

Does Past Performance Matter? The Persistence Scorecard

CONTRIBUTOR

Aye M. Soe, CFA
Director
Global Research & Design
aye.soe@spdji.com

Summary of Results

- Very few funds can consistently stay at the top. Out of the 687 funds that were in the top quartile as of March 2012, only 3.78% managed to stay there by the end of March 2014. Further, 1.90% of the large-cap funds, 3.16% of the mid-cap funds and 4.11% of the small-cap funds remain in the top quartile.
- For the three years ended March 2014, 14.10% of large-cap funds, 16.32% of mid-cap funds and 25.00% of small-cap funds maintained a top-half ranking over three consecutive 12-month periods. Random expectations would suggest a rate of 25%.
- An inverse relationship exists between the measurement time horizon and the ability of top-performing funds to maintain their status. It is worth noting that no large-cap or mid-cap funds managed to remain in the top quartile at the end of the five-year measurement period. The figures paint a poor picture of the lack of long-term persistence in mutual fund returns.
- Similarly, only 3.09% of large-cap funds, 3.6% of mid-cap funds and 5.48% of small-cap funds maintained top-half performance over five consecutive 12-month periods. Random expectations would suggest a repeat rate of 6.25%.
- The transition matrices track the performance of top and bottom quintile performers over subsequent time periods. The data shows a likelihood for the best-performing funds to become the worst-performing funds and vice versa. Of 426 funds that were in the bottom quartile, 28.64% moved to the top quartile over the five-year horizon, while 28.57% of those top-quartile funds moved into the bottom quartile during the same period.
- Our research also finds that there is consistency in the death rate of bottom-quartile funds. Across all market cap categories and all periods studied, fourth-quartile funds had a much higher rate of being merged or liquidated. The five-year transition matrix illustrates that 38.31% of largecap, 39.13% of mid-cap and 45.54% of small-cap fourth-quartile funds disappeared.



About the Persistence Scorecard

The phrase "past performance is not an indicator of future outcomes" (or some variation thereof) can be found in the fine print of most mutual fund literature. Yet due to either force of habit or conviction, investors and advisors consider past performance and related metrics to be important factors in fund selection. So does past performance really matter?

To answer this question on a continuous basis, the S&P Persistence Scorecard, released twice per year, tracks the consistency of top performers over yearly consecutive periods and measures performance persistence through transition matrices. As in our widely followed SPIVA® Scorecards, the University of Chicago's Center for Research in Security Prices (CRSP) Survivorship Bias Free Mutual Fund Database serves as our underlying data source.

S&P Dow Jones Indices is one of the world's leading index providers, maintaining a wide variety of investable and benchmark indices to meet an array of investor needs. Our Index Research & Design team is dedicated to conducting unbiased, in-depth analysis on a broad range of topics and issues facing investors in today's marketplace. This scorecard highlights performance persistence over three- and five-year consecutive 12-month periods and two non-overlapping three- and five-year periods.

Key features of the S&P Persistence Scorecard include:

- Historical rankings without survivorship bias: For anyone making an investment decision, all funds available at the time of that decision are part of the initial opportunity set. Nevertheless, in their persistence calculations, analysts often limit their sample to funds that continue to exist over the complete time period examined, ranking only the survivors. If that happens, funds that liquidate or merge during a period of study are disregarded, biasing measurements of persistence. Using the University of Chicago's CRSP Survivorship Bias Free Mutual Fund Database, the S&P Persistence Scorecard ranks all funds available at each point in time and tracks the top-quartile and top-half performers throughout the time period. This approach accounts for all initially available funds.
- Clean universe: The mutual fund universe used in these reports comprises actively managed domestic U.S. equity funds. Index funds, sector funds and index-based dynamic (bull/bear) funds are excluded from the sample. To avoid double-counting multiple share classes, only the largest share class of a fund is used.
- Transition matrices: Transition matrices show the movements between quartiles and halves over two non-overlapping three- and five-year periods. They also track the percentage of funds that have merged or liquidated. In addition, we monitor movements between capitalization levels. This helps us capture, for example, the conversion of some large-cap funds to mid- and small-cap funds.
- Tracking reports of top performers: The tracking reports show the percentages
 of funds that remain in the top-quartile or top-half rankings over three- and fiveconsecutive-year periods.

Exhibits

Exhibit 1: Performance Persisten	ce Over Three Consec	utive 12-Month Periods	•
Mutual Fund Category	Fund Count at Start	Funds Re	emaining (%)
Mutual Fund Category	March 2012	March 2013	March 2014
Top Quartile			
All Domestic Funds	687	18.78	3.78
Large-Cap Funds	263.00	15.97	1.90
Mid-Cap Funds	95.00	9.47	3.16
Small-Cap Funds	146.00	23.97	4.11
Multi-Cap Funds	183.00	23.50	6.56
Top Half			
All Domestic Funds	1,372	41.55	18.66
Large-Cap Funds	525	37.52	14.10
Mid-Cap Funds	190	37.37	16.32
Small-Cap Funds	292	51.03	25.00
Multi-Cap Funds	365	41.92	21.37

Source: S&P Dow Jones Indices LLC. Data as of March. 31, 2014. Charts and graphs are provided for illustrative purposes. Past performance is not a guarantee of future results.

Exhibit 2: Performance Persistence Over Five Consecutive 12-Month Periods						
Mutual Fund Category	Fund Count at Start	Funds Remaining (%)				
	March 2010	March 2011	March 2012	March 2013	March 2014	
Top Quartile						
All Domestic Funds	715	22.66	4.2	0.84	0.28	
Large-Cap Funds	259	18.92	3.47	0.39	0	
Mid-Cap Funds	111	20.72	2.7	0	0	
Small-Cap Funds	155	23.87	3.87	2.58	1.29	
Multi-Cap Funds	190	27.89	6.32	0.53	0	
Top Half						
All Domestic Funds	1,431	42.77	19.92	7.9	4.47	
Large-Cap Funds	518	44.59	19.88	6.18	3.09	
Mid-Cap Funds	222	32.43	16.22	4.95	3.60	
Small-Cap Funds	310	42.58	20.65	10.32	5.48	
Multi-Cap Funds	381	46.46	21.52	9.97	6.04	

 $Source: S\&P\ Dow\ Jones\ Indices\ LLC.\ Data\ as\ of\ March\ 31,2014.\ Charts\ and\ graphs\ are\ provided\ for\ illustrative\ purposes.\ Past\ performance\ is\ no\ guarantee\ of\ future\ results.$

Exhibit 3: Three-Year Transition Matrix—Performance Over Two Non-Overlapping Three-Year Periods (Based on Quartiles) **Fund Count** Funds Remaining at Three Years at Start 1st 2nd 3rd 4th Merged/ Style Mutual Fund Category (March Quartile Liquidated Quartile Quartile Quartile Changed Total (%) 2011) (%) (%) (%) (%) (%) (%) All Domestic Funds 1st Quartile 493 21.91 22.92 23.33 22.11 9.74 0 100 2nd Quartile 494 23.48 21.46 21.66 18.42 14.98 0 100 20.28 18.26 3rd Quartile 493 20.89 18.66 21.91 0 100 4th Quartile 493 16.84 17.44 18.86 20.08 26.77 0 100 Large-Cap Funds 1st Quartile 181 23.76 16.57 17.68 14.36 11.05 16.57 100 181 18.23 18.23 17.68 100 2nd Quartile 22.1 14.92 8.84 3rd Quartile 180 15.00 19.44 22.22 17.22 9.45 100 16.67 181 9.94 13.81 30.39 100 4th Quartile 15.47 16.57 13.81 Mid-Cap Funds 70 21.43 14.29 21.43 12.86 12.86 17.14 100 1st Quartile 70 14.29 15.71 15.71 100 2nd Quartile 21.43 15.71 17.15 3rd Quartile 69 13.04 17.39 10.14 15.94 26.09 17.39 100 4th Quartile 70 14.29 10.00 14.29 18.57 22.86 20.00 100 Small-Cap Funds 1st Quartile 112 25 17.86 15.18 29.46 8.93 3.57 100 2nd Quartile 112 19.64 21.43 25 20.54 8.93 4.46 100 3rd Quartile 111 16.22 23.42 24.32 17.12 11.71 7.21 100 27.68 4th Quartile 112 20.54 18.75 16.96 14.29 1.78 100 Multi-Cap Funds 1st Quartile 131 23.66 20.61 17.56 9.16 6.87 22.14 100 2nd Quartile 131 19.85 22.14 19.08 16.03 12.21 10.69 100 3rd Quartile 131 9.16 15.27 19.08 24.43 17.56 14.50 100 12.21 4th Quartile 131 15.27 9.92 18.32 30.53 13.74 100

Source: S&P Dow Jones Indices LLC. Data as of March 31, 2014. Charts and graphs are provided for illustrative purposes. Past performance is no guarantee of future results.

Exhibit 4: Three-Year Transition Matrix—Performance Over Two Non-Overlapping Three-Year Periods (Based on Halves) Fund Count at Funds Remaining at Three Years **Mutual Fund Category** Start (March Total (%) Top Half (%) Bottom Half (%) Merged/Liquidated (%) Style Changed (%) 2011) All Domestic Funds 42.76 Top Half 987 44.88 12.36 0 100 37.73 39.76 Bottom Half 986 22.52 0 100 Large-Cap Funds 362 40.33 32.60 14.36 Top Half 12.71 100 Bottom Half 361 28.53 36.01 23.82 11.64 100 Mid-Cap Funds Top Half 140 35.71 32.86 14.29 17.14 100 Bottom Half 139 27.34 29.50 24.46 18.71 100 Small-Cap Funds 224 41.96 45.09 8.93 4.02 100 Top Half **Bottom Half** 223 39.46 36.32 19.73 4.49 100 Multi-Cap Funds Top Half 30.92 262 43.13 9.54 16.41 100 Bottom Half 262 24.81 37.02 24.05 14.12 100

Source: S&P Dow Jones Indices LLC. Data as of March 31, 2014. Charts and graphs are provided for illustrative purposes. Past performance is no guarantee of future results.

Exhibit 5: Five-Year Transition Matrix—Performance Over Two Non-Overlapping Five-Year Periods (Based on Quartiles)								
(Dased Off Qu	Fund Count	_		Funds Re	maining at Five	e Years		
Mutual Fund Category	at Start (March 2009)	1st Quartile (%)	2nd Quartile (%)	3rd Quartile (%)	4th Quartile (%)	Merged/ Liquidated (%)	Style Changed (%)	Total (%)
All Domestic Fund	ls							
1st Quartile	427	13.82	26.00	20.37	28.57	11.24	0	100
2nd Quartile	426	16.20	18.31	18.78	23.71	23.00	0	100
3rd Quartile	427	16.39	15.69	24.59	14.05	29.27	0	100
4th Quartile	426	28.64	15.02	11.27	8.69	36.38	0	100
Large-Cap Funds								
1st Quartile	155	9.03	19.35	18.06	30.32	14.19	9.04	100
2nd Quartile	154	14.29	12.34	12.99	14.94	27.27	18.18	100
3rd Quartile	155	19.35	14.84	12.26	9.03	29.03	15.49	100
4th Quartile	154	15.58	11.69	14.94	3.90	38.31	15.59	100
Mid-Cap Funds								
1st Quartile	70	5.71	8.57	14.29	17.14	12.86	41.43	100
2nd Quartile	69	7.25	8.70	10.14	14.49	23.19	36.23	100
3rd Quartile	70	17.14	7.14	8.57	4.29	24.29	38.57	100
4th Quartile	69	10.14	15.94	5.80	4.35	39.13	24.64	100
Small-Cap Funds								
1st Quartile	102	6.86	7.84	22.55	43.14	6.86	12.75	100
2nd Quartile	101	17.82	25.74	24.75	9.90	14.85	6.93	100
3rd Quartile	102	20.59	22.55	13.73	11.76	26.47	4.9	100
4th Quartile	101	24.75	12.87	8.91	3.96	45.54	3.96	100
Multi-Cap Funds								
1st Quartile	101	12.87	12.87	12.87	21.78	7.92	31.68	100
2nd Quartile	101	10.89	10.89	10.89	17.82	21.78	27.72	100
3rd Quartile	101	3.96	14.85	13.86	5.94	34.65	26.74	100
4th Quartile	101	20.79	10.89	10.89	2.97	28.71	25.75	100

Source: S&P Dow Jones Indices LLC. Data as of March 31, 2014. Charts and graphs are provided for illustrative purposes. Past performance is no guarantee of future results.

Exhibit 6: Five- (Based on Halv		on Matrix—Pe	erformance Ove	er Two Non-Overlappi	ng Five-Year Peri	ods	
Mutual Fund Fu	Fund Count	Funds Remaining at Five Years					
	at Start (March 2009)	Top Half (%)	Bottom Half (%)	Merged/Liquidated (%)	Style Changed (%)	Total (%)	
All Domestic Funds							
Top Half	853	37.16	45.72	17.12	0	100	
Bottom Half	853	37.87	29.31	32.83	0	100	
Large-Cap Funds							
Top Half	309	27.51	38.19	20.71	13.59	100	
Bottom Half	309	30.74	20.06	33.66	15.53	100	
Mid-Cap Funds							
Top Half	139	15.11	28.06	17.99	38.84	100	
Bottom Half	139	25.18	11.51	31.65	31.66	100	
Small-Cap Funds							
Top Half	203	29.06	50.25	10.84	9.85	100	
Bottom Half	203	40.39	19.21	35.96	4.43	100	
Multi-Cap Funds							
Top Half	202	23.76	31.68	14.85	29.70	100	
Bottom Half	202	25.25	16.83	31.68	26.24	100	

Source: S&P Dow Jones Indices LLC. Data as of March 31, 2014. Charts and graphs are provided for illustrative purposes. Past performance is not a guarantee of future results.

INDEX RESEARCH & DESIGN CONTACT INFORMATION

Global Head	
Keith Loggie	keith.loggie@spdji.com
New York	
Phillip Brzenk	phillip.brzenk@spdji.com
Qing Li	qing.li@spdji.com
Berlinda Liu	berlinda.liu@spdji.com
Aye Soe	aye.soe@spdji.com
Peter Tsui	peter.tsui@spdji.com
Beijing	
Liyu Zeng	liyu.zeng@spdji.com
Hong Kong	
Priscilla Luk	priscilla.luk@spdji.com
	•
London	
Daniel Ung	daniel.ung@spdji.com

ABOUT S&P DOW JONES INDICES

S&P Dow Jones Indices LLC, a part of McGraw Hill Financial, Inc., is the world's largest, global resource for indexbased concepts, data and research. Home to iconic financial market indicators, such as the S&P 500® and the Dow Jones Industrial Average[™], S&P Dow Jones Indices LLC has over 115 years of experience constructing innovative and transparent solutions that fulfill the needs of institutional and retail investors. More assets are invested in products based upon our indices than any other provider in the world. With over 830,000 indices covering a wide range of assets classes across the globe, S&P Dow Jones Indices LLC defines the way investors measure and trade the markets. To learn more about our company, please visit www.spdii.com.









GENERAL DISCLAIMER

© S&P Dow JonesIndicesLLC, a part of McGraw Hill Financial 2014. All rights reserved. Standard & Poor's and S&P are registered trademarks of Standard & Poor's Financial Services LLC ("S&P"), a part of McGraw Hill Financial. Dow Jonesis a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones"). Trademarks have been licensed to S&P Dow Jones Indices LLC. Redistribution, reproduction and/or photocopying in whole or in part are prohibited without written permission. This document does not constitute an offer of services in jurisdictions where S&P Dow Jones Indices LLC, Dow Jones, S&P or their respective affiliates (collectively "S&P Dow Jones Indices") do not have the necessary licenses. All information provided by S&P Dow Jones Indices is impersonal and not tailored to the needs of any person, entity or group of persons. S&P Dow Jones Indices receives compensation in connection with licensing its indices to third parties. Past performance of an index is not a guarantee of future results.

It is not possible to invest directly in an index. Exposure to an asset class represented by an index is available through investable instruments based on that index. S&P Dow Jones Indices does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. S&P Dow Jones Indices makes no assurance that investment products based on the index will accurately trackindex performance or provide positive investment returns. S&P Dow Jones Indices LLC is not an investment advisor, and S&P Dow Jones Indices makes no representation regarding the advisability of investing in any such investment fund or other investment vehicle. A decision to invest in any such investment fund or other investment vehicle should not be made in reliance on any of the statements set forth in this document. Prospective investors are advised to make an investment in any such fund or other vehicle only after carefully considering the risks associated with investing in such funds, as detailed in an offering memorandum or similar document that is prepared by or on behalf of the issuer of the investment fund or other vehicle. Inclusion of a security within an index is not a recommendation by S&P Dow Jones Indices to buy, sell, or hold such security, nor is it considered to be investment advice.

These materials have been prepared solely for informational purposes based upon information generally available to the public and from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, research, valuations, model, software or other application or output therefrom) or any part thereof (Content) may be modified, reverse-engineered, reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of S&P Dow Jones Indices. The Content shall not be used for any unlawful or unauthorized purposes. S&P Dow Jones Indices and its third-party data providers and licensors (collectively "S&P Dow Jones Indices Parties") do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Dow Jones Indices Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON AN "AS IS" BASIS. S&P DOW JONES INDICES PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Dow Jones Indices Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages.

S&P Dow Jones Indices keeps certain activities of its business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain business units of S&P Dow Jones Indices may have information that is not available to other business units. S&P Dow Jones Indices has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

In addition, S&P Dow Jones Indices provides a wide range of services to, or relating to, many organizations, including issuers of securities, investment advisers, broker-dealers, investment banks, other financial institutions and financial intermediaries, and accordingly may receive fees or other economic benefits from those organizations, including organizations whose securities or services they may recommend, rate, include in model portfolios, evaluate or otherwise address.