managers with only an MBA or CFA, and those with both MBA and CFA. When risk is measured by the portfolio's tracking error, CFAs are found to reduce risk, but MBAs and Experience have no impact. When risk is measured by the portfolio's market beta, we find that having an MBA increases risk and having Experience reduces risk.

In Panel C of Table 3, we examine the potential impact of any member of the management team having an MBA or CFA. The results show that for both risk metrics (Beta and TE) having an MBA significantly increases portfolio risk (at 10% without controls, 1% with). Furthermore, we find that when we use the tracking error as a measure of risk, managers having a CFA reduce portfolio risk, both with and without the model controls (at 1%).

Summarizing the risk estimations, we find that MBAs tend to increase risk and CFAs tend to reduce risk. This finding is relatively insensitive to how we classify managers or how we measure risk.

5. Summary and Conclusions

Using a unique database which provides manager qualifications along with many other portfolio characteristics, we study the relation between manager qualification and the performance of equity portfolios. We extend the work of previous research, by examining several different performance measurement techniques, and several different ways of classifying managers. Specifically, we apply five different methods of measuring portfolio out-performance, two different measures of portfolio risk, and consider three approaches to estimate the influence of a manager having Experience, an MBA degree, or a CFA certification.

Our findings clearly indicate that with respect to portfolio returns, there are no robust differences in the return performance of equity portfolios that can be attributed to educational qualification or level of experience. We are able to find weak evidence that supports the conclusions of previous studies, but in order to do so we have to be very selective about the manager classification method and the performance measure.

Considering all methods, we find that there is little statistically significant difference in the return performance of equity portfolios that are managed by individuals with MBAs, CFAs, or extensive industry Experience from those that are managed by individuals without any of these qualifications. Once we look at all the evidence in aggregate, the lack of a discernable return differential is clear.

With respect to portfolio risk, the results are even more interesting. First, Experience tends to reduce portfolio Beta risk. Second, whether risk is measured by Beta or Tracking Error, we find an important distinction between managers with MBAs and those with CFAs: we consistently find that CFAs manage portfolios that have lower risk than portfolios managed by MBAs, even though their respective portfolio returns are statistically indistinguishable.

The impact of education method on the portfolio's risk is potentially a very interesting result. One possible explanation is that our MBAs and CFAs are drawn from different populations. Perhaps graduate programs in Business Schools somehow attract risk-lovers. Or perhaps

CFA's are drawn to more risk-averse compensation schemes. What seems certain is that others will have comments on our result.

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Appendix

Table A.1. Descriptive statistics about Benchmarks used

Benchmark*	No. of Fund Years' (out of total 2656)	% of Total
90 Day U.S. TBill	22	0.8
DJ/Wilshire REIT	12	0.5
Domini 400	3	0.1
ML All US CNVRT	12	0.5
MSCI US REIT	6	0.2
MSCI USA	5	0.2
MSCI World	3	0.1
NAREIT	15	0.6
NASDAQ	8	0.3
RUS 1000	42	1.6
RUS 1000 Growth	385	14.5
RUS 1000 Value	302	11.4
RUS 2000	195	7.3
RUS 2000 Growth	247	9.3
RUS 2000 Value	149	5.6
RUS 2500	22	0.8
RUS 2500 Growth	43	1.6
RUS 2500 Value	37	1.4
RUS 3000	62	2.3
RUS 3000 Growth	56	2.1
RUS 3000 Value	39	1.5
RUS Mid Cap	49	1.8
RUS Mid Growth	170	6.4
RUS Mid Value	113	4.3
RUS Top 200 GR	5	0.2
S&P 400 Mid Cap	50	1.9
S&P 500	573	21.6
S&P 500 Growth	2	0.1
S&P 500 Value	6	0.2
S&P 600 Small Cap	17	0.6
S&P 600 Small Value	1	0
WILSHIRE 5000	5	0.2

*8.1% of Funds changed Benchmarks during 2005-2007.

Table A.2. Impact of control variables on performance models (Note 7)

	Excess return	Active Return	Market Out-performance	Jensen	FamaFrench	Carhart
Constant	0.42	0.031	0.029	0.006	-0.131	-0.101
	-8.68	-0.72	-0.61	-0.14	(-2.83)	(-2.32)
Growth	0.132	0.095	0.144	0.042	-0.057	-0.043
	-3.31	-2.57	-3.63	-1.13	(-1.53)	(-1.2)
Value	0.005	0.002	0.016	-0.017	-0.023	0.009
	-0.13	-0.04	-0.43	(-0.48)	(-0.62)	-0.27
Core	-0.034	-0.012	-0.019	-0.047	-0.075	-0.053
	(-0.82)	(-0.33)	(-0.5)	(-1.27)	(-1.93)	(-1.43)
Log(Size)	-0.006	-0.005	-0.004	0	0.012	0.007
	(-0.91)	(-0.83)	(-0.68)	-0.02	-1.83	-1.25
R-square	0.04	0.02	0.05	0.01	0.01	0.01
Observations	886	886	886	872	872	872

Table A.3. Return metrics: All CFAs, MBAs

	Act Ret	Mkt Out-Perf	Jensen α	FF α	Carhart α	Act Ret	Mkt Out-Perf	Jensen α	FF α	Carhart α
CFA	0.007	0.029	0.031	0.031	0.028	-0.003	0.016	0.025	0.033	0.031
	(0.3)	(1.22)	(1.38)	(1.34)	(1.22)	(-0.12)	(0.68)	(1.12)	(1.37)	(1.37)
MBA	0.027	0.02	0.008	0.009	0.018	0.034	0.03	0.012	0.003	0.009
	(1.07)	(0.76)	(0.29)	(0.35)	(0.69)	(1.4)	(1.13)	(0.48)	(0.12)	(0.33)
KPMten	-0.002	-.003**	-0.002	-0.002	-0.002	-0.002	-.003**	-0.002	-.003*	-0.002
	(-1.26)	(-2.15)	(-1.43)	(-1.23)	(-1.12)	(-1.2)	(-2.21)	(-1.6)	(-1.75)	(-1.46)
Growth						.091**	0.132***	0.04	-0.061	-0.048
						(2.41)	(3.3)	(1.06)	(-1.63)	(-1.37)
Value						-0.017	-0.006	-0.037	-0.043	-0.01
						(-0.47)	(-0.17)	(-1.0)	(-1.15)	(-0.29)
Core						-0.033	-0.05	-.076**	-.105***	-.083**
						(-0.90)	(-1.29)	(-2.04)	(-2.69)	(-2.25)
Ln Size						-0.001	0.002	0.004	.015**	.0105*
						(-0.12)	(0.35)	(0.67)	(2.26)	(1.67)
Const	0.043**	0.073***	0.015	-0.10***	-0.079***	0.027	0.028	0.008	-.119**	-.095**
	(1.82)	(3.01)	(0.67)	(-4.03)	(-3.37)	(0.59)	(0.56)	(0.17)	(-2.40)	(-2.03)
Obs	798	798	783	783	783	794	794	781	781	781
R2	0.004	0.01	0.006	0.005	0.005	0.03	0.06	0.03	0.02	0.02

Table A.4. Return metrics: CFAonly, MBAonly, Both CFA and MBA, and Experience

	Act Ret	Mkt Out-Perf	Jensen α	FF α	Carhart α	Act Ret	Mkt Out-Perf	Jensen α	FF α	Carhart α
CFAonly	0.032	0.048*	0.039	0.034	0.029	0.017	0.028	0.03	0.035	0.034
	(1.23)	(1.76)	(1.48)	(1.21)	(1.12)	(0.66)	(1.03)	(1.11)	(1.21)	(1.28)
MBAonly	0.071*	0.054	0.021	0.013	0.021	0.071*	0.051	0.02	0.006	0.014
	(1.83)	(1.36)	(0.58)	(0.32)	(0.57)	(1.90)	(1.37)	(0.56)	(0.14)	(0.37)
CFA&MBA	0.022	0.039	0.035	0.04	0.044	0.024	0.039	0.036	0.036	0.039
	(0.7)	(1.21)	(1.11)	(1.24)	(1.42)	(0.74)	(1.22)	(1.13)	(1.1)	(1.24)
KPMten	-0.002	-0.003**	-0.002	-0.002	-0.002	-0.002	-0.003**	-0.002	-0.003*	-0.002
	(-1.31)	(-2.19)	(-1.44)	(-1.23)	(-1.12)	(-1.22)	(-2.22)	(-1.60)	(-1.75)	(-1.46)
Growth						0.089**	0.131***	0.039	-0.061	-0.049
						(2.39)	(3.29)	(1.05)	(-1.63)	(-1.38)
Value						-0.016	-0.005	-0.027	-0.042	-0.009
						(-0.43)	(-0.14)	(-0.99)	(-1.14)	(-0.28)
Core						-0.033	-0.05	-0.076	-0.105***	-0.083**
						(-0.91)	(-1.29)	(-2.04)	(-2.69)	(-2.25)
Ln Size						-0.001	0.002	0.004	0.015**	0.104*
						(-0.18)	(0.32)	(0.66)	(2.26)	(1.66)
Const	0.035	0.067**	0.013	-0.102***	-0.081***	0.023	0.026	0.008	-0.119**	-0.096**
	(1.49)	(2.76)	-0.55	(-4.01)	(-3.37)	(0.5)	(0.51)	(0.15)	(-2.39)	(-2.03)
Obs	798	798	783	783	783	794	794	781	781	781
R2	0.01	0.01	0.01	0.01	0.01	0.04	0.06	0.03	0.02	0.02

Table A.5. Return metrics: Any member of management team with a CFA or an MBA

	Act Ret	Mkt Out-Perf	Jensen α	FF α	Carhart α	Act Ret	Mkt Out-Perf	Jensen α	FF α	Carhart α
Any CFA	-0.016	-0.005	-0.006	-0.006	-0.006	-0.025	-0.016	-0.009	0	0.001
	(-0.73)	(-0.20)	(-0.26)	(-0.24)	(-0.29)	(-1.13)	(-.72)	(-0.41)	(0.04)	(0.03)
Any MBA	0.034	-0.005	0.015	0.011	0.015	0.04	0.039	0.018	0.004	0.006
	(1.39)	(-1.25)	(0.63)	(0.42)	(0.62	(1.65)	(1.54)	(0.72)	(0.15)	(0.26)
Growth						0.096***	0.145***	0.043	-0.057	-0.043
						(2.61)	(3.65)	(1.14)	(-1.54)	(-1.21)
Value						-0.002	0.012	-0.019	-0.023	0.009
						(-0.07)	(0.32)	(-0.53)	(-0.63)	(0.25)
Core						-0.01	-0.018	-0.046	-0.075*	-0.052
						(-0.28)	(-0.46)	(-1.25)	(-1.92)	(-1.43)
Ln Size						-0.005	-0.005	0	0.012*	0.007
						(-0.90)	(-0.75)	(0.00)	(1.82)	(1.23)
Const	0.034**	0.052***	0.006	-0.109***	-0.084***	0.032	0.026	0.006	-0.131***	-0.102
	(2.32)	(3.54)	(0.44)	(-7.41)	(-6.10)	-0.71	-0.54	-0.12	(-2.76)	(-2.28)
Obs	890	890	874	874	874	886	886	872	872	872
R2	0	0	0	0	0	0.03	0.05	0.01	0.01	0.01

Table A.6. Risk metrics: CFA, MBA, Experience and Any team member with CFA or MBA

	TE	Jensen β	TE	Jensen β
		Panel A: CFA, MBA, Experience		
CFA	-0.122***	-0.007	-0.142***	-0.024
	(-2.72)	(-0.33)	(-3.32)	(-1.23)
MBA	0.107**	0.035	0.129***	0.052**
	(2.20)	(1.58)	(2.85)	(2.50)
KPM Tenure	0.001	-0.003**	0.004	-0.003**
	(0.38)	(-2.16)	(1.62)	(-2.08)
Growth			0.303***	0.255***
			(4.21)	(6.12)
Value			0.005	0.061
			(0.08)	(1.53)
Core			-0.202***	0.083*
			(-3.15)	(1.95)
Ln Size			-0.081***	-0.004
			(-6.20)	(-0.79)
Constant	1.335	1.161	1.689***	1.054***
	(27.89)***	(55.25)***	(18.16)	(21.90)
Observations	798	783	794	781
R-squared	0.01	0.01	0.15	0.13
		Panel B: Any member of management team with CFA or MBA		
Any CFA	-0.127***	0.000	-0.166***	-0.017
	(-2.83)	(0.03)	(-3.85)	(-0.86)
Any MBA	0.159***	0.041*	0.191***	0.056***
	(3.32)	(1.92)	(4.28)	(2.72)
Growth			0.338***	0.272***
			(4.80)	(6.72)
Value			-0.017	0.066*
			(-0.26)	(1.71)
Core			-0.213***	0.090**
			(-3.43)	(2.18)
Ln Size			-0.091***	-0.011**
			(-6.54)	(-2.27)
Constant	1.342	1.128	1.789***	1.052***
	(39.62)***	(80.97)	(18.48)	(21.83)
Observations	890	874	886	872
R-squared	0.01	0.01	0.18	0.15

Robust t statistics in parentheses

* Coefficient significant at 10%; ** significant at 5%; *** significant at 1%

Table A.7. Risk metrics: CFAonly, MBAonly, Both, and Experience

	TE	Jensen β	TE	Jensen β
CFAonly	-0.137***	0.019	-0.167***	-0.007
	(-2.58)	(0.78)	(-3.22)	(-0.29)
MBAonly	0.079	0.079**	0.089	0.081**
	(1.04)	(2.30)	(1.26)	(2.53)
CFA & MBA	-0.007	0.015	-0.002	0.019
	(-0.12)	(0.59)	(-0.03)	(0.41)
KPM Tenure	0.001	-0.003	0.004	-0.003**
	(0.39)	(-2.20)	(1.63)	(-2.08)
Growth			0.305***	0.253***
			(4.21)	(6.08)
Value			0.003	0.062
			(0.05)	(1.57)
Core			-0.202***	0.083*
			(03.14)	(1.95)
Ln Size			-0.081***	-0.004
			(-6.21)	(-0.86)
Constant	1.339***	1.153***	1.694	1.105***
	(27.41)	(53.68)	(18.11)	(21.84)
Observations	798	783	794	781
R-squared	0.01	0.01	0.15	0.13

Robust t statistics in parentheses

* Coefficient significant at 10%; ** significant at 5%; *** significant at 1%

Notes

Note 1. As observed in Gottesman and Morey (2006), a very strong bull market (or even a strongly bearish market) could have an impact on comparing managers with different risk aversion. So, we use a relatively calm market period just before the recent financial crisis. We identified managers as of end of 2006. As Fabozzi, et al (2008) note, average manager tenure is 3 years, so we start one year before, and go one year after. This allows us to be reasonably confident that the majority of these funds were managed by these managers during that period.

Note 2. In the few cases when graduate degree listed PHD, it rarely indicated a major. For this reason, we do not consider PHD.

Note 3. For each fund and each year, we determine what benchmark the fund reports using. About 8% of the funds changed their benchmark during our sample period. See Appendix 1 for details.

Note 4. Of course, for any fund that uses SP500 as their benchmark, Market Out-Performance and Active return will be identical, but only 22% of our sample have this issue (see Table

A.1).

Note 5. Complete regression results are shown in the Appendix.

Note 6. Moreover, as seen in the Appendix Table A.3, the R-squares from the regressions showing this apparent positive performance are essentially 0.

Note 7. We should note that while these R-squares may seem low, one must remember that these are cross-sectional regressions where the left-hand side variables are regression intercepts generated after the underlying risk model has been already estimated in a time series regression. The average R-squares from the time series regressions which estimated the alphas are much higher; 99% were above 0.30, with the average R-squares for the Jensen, Fama-French, and Carhart models being 0.71, 0.73 and 0.74 respectively.