

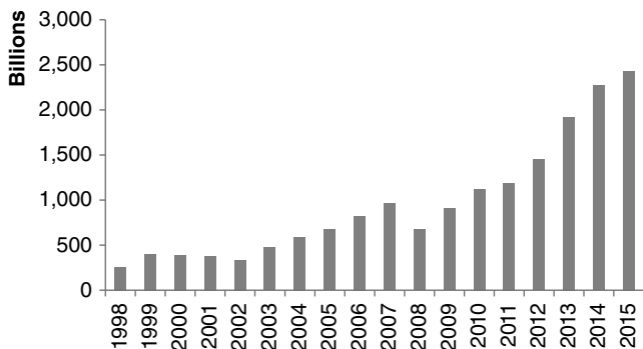
Table 1.1 Summary of Academic View and Practitioner View

Topic	Academic View	Practitioner View
Ability of investment managers to outperform the market averages	No evidence to support this belief; probability of success at best very low; not possible to identify in advance which managers will do so.	Can be done by many managers. Past results and capabilities of an investment organization can be used as evidence to select managers that can be expected to succeed in the future.
Fees to managers	A cost that should be minimized by explicit policy because higher fees obtain little or no benefit for the investor.	A cost that should be accepted gladly to obtain the services of superior managers that will outperform the market by more than enough to warrant the fee.
Index funds	Should be used widely because their long-term results will be superior in both predictability and rate of return versus active management.	Should not be used because superior active managers can be identified, and clients should seek out those superior managers.

Table 1.2 Performance of the Median Pension Fund

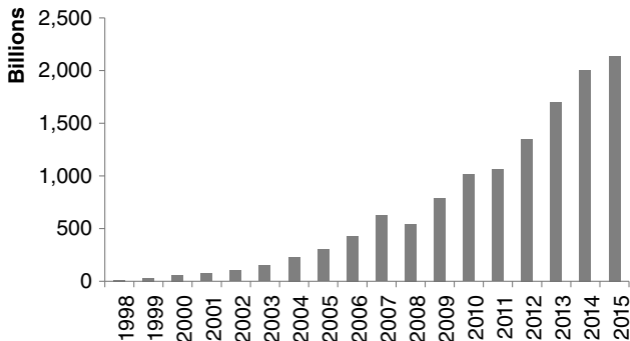
	S&P 500	Becker	
	Index	Median	Difference
Three market cycles 9/30/62 to 12/31/74	5.3%	4.1%	-1.2%
Two market cycles 12/31/66 to 12/31/74	2.1%	0.4%	-1.7%
Single market cycle 9/30/70 to 12/31/74	2.2%	-0.3%	-1.9%

Figure 1.1 Index Mutual Funds



Source: 2016 Morningstar, Inc.

Figure 1.2 Index ETFs



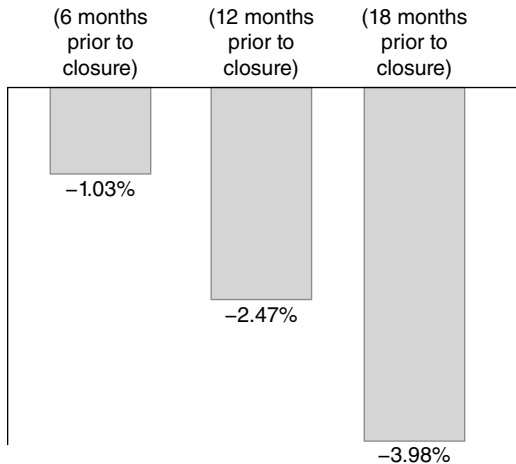
Source: 2016 Morningstar, Inc.

Table 3.1 Active Funds' "Low Success Rate" by Category

Category	1-Year	3-Year	5-Year	10-Year
Large Blend	27.7%	27.8%	16.3%	16.6%
Large Value	36.5	34.6	19.6	33.7
Large Growth	49.3	18.9	11.9	12.2
Small Blend	50.2	34.9	32.8	24.7
Small Value	66.7	54.1	38.0	38.3
Small Growth	22.3	28.6	20.6	23.2
Foreign Large	63.6	47.6	44.7	33.9
Emerging Markets	63.0	55.9	61.2	42.3

Source: Morningstar. Data and calculations as of December 31, 2015.

Figure 3.1 How Closed Funds Declined at Their End



Sources: Vanguard calculations, using data from Morningstar, Inc.

Table 3.2 Annual League Table of Outperformance of Active Fund Managers

Fund Category	Benchmark Index	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
All Domestic Funds	S&P Composite 1500	40.5	54.5	59.0	47.7	51.4	44.0	67.8	48.8	64.2	41.7	57.6	84.1	66.1	46.1	87.2	74.8
All Large-Cap	S&P 500	36.9	57.6	61.0	64.6	61.6	44.5	69.1	44.8	54.3	50.8	61.8	81.3	63.3	55.8	86.4	66.1
All Mid-Cap	S&P MidCap 400	78.9	67.3	70.3	56.4	61.8	76.0	46.7	46.4	74.7	57.6	78.2	67.4	80.5	39.0	66.2	56.8
All Small-Cap	S&P SmallCap 600	70.7	66.4	73.6	38.8	85.0	60.5	63.6	45.0	83.8	32.2	36.0	85.8	66.5	68.1	72.9	72.2
Large-Cap Growth	S&P 500 Growth	16.0	87.5	71.8	44.7	39.5	31.6	76.1	31.6	90.0	39.1	82.0	96.0	46.1	42.7	96.0	49.3
Large-Cap Value	S&P 500 Value	54.5	20.6	39.4	78.5	83.2	58.8	87.7	46.3	22.1	46.2	34.7	54.3	85.0	66.6	78.6	59.1
Mid-Cap Growth	S&P MidCap 400	78.4	79.0	87.0	31.7	59.7	78.6	34.9	39.3	89.0	59.7	82.1	75.4	87.2	36.7	56.2	79.9
Mid-Cap Value	S&P MidCap 400 Value	94.8	55.8	74.3	81.9	63.6	71.8	38.4	56.1	67.1	47.8	71.8	64.9	76.2	45.3	73.6	32.4
Small-Cap Growth	S&P SmallCap 600 Value	73.0	81.3	94.2	35.3	93.6	72.2	52.1	39.4	95.5	33.5	72.7	93.8	63.7	55.6	64.5	88.4
Small-Cap Value	S&P Small Cap 600 Value	74.4	48.7	37.5	49.3	77.5	46.0	77.0	39.9	72.5	26.3	51.8	83.0	61.8	79.0	94.3	46.6

Source: S&P Dow Jones Indices LLC, CRSP. Data as of December 3, 2015. Outperformance is based on equal-weighted fund counts.

Table 3.3 Percentage of U.S. Equity Funds Outperformed by Benchmarks

Fund Category	Comparison Index	1-Year (%)	3-Year (%)	5-Year (%)	10-Year (%)
All Domestic Equity Funds	S&P Composite 1500	74.8	80.9	88.4	83.2
All Large-Cap Funds	S&P 500	66.1	75.8	84.1	82.1
All Mid-Cap Funds	S&P MidCap 400	56.8	61.6	76.7	87.6
All Small-Cap Funds	S&P SmallCap 600	72.2	81.7	90.1	88.4
All Multi-Cap Funds	S&P Composite 1500	73.6	79.6	88.6	88.3
Large-Cap Growth Funds	S&P 500 Growth	49.3	76.3	86.5	93.6
Large-Cap Value Funds	S&P 500 Value	59.1	78.7	82.1	31.00

Source: S&P Dow Jones Indices LLC, CRSP. Data as of December 3, 2015. Outperformance is based on equal-weighted fund counts.

Table 3.4 Survivorship and Style Consistency of U.S. Equity Funds Are Both Low

Fund Category	No. of Funds at Start	Survivorship (%)	Style Consistency (%)
10-Year			
All Domestic Funds	2,110	60.0	35.9
All Large-Cap Funds	672	56.4	39.1
All Mid-Cap Funds	355	60.6	30.0
All Small-Cap Funds	475	63.2	41.9
All Multi-Cap Funds	608	61.9	31.4
Large-Cap Growth Funds	204	49.0	35.3
Large-Cap Value Funds	200	66.5	48.5
Mid-Cap Growth Funds	171	51.5	32.8
Mid-Cap Value Funds	89	73.3	20.9
Small-Cap Growth Funds	184	54.9	44.6
Small-Cap Value Funds	88	75.0	36.4

Source: S&P Dow Jones Indices LLC, CRSP. Data as of December 3, 2015. Outperformance is based on equal-weighted fund counts.

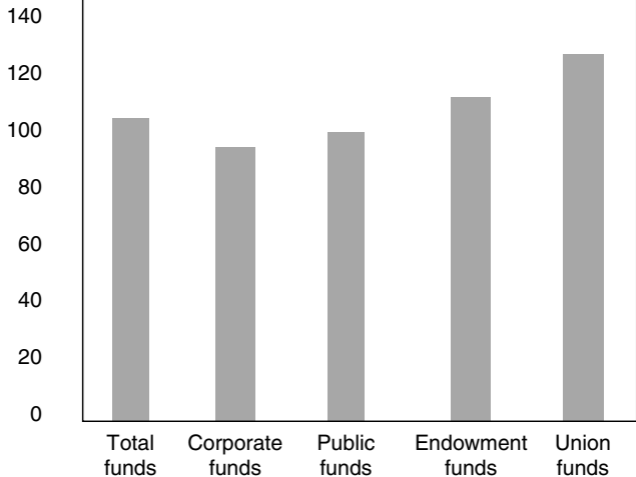
Table 3.5 Percentage of International Funds that Lag Benchmarks

Fund Category	Benchmark Index	10-Year Percentage
Global	S&P Global 1200	79.2%
International	S&P International 700	84.1%
International Small-Cap	S&P Developed Markets Ex-U.S. SmallCap	58.1%
Emerging Markets	S&P/IFCI Composite	89.7%

Source: S&P Dow Jones Indices LLC, Morningstar. Data periods ending December 31, 2015. Past performance is no guarantee of future results.

Figure 4.1 Fund Executives Expect Their Managers to Outperform *After* Fees

**Basis
points**



Source: Greenwich Associates' 41st annual study of institutional investors in 2015.