The Best Mutual Fund Managers: Testing the Impact of Experience Using a Survivorship-bias Free Dataset

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This study uses a survivorship-bias free dataset spanning more than 80 years to identify the best mutual fund managers having tenure of ten years or more. We also examine the relationship between performance and tenure in a sample of 289 solo managers of 355 actively managed funds within the nine Morningstar styles. We find an inverse relationship between average annual returns and tenure, even after controlling for structural changes in mutual fund returns after 1996. The managers who survived more than ten years were likely to have performed at or above the market in their first three years, while their peers who did not survive as solo managers beyond three years significantly underperformed the market. Finally, while each of the very best managers generated positive compound annual market-adjusted returns following their first three years, the majority were not able to maintain their early levels of performance. This evidence is not indicative of a positive relationship between experience and performance.

■The investing public is inundated with mutual fund advertisements stressing the long-term performance of their fund and in many cases, the value of their managers and the importance of experience. While extensive public information is available about the performance of current actively managed mutual funds, little has been written about the historical performance of all managers, including those who are no longer actively managing funds. One might argue that once a fund manager becomes inactive, the investing community is no longer interested in their performance. However, current managers and the investing public need a historical benchmark with which to evaluate long-term performance. For example, a manager may be in the top quartile of all active managers for the last 10 years, but a complete comparison lies in measuring historical performance relative to *all* managers with 10-year track records. The purpose of this study is to provide a historical scorecard of the performance of solo mutual fund managers through 2008, and to examine the relationship between experience and performance among them.[1]

Numerous studies have examined the performance of mutual funds and addressed the question of whether mutual funds can out-perform the market on a risk-adjusted basis. While there is overwhelming evidence that actively-managed mutual funds, in general, do not outperform the market after accounting for risk and expenses, there is some evidence of short-term persistence and that a select few funds, in the

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[1] The motivation for this research was provided by Jon Birger (2008), a reporter at Fortune Magazine, who was working on an article on Ken Heebner (Birger, 2008), a mutual fund manager with an impressive 30-year track record. The reporter was interested in performance data for other fund managers, active and inactive, with which to compare Heebner. We define a solo manager as one who is the sole manager listed by Morningstar at a fund. Performance is measured during only the months the manager is listed as the sole manager, which may or may not be a contiguous period.

tail of the distribution of all mutual fund returns, produce positive alphas over time. For example, Carhart (1997) finds that almost all mutual fund performance is explained by common factors in stock market returns and by fund expense, although he does document a short-term momentum effect. Kosowski, Timmerman, Wermers, and White (2006) use a bootstrap approach and find performance persistence for a significant minority of funds. Barras, Scaillet, and Wermers (2010) develop a model to distinguish between those funds that randomly exhibit statistically significant alphas, even though they are not superior performers, from funds that truly outperform the market on a risk-adjusted basis. They find a small subset of funds with true positive alphas. Costa and Jakob (2010) provide evidence that some funds randomly give the appearance of being able to outperform the market and document that even some unmanaged funds generate positive alphas. Nicolosi (2009) examines the trades made by mutual funds and finds that some managers demonstrate the ability to buy stocks that outperform the stocks they sell. However, this result is dependent on the assumption that trades are made at the beginning of each quarter and the result disappears with the relaxation of this assumption.

Peter Lynch has the best solo-managed fund with a market-adjusted compound annual return of 12.75% during his tenure of more than 13 years at Fidelity Magellan. Despite his relatively short tenure, his career market-adjusted cumulative return of 380.46% is also greater than any other manager.

While each of these studies address the question of whether managers have superior stock picking ability, the authors examine fund returns without considering the role of the fund managers specifically. To measure the skill of a manager, one must examine the performance of funds under their sole control. To this end, we use survivorship-bias free historical data from Morningstar to examine the performance of actively-managed funds having solo managers with track records of at least 10 years. We identify the best solo mutual fund managers and attempt to determine if, as Barras et al. (2010) suggest, they have superior skills that place them in the tail of the distribution, or if their superior performance is random.

I. Data

Our dataset was provided by Morningstar and includes the population of mutual fund managers and funds for which a full set of returns were available from inception through December 2008. The survivorship-bias free dataset, which includes all share classes and all fund objectives, contains 41,248 funds and 15,225 managers. When we screen out all but the oldest, or unique, share class for each fund, remove bond funds, index funds, specialty funds, and target date funds, the sample contains 7,381 funds and 10,605 managers. We use only the oldest fund because Morningstar lists returns for each class of fund individually and most funds are offered in a variety of configurations of sales loads, fees, etc. Of the 7,381 unique funds that passed our screen, 735 lacked complete return data. Consequently, we were unable to include thirty-eight solo managers with tenure of at least ten years. Since our data is survivorship-bias free and one manager can manage several unique funds and funds can have several managers concurrently or over time, our sample of 6,645 unique funds, which includes multiple managers and managers of all tenures, contains 31,377 manager/fund combinations.

There is a strong tendency for actively-managed mutual funds to be managed by teams of managers. We focus on the subset of solo-managed funds because we want to capture the skills of a single manager. It is impossible to isolate the contribution of a manager who shares responsibility for a fund with one or more co-managers. Additionally, team managed funds have the additional challenge of intra-team turnover. Since the composition of teams changes over time, it is difficult to focus on the abilities of any particular individual or group of individuals within teams. As an extreme example, during one period, Morningstar listed 66 managers for Old Mutual Asset Allocation Growth A.

Our sample is further restricted to the nine styles defined by Morningstar. This enables us to effectively control for relevant risk. Our final sample of solo managers with at least 10 years tenure consists of 289 managers of 355 actively managed funds. Of these, the mean tenure is 14.5 years (median: 12.8). The manager with the longest tenure, Phil Carret, was listed as the sole manager of *Pioneer A* from April of 1928 until January 1980, nearly 52 years.

While the Morningstar dataset is free of survivorship bias because it includes merged and closed funds, as well as active and inactive managers, we note the possibility of what Elton, Gruber, and Blake (2001) call "omission bias" since there may be a tendency for poorer performing funds to be those without return data. While it is impossible to test whether the performance of funds without return data differs from those funds with data, we concede the potential for this source of bias.

II. Performance Measures

Our primary measure of performance is market-adjusted compound annual return (MACAR), which is the geometric

average annual nominal return less the return on the market.[2] We use the value-weighted Center for Research in Security Prices (CRSP) index, which is comprised of all stocks on the NYSE, NASDAQ and AMEX exchanges, as a proxy for the market portfolio. Market-adjusted returns reflect the manager's ability to outperform a passive, broadly diversified portfolio.[3]

For comparison purposes, and to test the robustness of our results, we also calculate three additional performance metrics: Jensen (1968) alphas, Carhart alphas, and nominal compound annual return (NCAR), which is the geometric average annual nominal return, for each solo-managed fund. NCAR ignores the impact of market risk, but is the measure most often cited in industry publications and is most often (mis)-used by investors to evaluate performance. Carhart alphas are widely accepted within the academic community because they control for common factors in stock returns identified by Fama and French (1993), plus a momentum factor. To investors, the factors are the equivalent of the nine styles pioneered by Morningstar.[4] The Carhart alpha reflects the impact on fund return due to systematic changes in each style. For example, because a fund that is invested largely in small capitalization value stocks can outperform the market index when the Small-Cap Value style outperforms the broad market, the manager should not be credited with superior performance if he outperforms by the same degree. The Carhart model controls for earned premiums based on market capitalization and value, so the manager earns a positive alpha only if he outperforms the small capitalization value index.[5] Despite this improved performance measure, most mutual fund data bases continue to report the Jensen alpha, which produces a positive alpha if the manager outperforms a single index.

III. Performance of Solo Managers

Table I shows the Best 50 solo-managed mutual funds run by 42 managers through 2008, ranked by fund MACAR. Details include fund name and category, the career market-adjusted cumulative return (MACR), and information on the dates and length of tenure for each manager. Peter Lynch has the best solo-managed fund with a market-adjusted compound annual return of 12.75% during his tenure of more than 13 years at Fidelity Magellan. Despite his relatively short tenure, his career market-adjusted cumulative return of 380.46% is also greater than any other manager. Ken Heebner's CGM Focus Large Growth fund has the second best MACAR of 12.01%. However, the career MACR for CGM Focus of 258.10% (tenure of 32 years) is shy of Lynch's and less than the career MACR of 307.86% for his CGM Capital Development Fund (tenure of 11.25 years), which placed 36th by MACAR.

Since many mutual fund managers, like Heebner, are responsible for more than one fund, we do not restrict the number of funds they may have in the Best 50. As a result, seven managers appear twice on the list. Grant, Hutzler, Perelmuter, and Schoelzel each managed two funds with the same Morningstar style. The similar performance between their pairs of funds is not surprising because managers with multiple funds in the same style would hold similar portfolios, producing similar fund returns. However, three managers: Heebner, Montgomery, and Deere, each made the Best 50 with two funds having different styles.

While the excess returns of the best managers are impressive, the magnitude of the returns diminishes quickly as one moves down the list. For example, William Fries of Thornburg Value A, a large blend fund, finished in 50th place. Given the relatively small number of managers surviving more than ten years, doing so and placing in the Best 50, is worthy of note. Investors in this fund would have earned an average annual market-adjusted return of 3.23% over the 11 years of his tenure, an impressive return compared to the average mutual fund but dramatically less than Lynch's 12.75%. In comparison, the manager of the 100th best fund (not shown in the table) earned an average annual excess return of 1.63%. Of the 355 funds managed by solo managers with at least 10 years tenure, 169 produced positive MACARs.

Table II shows the Best 50 along with their ranking by alternate performance metrics. Clearly, the determination of the best managers depends on the metric chosen. Edward Antoian ranks first by Carhart alpha but Ken Heebner and Peter Lynch each rank first by other metrics.[6] Only four managers: Peter Lynch, John Montgomery (two funds), Edward Antoian, and Charles Royce rank in the top 25 by all four metrics. Lynch was the only manager to place in the top 10 in all four (first by MACAR, first by MACR, third by

[2] Monthly market-adjusted returns are used to calculate compounded annualized returns.

[3] Most mutual funds and fund publications provide market benchmarks with which to compare a fund's performance.

[4] The nine styles are: Large-Cap Value, Large-Cap Growth, Large-Cap Blend, Mid-Cap Value, Mid-Cap Growth, Mid-Cap Blend, Small-Cap Value, Small-Cap Growth, and Small-Cap Blend.

[5] The Carhart (1997) model employs the variables small minus big (SMB) and high minus low (HML) from Fama and French (1993). SMB adjusts the fund's returns by the premium between high market cap stocks and low market cap stocks. HML adjusts the fund's returns by the premium between stocks with high book-market ratios and stocks with low book-to-market ratios.

[6] Interestingly, Heebner's CGM Mutual Fund placed first by Jensen alpha but 51st by MACAR, while his CGM Focus fund, which placed second by MACAR, placed 50th by Jensen alpha.

Table I. Best 50 Solo-Managed Funds Ranked by MACAR

MACAR is the market-adjusted compound annual return, adjusted by the return on the value-weighted CRSP index. MACR is the market-adjusted cumulative return over each manager's tenure. Styles are based on the nine styles described by Morningstar. Funds are the oldest share class in the fund portfolio. Manager and Fund names are as they appear in the Morningstar database. Solo tenure and performance reflect only months when the manager is listed as the sole manager. In cases where funds added, then removed additional managers, start and end dates will not match the solo tenure value.

Rank	Manager	Fund	Style	Solo start date	Solo end date	MACAR	Career MACAR	Solo tenure in years
1	Lynch, Peter	Fidelity Magellan	Large Growth	5/1/77	5/31/90	12.75%	380.46%	13.08
2	Heebner, G. Kenneth	CGM Focus	Large Growth	10/1/97	12/31/08	12.01%	258.10%	11.25
3	Montgomery, John	Bridgeway Ultra-Small Company	Small Growth	8/31/94	4/30/06	11.64%	261.44%	11.67
4	Schneider III, Arnold	Schneider Small Cap Value	Small Value	10/1/98	12/31/08	11.43%	203.17%	10.25
5	Montgomery, John	Bridgeway Aggressive Investors 1	Mid-Cap Growth	8/31/94	4/30/06	10.83%	231.79%	11.67
6	Perelmuter, Phillip H.	Hartford MidCap HLS IA	Mid-Cap Growth	8/1/97	12/31/08	9.79%	190.59%	11.42
7	Schier, James	Rydex/SGI Mid Cap Value A	Mid-Cap Value	5/31/97	12/31/08	9.09%	173.89%	11.58
8	Rinaldi, I. Charles	Wells Fargo Advantage Small Cap Val In	Small Blend	1/1/98	12/31/08	8.75%	151.70%	11.00
9	Antoian, Edward	Delaware Growth Opportunities A	Mid-Cap Growth	3/31/86	5/31/96	8.70%	133.61%	10.17
10	Cabour, Francis	Pioneer Value A	Large Value	10/1/69	12/31/79	8.63%	133.70%	10.25
11	Royce, Charles M.	Royce Heritage Svc	Small Blend	1/1/96	4/30/06	8.62%	135.02%	10.33
12	Perelmuter, Phillip H.	Hartford Midcap A	Mid-Cap Growth	1/1/98	12/31/08	8.48%	144.85%	11.00
13	Grant, Stephen	Value Line Emerging Opportunities	Mid-Cap Growth	1/1/99	12/31/08	8.13%	118.53%	10.00
14	Miller, Neil P.	Fidelity New Millennium	Mid-Cap Growth	1/1/93	6/30/06	7.00%	149.15%	13.50
15	Hutzler, Harry	AIM Constellation A	Large Growth	5/1/76	4/30/87	6.64%	102.72%	11.00
16	Akre, Jr., Charles T.	FBR Focus	Mid-Cap Growth	1/1/97	12/31/08	6.62%	115.69%	12.00
17	Stratton, James W.	Stratton Multi Cap	Large Blend	10/1/72	12/31/08	6.51%	156.21%	14.92
18	Newton, William C.	American Funds Growth Fund of Amer A	Large Growth	12/1/73	10/31/85	6.07%	101.80%	11.92
19	Deere, Robert T.	DFA Tax-Managed US Targeted Value	Small Value	1/1/99	12/31/08	6.06%	80.02%	10.00
20	Nicklin Jr., Edmund H.	Westport R	Mid-Cap Blend	1/1/98	12/31/08	6.04%	90.62%	11.00
21	Vanderheiden, George	Fidelity Advisor Capital Development O	Large Growth	1/1/86	3/31/98	6.04%	105.02%	12.25
22	Lefferman, Edward I.	FMC Strategic Value	Small Blend	8/31/98	12/31/08	5.74%	78.09%	10.33
23	Hutzler, Harry	AIM Weingarten A	Large Growth	7/1/69	2/28/86	5.56%	146.53%	16.67
24	Schoelzel, Scott	Janus Aspen Forty Instl	Large Growth	5/31/97	12/31/07	5.47%	75.64%	10.58
25	Deere, Robert T.	DFA Tax-Managed US Small Cap	Small Blend	1/1/99	12/31/08	5.21%	66.19%	10.00

(*Continued*)

Table I. Best 50 Solo-Managed Funds Ranked by MACAR (*Continued*)

Rank	Name	Fund	Style	Solo start date	Solo end date	MACAR	Career MACAR	Solo tenure in years
26	Bailey, Thomas H.	Janus J	Large Growth	3/1/70	6/30/86	5.20%	128.90%	16.33
27	Schoelzel, Scott	Janus Forty S	Large Growth	5/31/97	10/31/07	5.05%	67.10%	10.42
28	Dreifus, Charles R.	Royce Special Equity Invmt	Small Value	5/31/98	12/31/08	4.91%	66.01%	10.58
29	Wilke, John	RiverSource New Dimensions A	Large Growth	7/1/77	6/30/87	4.90%	61.33%	10.00
30	Tillinghast, Joel C.	Fidelity Low-Priced Stock	Mid-Cap Blend	1/1/90	12/31/08	4.89%	147.53%	19.00
31	Jodka, Richard	Putnam OTC Emerging Growth A	Mid-Cap Growth	12/1/82	11/30/92	4.64%	57.46%	10.00
32	Bryngelson, J.	RiverSource Growth A	Large Growth	10/1/77	12/31/89	4.52%	71.87%	12.25
33	Greenberg, Clifford	Baron Small Cap	Small Growth	10/1/97	12/31/08	4.52%	64.42%	11.25
34	Miller, William	Legg Mason Value C	Large Blend	1/1/91	3/31/06	4.48%	87.33%	14.33
35	Ballen, John W.	MFS Growth B	Large Growth	1/1/87	1/31/00	4.44%	75.20%	12.92
36	Heebner, G. Kenneth	CGM Capital Development	Mid-Cap Growth	1/1/76	5/31/08	4.43%	307.86%	32.42
37	Baron, Ronald	Baron Growth	Small Growth	1/1/95	12/31/08	4.39%	82.54%	14.00
38	Berghuis, Brian W.H.	T. Rowe Price Mid-Cap Growth	Mid-Cap Growth	7/1/92	12/31/08	4.23%	98.08%	16.50
39	Grant, Stephen	Value Line Premier Growth	Mid-Cap Growth	1/1/97	12/31/08	4.09%	61.77%	12.00
40	Lerner, Julian A.	AIM Charter A	Large Blend	12/1/68	12/31/90	3.92%	134.00%	22.08
41	Keeley Jr., John L.	Keeley Small Cap Value A	Small Blend	10/31/93	12/31/08	3.68%	73.08%	15.17
42	Lieber, Stephen A.	Evergreen Fund I	Large Blend	10/31/71	1/31/98	3.64%	155.81%	26.25
43	Rodriguez, Robert L.	FPA Capital	Mid-Cap Value	7/1/84	11/30/07	3.57%	127.26%	23.42
44	Harris, William S.	MFS Growth Opportunities A	Large Growth	10/1/70	12/31/87	3.56%	82.75%	17.25
45	Barner, Brett	RidgeWorth Small Cap Value Equity I	Small Blend	1/29/97	12/31/08	3.47%	50.19%	11.92
46	Mairs III, George A.	Mairs & Power Growth Inv	Large Blend	1/1/80	11/30/99	3.46%	97.00%	19.92
47	Hoover, Irene	Forward Small Cap Equity	Small Growth	10/31/98	12/31/08	3.39%	40.36%	10.17
48	Alger, David D.	Alger Spectra A	Large Growth	1/29/74	8/31/01	3.29%	119.67%	24.33
49	Danoff, William	Fidelity Contrafund	Large Growth	8/31/90	12/31/08	3.29%	80.87%	18.33
50	Fries, William V.	Thornburg Value A	Large Blend	10/31/95	1/31/06	3.23%	38.56%	10.25

Table II. Alternate Performance Metrics for the Best 50 Solo-Managed Funds Ranked by MACAR

MACAR is the market-adjusted compound annual return, adjusted by the return on the value-weighted CRSP index. NCAR is the Nominal Compound Annual Return.

Rank	Manager	Fund	Style	Rank by Jensen Alpha	Rank by Carhart Alpha	Rank by NCAR
1	Lynch, Peter	Fidelity Magellan	Large Growth	4	3	1
2	Heebner, G. Kenneth	CGM Focus	Large Growth	50	184	75
3	Montgomery, John	Bridgeway Ultra-Small Company	Small Growth	3	12	2
4	Schneider III, Arnold	Schneider Small Cap Value	Small Value	2	24	122
5	Montgomery, John	Bridgeway Aggressive Investors 1	Mid-Cap Growth	8	21	6
6	Perelmuter, Phillip H.	Hartford MidCap HLS IA	Mid-Cap Growth	10	9	160
7	Schier, James	Rydex/SGI Mid Cap Value A	Mid-Cap Value	5	11	126
8	Rinaldi, I. Charles	Wells Fargo Advantage Small Cap Val In	Small Blend	9	60	183
9	Antoian, Edward	Delaware Growth Opportunities A	Mid-Cap Growth	17	1	4
10	Cabour, Francis	Pioneer Value A	Large Value	11	13	58
11	Royce, Charles M.	Royce Heritage Svc	Small Blend	12	17	12
12	Perelmuter, Phillip H.	Hartford Midcap A	Mid-Cap Growth	6	6	204
13	Grant, Stephen	Value Line Emerging Opportunities	Mid-Cap Growth	7	54	247
14	Miller, Neil P.	Fidelity New Millennium	Mid-Cap Growth	45	14	29
15	Hutzler, Harry	AIM Constellation A	Large Growth	107	69	7
16	Akre, Jr., Charles T.	FBR Focus	Mid-Cap Growth	13	5	171
17	Stratton, James W.	Stratton Multi Cap	Large Blend	19	113	330
18	Newton, William C.	American Funds Growth Fund of Amer A	Large Growth	75	147	18
19	Deere, Robert T.	DFA Tax-Managed US Targeted Value	Small Value	15	245	286
20	Nicklin Jr., Edmund H.	Westport R	Mid-Cap Blend	171	131	241
21	Vanderheiden, George	Fidelity Advisor Capital Development O	Large Growth	108	103	3
22	Lefferman, Edward I.	FMC Strategic Value	Small Blend	18	133	226
23	Hutzler, Harry	AIM Weingarten A	Large Growth	46	67	59
24	Schoelzel, Scott	Janus Aspen Forty Instl	Large Growth	53	7	101
25	Deere, Robert T.	DFA Tax-Managed US Small Cap	Small Blend	100	230	304
26	Bailey, Thomas H.	Janus J	Large Growth	22	93	21
27	Schoelzel, Scott	Janus Forty S	Large Growth	20	8	85
28	Dreifus, Charles R.	Royce Special Equity Invmt	Small Value	63	23	5
29	Wilke, John	RiverSource New Dimensions A	Large Growth	24	47	112
30	Tillinghast, Joel C.	Fidelity Low-Priced Stock	Mid-Cap Blend	112	10	15
31	Jodka, Richard	Putnam OTC Emerging Growth A	Mid-Cap Growth	106	4	9
32	Bryngelson, J.	RiverSource Growth A	Large Growth	218	40	13
33	Greenberg, Clifford	Baron Small Cap	Small Growth	66	33	8
34	Miller, William	Legg Mason Value C	Large Blend	25	81	152
35	Ballen, John W.	MFS Growth B	Large Growth	61	19	30
36	Heebner, G. Kenneth	CGM Capital Development	Mid-Cap Growth	58	87	17
37	Baron, Ronald	Baron Growth	Small Growth	149	18	43
38	Berghuis, Brian W.H.	T. Rowe Price Mid-Cap Growth	Mid-Cap Growth	23	2	211
39	Grant, Stephen	Value Line Premier Growth	Mid-Cap Growth	52	55	16

(*Continued*)

Table II. Alternate Performance Metrics for the Best 50 Solo-Managed Funds Ranked by MACAR (*Continued*)

Rank	Manager	Fund	Style	Rank by Jensen Alpha	Rank by Carhart Alpha	Rank by NCAR
40	Lerner, Julian A.	AIM Charter A	Large Blend	222	52	25
41	Keeley Jr., John L.	Keeley Small Cap Value A	Small Blend	197	104	20
42	Lieber, Stephen A.	Evergreen Fund I	Large Blend	147	22	198
43	Rodriguez, Robert L.	FPA Capital	Mid-Cap Value	183	36	11
44	Harris, William S.	MFS Growth Opportunities A	Large Growth	165	150	23
45	Barner, Brett	RidgeWorth Small Cap Value Equity I	Small Blend	120	149	19
46	Mairs III, George A.	Mairs & Power Growth Inv	Large Blend	184	25	10
47	Hoover, Irene	Forward Small Cap Equity	Small Growth	113	139	14
48	Alger, David D.	Alger Spectra A	Large Growth	14	15	117
49	Danoff, William	Fidelity Contrafund	Large Growth	16	146	135
50	Fries, William V.	Thornburg Value A	Large Blend	190	185	24

Carhart, and fourth by Jensen). While there are examples of inconsistencies across metrics, there is some clustering near the top of the rankings. For example, the Best 10 funds by MACAR have an average rank, by definition, of 5.5 out of 355. Their average rank by Jensen alpha is 11.9, by Carhart alpha is 33.8, and by NACR is 73.7. Studies typically reveal that funds with the best nominal returns rank lower by risk-adjusted performance. Based on our sample of the best solo managers it is nominal return, most often cited in industry advertisements, that understates relative performance.[7]

IV. The Impact of Tenure

Fund companies regularly imply, implicitly or explicitly, that manager tenure and experience matters. This suggests that the longer a manager controls a fund, the better the performance an investor might expect. We note, however, that many of the managers of the best funds have tenures close to the 10-year minimum we impose. The average tenure of the Best 50 solo-managed funds is 13.8 (median 11.8), which is less than the average tenure for the sample of 355 of 14.5 years (median 12.8).

The lower mean and median for the Best 50 can be further illustrated using the tenure distribution. In our sample of 355 solo-managed funds with tenure of ten years or more, 111 have tenure of 15 years or more (31.2%) and 48 have tenure of 20 years or more (13.5%). In the Best 50, 13 have tenure of 15 years or more (26%) and 5 have tenure of 20 years or more (10%). That is, the distributions are similar across performance levels but the proportion of managers having longer tenure is lower among the best managers than in the full sample.[8] The average tenure of the Best 10 managers is only 11.23 years. Also, 24 of the Best 50 were active at the end of our sample period (mean tenure 13.2, median 11.34).

If the best managers possess greater ability and that ability improves as they gain experience, why are there not more managers with long track records in the Best 50? Furthermore, since top managers who have a competitive advantage both in terms of attracting additional investors to their funds and in earning higher salaries, why would they leave their funds or share control with other managers after a relatively short tenure? To test the relationship between performance and tenure we perform the following regression analysis:

$$MAR_{i,t} = a + b*Tenure_{i,t} + \varepsilon, \quad (1)$$

where $MAR_{i,t}$ is the market-adjusted return for manager i in year t. In addition to performing this analysis on our sample of 355 solo-managed funds, we also analyze subsets of managers in the top 50%, 25%, and 10% ranked by their career MACAR. We examine these smaller subsets because of prior studies suggesting that a small proportion of managers exhibit persistent superior performance. Therefore, the long run impact of tenure on returns may be different for the very best managers.

We also test an alternate form of Model (1). Barras et al. (2010) find that the proportion of funds with true excess returns declines significantly after 1996. The number of

[7] In an earlier version of this paper, we reported the results for the upcoming tests of the impact of tenure using MACAR, Jensen alpha, and Carhart alpha and the results were qualitatively identical regardless of the metric used. On the advice of our reviewer, we have focused subsequent tests on MACAR to be concise.

[8] Of the Worst 50, 15 have tenure of 15 years or more (30%t) and 5 have tenure of 20 years or more (10%).

Table III. The Impact of Tenure on the Performance of Solo-Managed Mutual Funds

The dependent variable is the annualized market-adjusted return. The top value in each cell is the regression coefficient, the middle value is the *t*-statistic, and the lower value is its significance level. *N* = the total number of solo-managed years. The Post 1996 period was identified by Barras, Scaillet, and Wermers (2010) as having significantly fewer funds with true excess returns.

	Model 1		Model 2		
	Intercept	Tenure	Intercept	Tenure	Post 1996 Period
Full Sample	0.0125	-0.0007	0.0200	-0.0009	-0.0104
N = 5,312	(4.28)	(-2.70)	(5.21)	(-3.24)	(-3.00)
	0.0001	0.0070	0.0001	0.0012	0.0027
Best Half	0.0427	-0.0013	0.0517	-0.0014	-0.0140
	(10.69)	(-3.80)	(10.30)	(-4.11)	(-2.96)
	0.0001	0.0001	0.0001	0.0001	0.0031
Best Quartile	0.0737	-0.0027	0.0823	-0.0028	-0.0145
	(10.98)	(-4.31)	(10.17)	(-4.46)	(-1.90)
	0.0001	0.0001	0.0001	0.0001	0.0581
Best Decile	0.1119	-0.0046	0.1203	-0.0048	-0.0161
	(8.47)	(-3.21)	(7.79)	(-3.30)	(-1.05)
	0.0001	0.0014	0.0001	0.0010	0.2921
Worst Half	-0.0153	-0.0005	-0.0121	-0.0007	-0.0039
	(-3.69)	(-1.33)	(-2.10)	(-1.51)	(-0.81)
	0.0002	0.1844	0.0360	0.1307	0.4207
Worst Quartile	-0.0281	-0.0007	-0.0358	-0.0005	0.0087
	(-4.52)	(-1.24)	(-3.91)	(-0.82)	(1.12)
	0.0001	0.2170	0.0001	0.4103	0.2613
Worst Decile	-0.0326	-0.0028	-0.0590	-0.0020	0.0283
	(-2.32)	(-1.93)	(-2.78)	(-1.26)	(1.66)
	0.0206	0.0544	0.0056	0.2090	0.0975

mutual funds dramatically increased in the 1990s, and thus, it is likely that many of the managers who entered the industry during this time were less talented or had less experience in the industry before taking the helm at a fund. Additionally, the sophistication and wide availability of analytic tools were increasing during this time, resulting in fewer opportunities for managers to exploit. If this explanation is valid, then mutual fund managers, even the best managers, may earn lower excess returns after 1996. To test whether these factors influence the relationship between market-adjusted returns and manager tenure we estimate Model (2) which adds a dummy variable that reflects the pre- and post-1996 effect of the Barras et al. (2010) study. Specifically, the revised equation is:

$$MAR_{i,t} = a + b*Tenure_{i,t} + c*D_t + \varepsilon, \quad (2)$$

where D_t is coded one for market-adjusted annual returns prior to 1997, and zero otherwise.

Table III shows the results from the test. For the full sample, the slope coefficient for the tenure variable is negative and significant and remains so after controlling for the time period. This result is also obtained for the best half, best quartile, and best decile of the sample. The results are different for the poorer performing managers in the sample, however. In general, there is no statistically significant relationship between tenure and performance for managers in the lowest half, lowest quartile, and bottom decile of the sample.[9]

The results indicate that the longer the best solo mutual fund managers in our sample managed a fund, the poorer their average annual performance. If the small set of managers who earn the greatest market-adjusted returns over a long period possess superior ability, why would their performance decline the longer they manage? While we cannot directly discern luck from skill by examining ex-post returns, we hypothesize that a period of high returns by chance (luck) is followed by lower returns in a process of mean reversion. In essence, fund managers outperformed

[9] The *t*-statistic for tenure in Model (1) is significant at the 0.0544 level for managers in the lowest decile. The relationship disappears once the time variable is introduced in Model 5, however, suggesting a spurious relationship.

Table IV. Average Market-Adjusted Compound Annual Returns for the First Three Years of Solo-Managed Careers

MACAR is the market-adjusted compound annual return, adjusted by the return on the value-weighted CRSP index.

	Mean MACAR during first three years of career	*t*-Statistic	Significance Level
Best 50 solo-managed funds	8.27 %	5.79	0.0001
Managers whose solo careers lasted three or fewer years	-1.33 %	-4.87	0.0001
Managers whose solo careers lasted from three to 10 years	0.83 %	4.22	0.0001
Managers whose solo careers lasted more than 10 years, excluding the Best 50 managed funds	-0.30 %	-1.75	0.0803

their peers because their strategies worked well early in their careers and were branded as having superior skills or ability. Because of the elusive nature of superior performance and the efficiency of the equity markets, the longer these "superior" managers continued to manage, the more likely they were to experience mean reversion.

To test this hypothesis, we first examine whether the best managers are distinguishable from their peers during the early stages of their careers. To do this, we compare the performance of the best managers during the first three years of their solo careers to the performance of three other groups. The first group contains managers whose solo careers lasted three or fewer years. This group includes managers who left their funds or added one or more managers within three years of their solo start date. The second group contains solo managers whose tenure was more than three but less than ten years. The third group contains managers with solo careers exceeding ten years but who were not among the Best 50 managers.

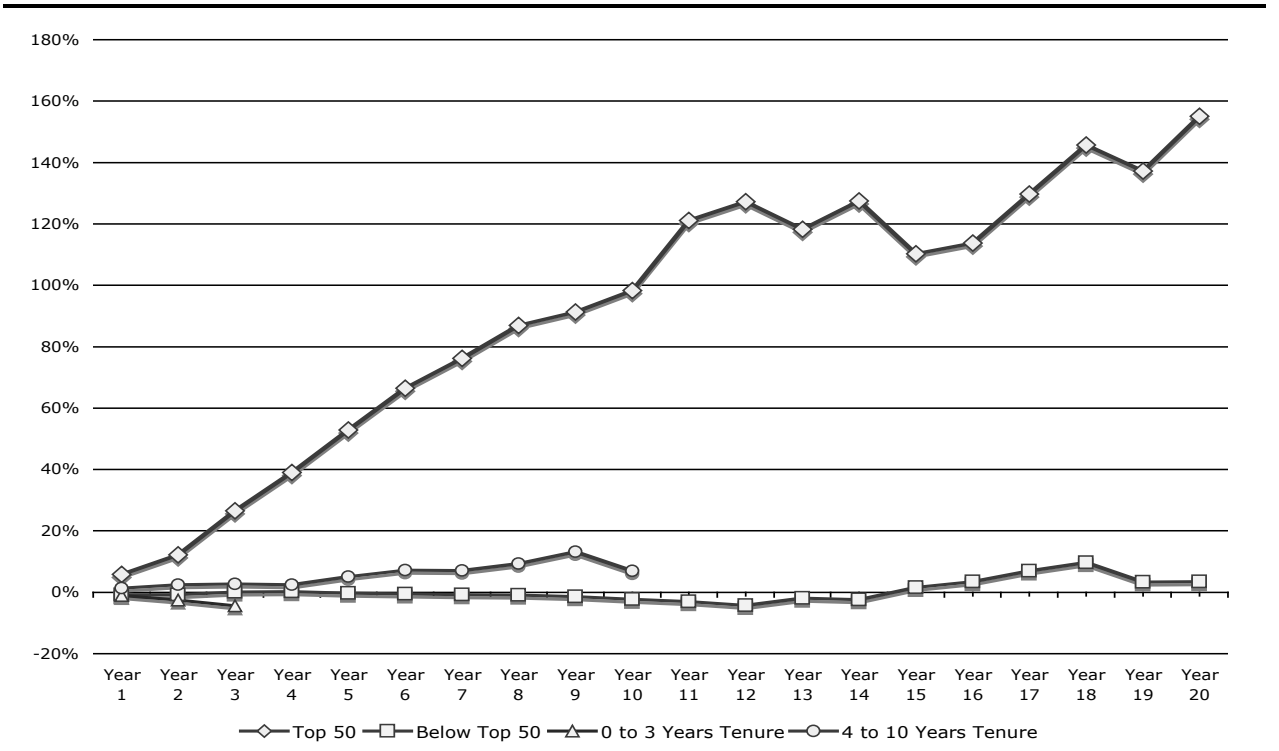
Table IV shows the average MACAR for each group of managers over the first three years of their solo careers. The initial performance of managers who subsequently place in the Best 50 would, by almost any standard, be considered extraordinary. In their first three years these managers averaged a statistically significant 8.27% per year in market-adjusted excess returns. In comparison, managers whose careers lasted three or few years had statistically significant negative average annual market-adjusted returns of more than 1.3% per year. The difference between these two groups over the first three years is highly statistically significant (9.57%, $t = 6.60$). Managers whose careers would last more than three but less than ten years averaged a statistically significant 0.83% over their first three years and managers whose careers would last more than ten years, but did not place in our Best 50, earned an average market-adjusted return not statistically different from zero.

Figure 1 shows the career performance of each of the four groups. The value shown for each group of mangers by year is the average MACR, or market-adjusted cumulative return, for all managers whose career tenure equaled or exceeded that year. For example, a manager with five years tenure would have five MACRs, each reflecting their accumulated risk-adjusted returns after each year of their career. For the first 10 years there are 50 and 305 observations each year, respectively, for the Best 50 and the other 305 managers with at least 10 years of solo experience. The number of observations declines each year after the 10th. By year 20, the cumulative returns reflect the results of only six of the Best 50 managers and 52 other managers. For each of the first three years there are 1,677 observations in the four- to 10-year category, and the number of observations declines to 94 by year 10. The number of observations for managers whose solo careers lasted three or fewer years declines rapidly from 1,360 in year one to 594 in year three, a two-year attrition rate of over 56%.

Managers with the best long-run performance earned impressive returns very early in their solo careers. It is also clear that the attrition rate for under-performing managers is high, particularly early in their careers. Does this result occur because some managers have superior stock picking skills early in their career or are they simply lucky compared to their peers? If these managers do possess superior ability, one would expect that their performance would endure, if not improve, as they gained additional experience. To test this, we compare the initial and subsequent performances of managers whose careers lasted ten or more years. Table V, Panel A shows the average MACAR for the first three years of tenure and the average MACAR for subsequent years

Figure 1. Average Market-adjusted Compound Return by Subgroup

Each point represents the average cumulative market-adjusted return by group through year *n*. For example, the solo managers in the Best 50 who survived 20 years had an average cumulative market-adjusted return of 155% while those ranking below the Best 50 had an average cumulative market-adjusted return of 3.5%.



for all managers with at least ten years of solo experience. For the full sample, performance declined by a significant 0.72%, from 1.18% over the first three years to 0.46% in subsequent years (t = 1.73). However, the results differ by performance levels. The average MACAR for managers in the best quartile and the best half declines by a statistically significant 2.20% and 1.49%, respectively, from their first three years to their subsequent years. In comparison, the average MACARs of managers in the lower half of the sample, as well as those in the lowest quartile, did not decline significantly. These results are consistent with our earlier hypothesis that managers who outperform their peers during their first three years of solo tenure may have done so due to chance. In aggregate, managers who perform well in the first few years are likely to experience a decline in performance throughout their career.

While the results for managers in the aggregate are more consistent with early good fortune followed by mean reversion, we now examine the performance of the Best 50 managers because prior research suggests there might be a small number of managers with the ability to consistently outperform the market in the long run. Table V, Panel B shows the average MACAR for the initial three years and for subsequent years for the Best 50, 25, and 10 managers. These results differ significantly from those for the aggregate sample. In general, while the mean returns suggest declining performance in later years for the Best 50 and Best 25, the changes are not statistically significant. However, for the Best 10 managers the average MACAR following their third year is virtually identical to their first three years. Are the performances of the best managers consistent with evidence by Kosowski et al. (2006) and Barras et al. (2010) suggesting there are a small number of truly gifted managers of actively managed funds who consistently outperform the market and their peers over long periods of time?

Table VI presents MACARs for the first three years and subsequent years for each of the Best 25 managers and funds ranked by career MACAR. Note that five of the Best 10 funds and 15 of the Best 25 funds experienced lower MACARs in the later years of the their solo tenure. Though the Best 25 experienced an average decrease in performance compared to their first three years, each individual earned positive average risk-adjusted returns in the later period. While the evidence supports the notion that there may be a very small group of managers who can outperform the market over a period of 10 to 15 years (mean 11.51), we see no compelling

Table V. Comparing Performance in the First Three Years to Subsequent Years for Managers with Ten or More Years of Solo Tenure

The Change in Performance column shows difference between the average annual market-adjusted return in the first three years and all subsequent years, the middle value is the *t*-statistic, and the lower value is the significance level.

	Average annual market-adjusted returns		
	First three years	Subsequent years	Change in Performance with Experience
Panel A. All Managers			
All Managers	1.18%	0.46%	-0.72% (-1.73) 0.0836
Best quartile	6.76%	4.56%	-2.20% (-2.10) 0.0361
Best half	4.24%	2.75%	-1.49% (-2.34) 0.0196
Worst half	-1.90%	-2.01%	-0.11% (-0.23) 0.8187
Worst quartile	-3.14%	-3.56%	-0.42% (-0.58) 0.5599
Panel B. Best 50 Managers			
Best 50 Managers	8.27%	5.96%	-2.31% (-1.49) 0.1366
Best 25 Managers	11.37%	8.19%	-3.18% (-1.23) 0.2213
Best 10 Managers	11.70%	11.64%	-0.06% (-0.01) 0.9910

evidence of improvement with experience, as 60% of the Best 25 generated poorer returns following their initial three years. The evidence is more indicative of a random process.

V. Summary

This study uses a survivorship-bias free sample consisting of funds within the nine Morningstar styles, and spanning more than 80 years, to identify the best solo mutual fund managers with tenure of ten years or more. It may come as no surprise to many that Peter Lynch has the best overall performance among 289 solo managers, ranking first in both nominal and market-adjusted compound annual return, third by Carhart alpha, and fourth by Jensen alpha. He also ranked first in cumulative market-adjusted returns, though he managed Fidelity Magellan for only 13 years, less than the average of 14.5 years for our sample of 355 funds. Less than half of the 355 funds generated positive market-adjusted compound annual returns.

We also examine the relationship between performance and tenure and find an inverse relationship between average annual returns and tenure, even after controlling for structural changes in mutual fund returns after 1996. Managers with tenure of ten or more years are likely to have significantly poorer performance the longer they manage. We also find that solo managers who survive ten or more years are likely to have performed at or above the market in their first three years, while their peers who do not survive as solo managers beyond three years significantly under-perform the market.

Table VI. Performance for the First Three Years and Subsequent Years for the Best 25 Solo-Managed Funds Ranked by MACAR

MACAR is the market-adjusted compound annual return, adjusted by the return on the value-weighted CRSP index. The value in the Change in Performance cell is difference between the average annual market-adjusted return in the first three years and all subsequent years.

Rank	Manager	Fund	Style	A. MACAR First 3 Years	B. MACAR Subsequent Years	Change in Performance with Experience B – A
1	Lynch, Peter	Fidelity Magellan	Large Growth	20.23%	10.40%	-9.83%
2	Heebner, G. Kenneth	CGM Focus	Large Growth	-11.80%	24.80%	36.60%
3	Montgomery, John	Bridgeway Ultra-Small Company	Small Growth	6.47%	15.83%	9.36%
4	Schneider III, Arnold	Schneider Small Cap Value	Small Value	26.22%	7.13%	-19.09%
5	Montgomery, John	Bridgeway Aggressive Investors 1	Mid-Cap Growth	2.88%	17.42%	14.54%
6	Perelmuter, Phillip H.	Hartford MidCap HLS IA	Mid-Cap Growth	20.23%	6.22%	-14.01%
7	Schier, James	Rydex/SGI Mid Cap Value A	Mid-Cap Value	4.34%	11.02%	6.68%
8	Rinaldi, I. Charles	Wells Fargo Advantage Small Cap Val In	Small Blend	10.02%	9.51%	-0.51%
9	Antoian, Edward	Delaware Growth Opportunities A	Mid-Cap Growth	38.06%	0.90%	-37.16%
10	Cabour, Francis	Pioneer Value A	Large Value	0.33%	11.53%	11.20%
11	Royce, Charles M.	Royce Heritage Svc	Small Blend	-1.40%	12.42%	13.82%
12	Perelmuter, Phillip H.	Hartford Midcap A	Mid-Cap Growth	21.41%	4.42%	-16.99%
13	Grant, Stephen	Value Line Emerging Opportunities	Mid-Cap Growth	24.76%	1.86%	-22.90%
14	Miller, Neil P.	Fidelity New Millennium	Mid-Cap Growth	8.69%	7.78%	-0.91%
15	Hutzler, Harry	AIM Constellation A	Large Growth	6.09%	9.20%	3.11%
16	Akre, Jr., Charles T.	FBR Focus	Mid-Cap Growth	-5.10%	12.19%	17.29%
17	Stratton, James W.	Stratton Multi Cap	Large Blend	7.06%	7.19%	0.13%
18	Newton, William C.	American Funds Growth Fund of Amer A	Large Growth	2.79%	7.67%	4.88%
19	Deere, Robert T.	DFA Tax-Managed US Targeted Value	Small Value	16.56%	2.96%	-13.60%
20	Nicklin Jr., Edmund H.	Westport R	Mid-Cap Blend	9.96%	5.11%	-4.85%
21	Vanderheiden, George	Fidelity Advisor Capital Development O	Large Growth	17.09%	2.86%	-14.23%
22	Lefferman, Edward I.	FMC Strategic Value	Small Blend	13.24%	4.49%	-8.75%
23	Hutzler, Harry	AIM Weingarten A	Large Growth	11.35%	5.34%	-6.01%
24	Schoelzel, Scott	Janus Aspen Forty Instl	Large Growth	19.32%	1.25%	-18.07%
25	Deere, Robert T.	DFA Tax-Managed US Small Cap	Small Blend	15.42%	1.50%	-13.92%

Finally, while each of the very best solo managers generated positive compound annual market-adjusted returns following their first three years, the majority were not able to maintain their early levels of performance. Fifteen of the Best 25 solo managers ranked by compound market-adjusted annual return produced lower annual returns following their first 3 years, an outcome that is more indicative of a random process that of a process where performance is based on experience.■

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