THE MYTH OF SMART MONEY

Glimmers of light?

The Myth

- In investing mythology, there are smart investors and stupid investors.
  - Smart investors sense when markets are going to turn, and get in sooner than others, and get out sooner than others. After every crisis, there are a few who are anointed as gurus. They are also much better at picking the right stocks to buy and sell
  - Stupid investors are uninformed, act on emotion, and panic quickly.
- In this mythology, professional money managers and talking heads on financial TV land are smart investors. Hedge fund investors are really, really smart and retail investors are stupid investors.

The Basis for the Myth

- Anecdotal evidence: Over time, we have all read about great investors who have beaten the market. In fact, Warren Buffet alone probably has a library of books testifying to his greatness.
- Self Promotion: Almost every money manager seeking your money bases it on a track record, real or invented, of beating the market.
- Academia: In the last fifty years, academics in finance have filled journals with articles on how easy it is to beat the market, using public information (from market cap to PE to PBV to pure momentum).

1. The Problem with Anecdotal Evidence

- Statistics: If you start with millions of investors in the market, the laws of statistics suggest that a few can win even over long periods, purely based upon luck. In fact, it is very, very difficult to separate luck from skill, even over long time periods of investing.
- Selective story telling: Even with great investors, there is often little attention paid to the actual returns delivered, and more to a company or an event that made them money. Thus, the stories of Buffett's enormous success with Am Ex in the early 1960s and Soros huge win betting against the British Pound in the early 1990s are told and retold as the basis for their legend status.
- Time and Place: Even if the stories are carefully told (controlling for luck), the success of an investor reflects not only his or her investing methods/philosophy but also the time/market during which they generated their successes. As markets change and time passes, what worked well may cease to work.

2. The Problem with Investor Track Records

- Real or on paper? Most active money managers present track records showing that they have beaten the market over time. These track records, though, can reflect actual returns (if the money manager has been managing money for a while) or hypothetical returns (if he or she has not). The former are more trustworthy than the latter.
- Drains on Returns: Since the returns in these track records are often before transactions costs, management fees and taxes, as an investor, it is worth asking what the returns will look like after these are factored in.
- Luck, time and scale: As with investment legends, it is worth asking the questions of whether it is luck or skill that is driving return and whether the returns were a function of the market and of the scale (some strategies don't scale up well).

3. The Problem with Academic Research

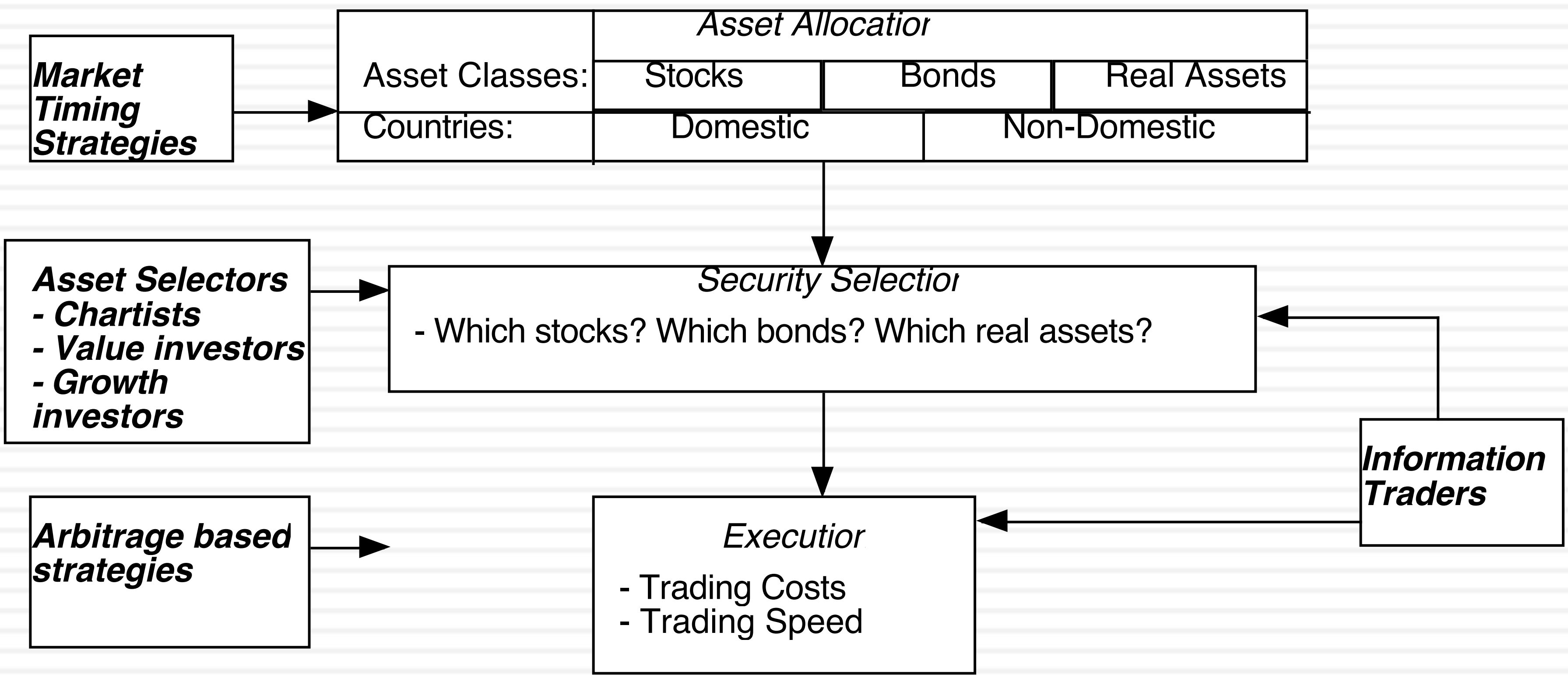
- Many a slip between the cup and the lip: It is easy to make money on paper, but much more difficult to convert these returns into actual returns in practice. Almost every academic study that claims to find a market-beating strategy has to come with a caveat that it does not fully incorporate the costs of replicating the strategy in practice.
- Data mining: It is no coincidence that as our access to data has increased the number of market-beating strategies that people claim to find has also increased.
- Agenda-driven investing: If you don’t think academics have priors that lead them to find things that back up their priors, you are mistaken.

The Big Question: Active vs Passive

- In passive investing, as an investor, you allocate your wealth across asset classes (equities, bonds, real assets) based upon your risk aversion, liquidity needs and time horizon, and within each class, rather than pick individual stocks, bonds or real assets, you invest in index funds or exchange traded funds (ETFs) to cover the spectrum of choices.
- In active investing, you try to time markets (by allocating more money to asset classes that you believe are under valued and less to those that you think are over valued) or pick individual assets that you believe offer the potential for higher returns.
- Active investing covers a whole range of different philosophies from day trading to buying entire companies and holding them for the long term.

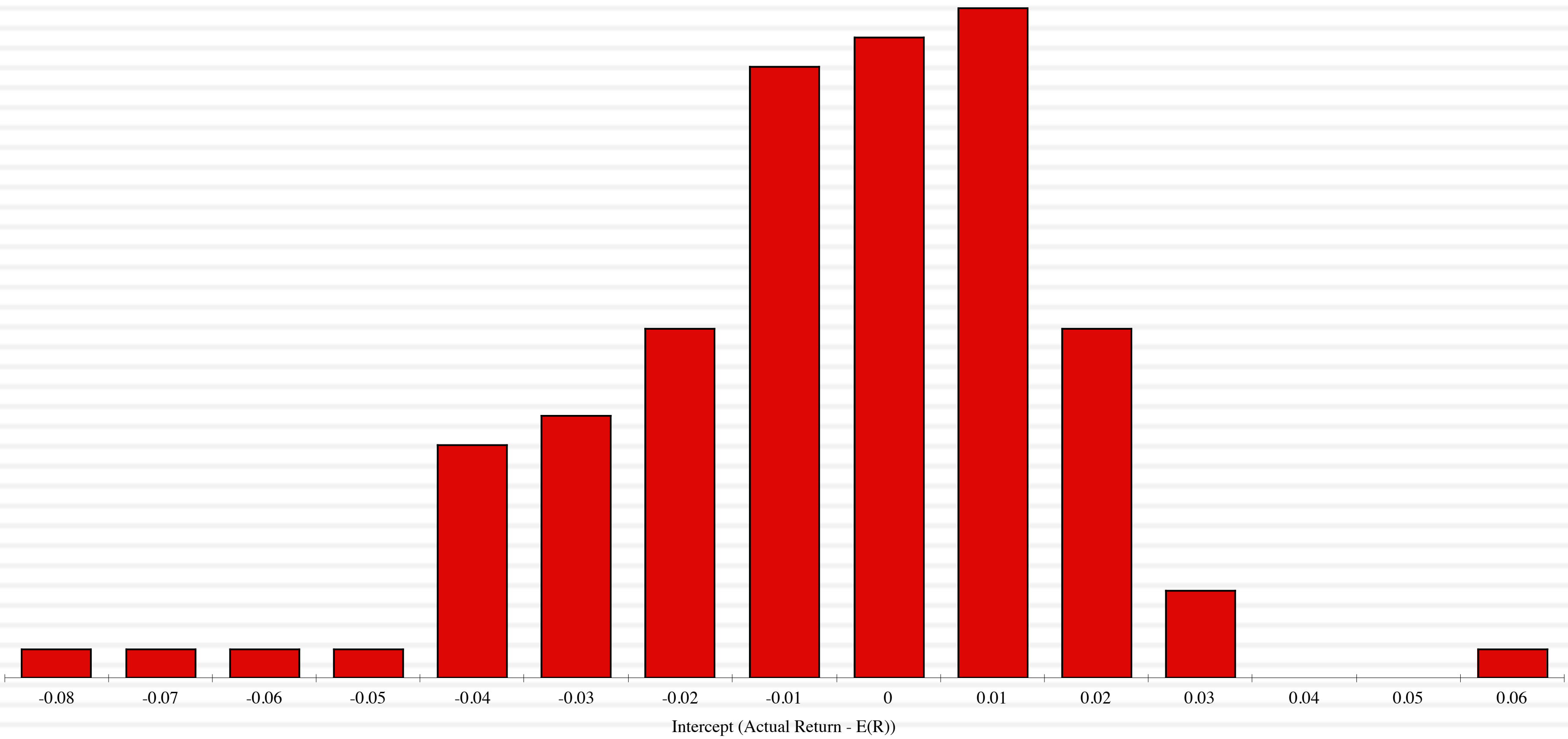
Active Investing Philosophies

Figure 1.2: Investment Philosophies



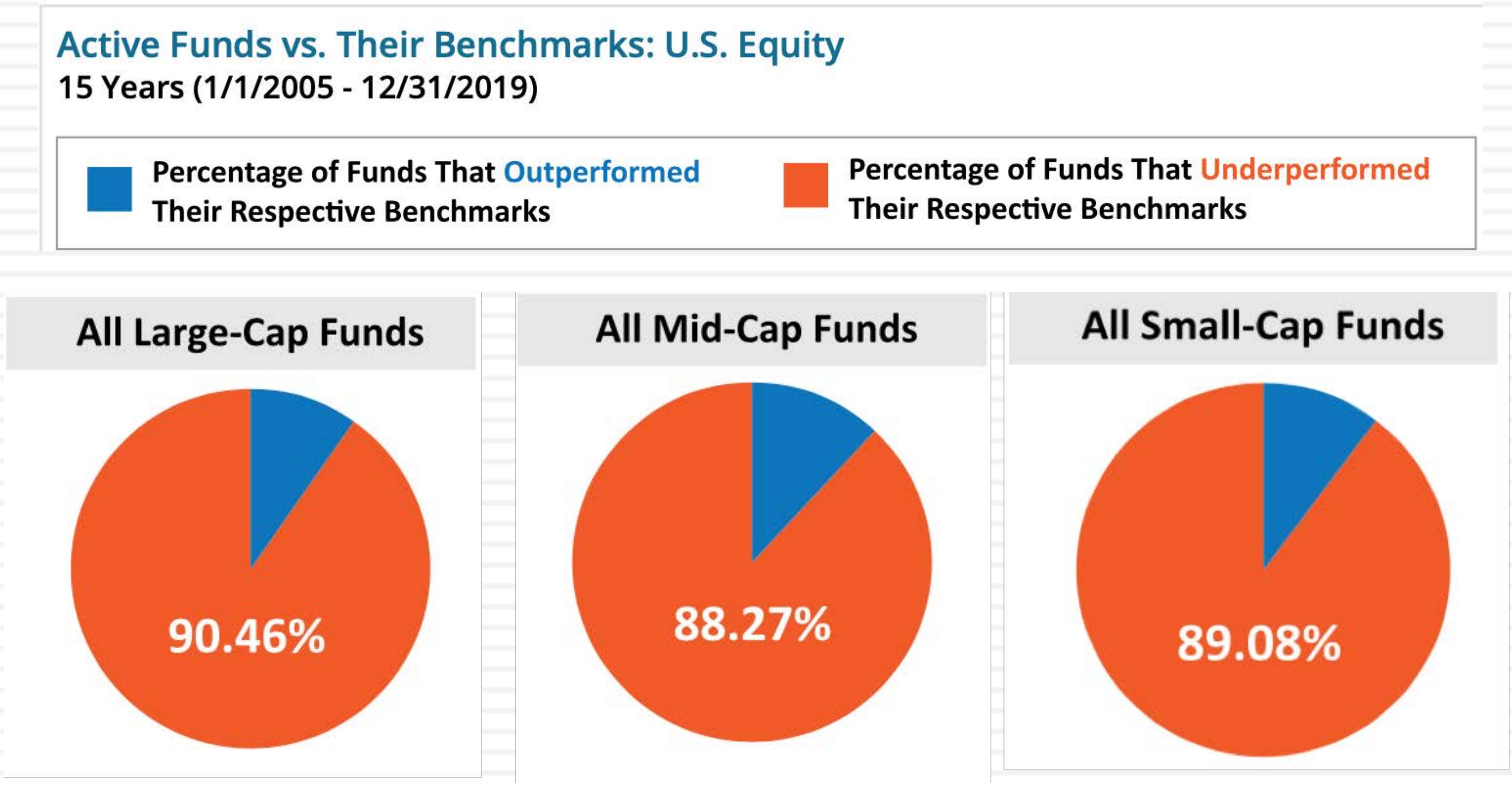
The Original Skeptic: The Jensen Study of Mutual funds in 1968

Figure 13.3: Mutual Fund Performance: 1955-64 - The Jensen Study

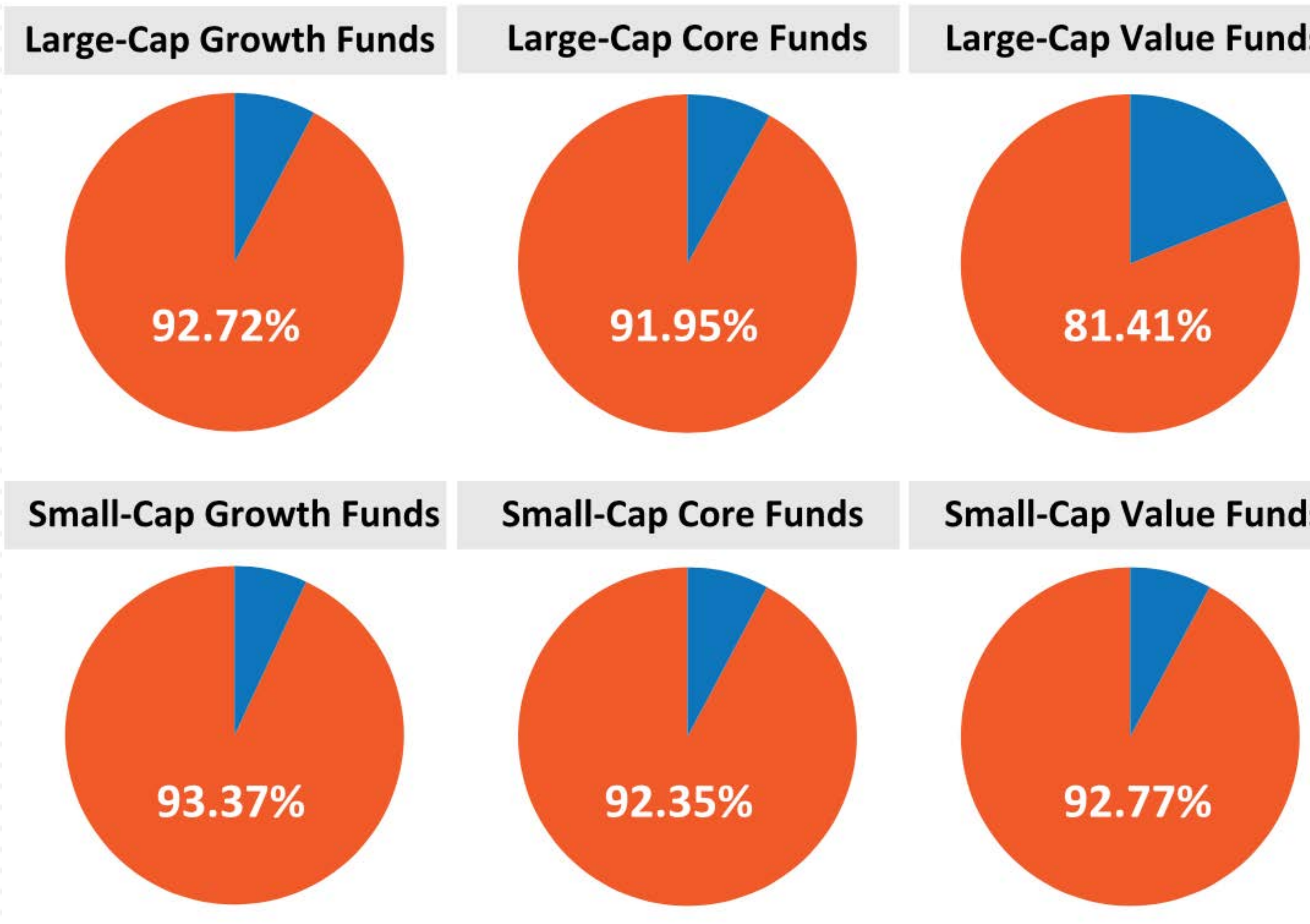


In 1968, the median mutual fund manager made about 1.5% less than the market, after adjusting for risk.

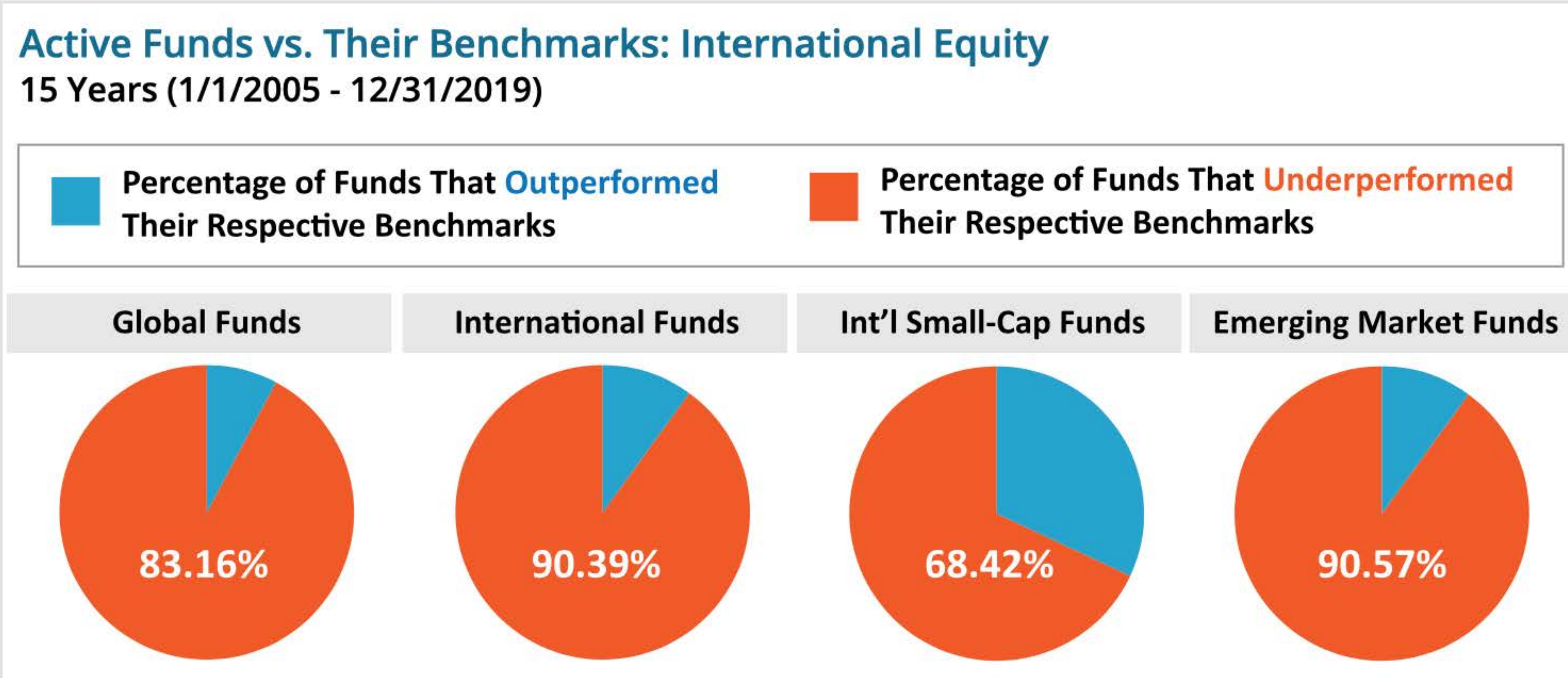
A 2020 Update: Mutual Funds versus Indices, by capitalization…



By Investment Style…

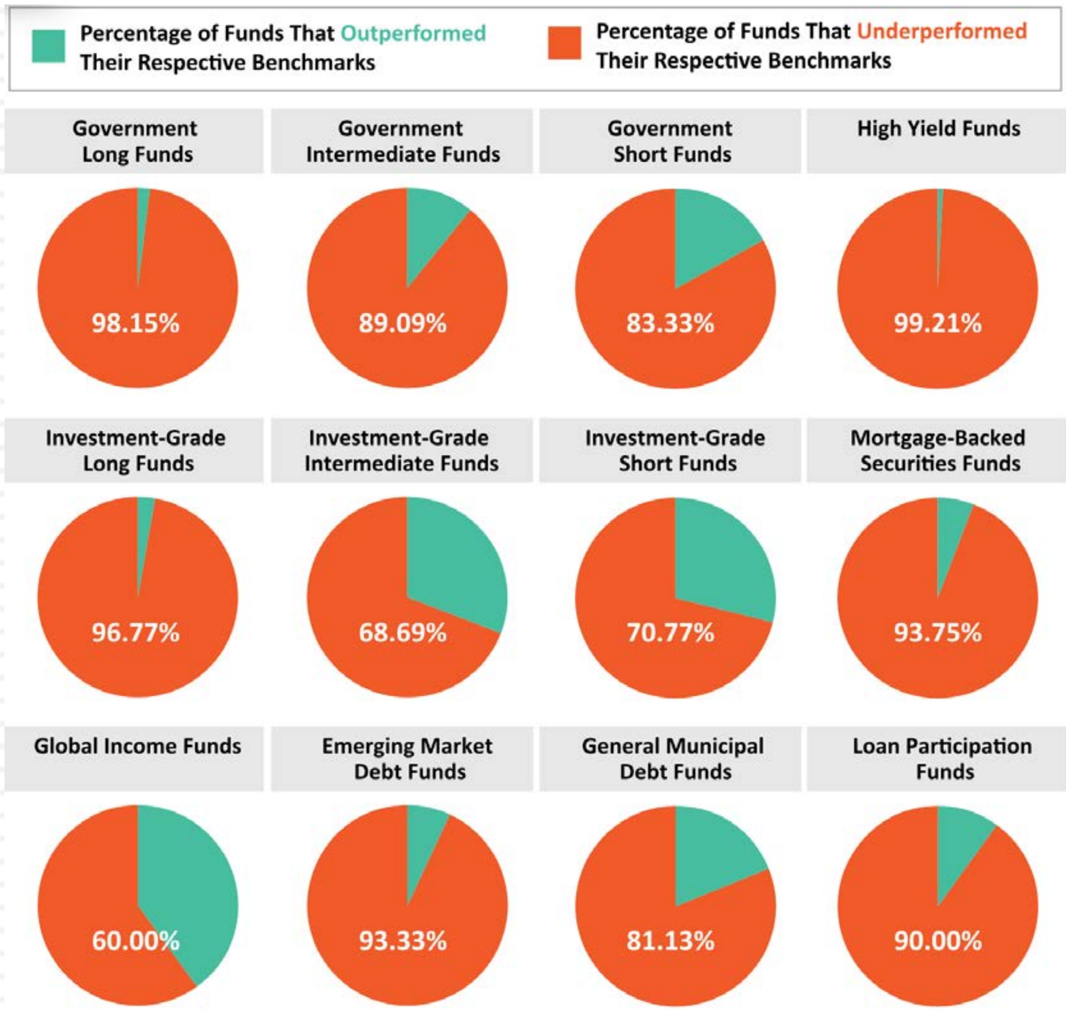


By geographies…



Source: S&P Dow Jones Indices LLC, eVestment Alliance. Past performance is no guarantee of future results. Indexes are not available for direct investment and performance does not reflect expenses of an actual portfolio. Chart is provided for illustrative purposes. This is not to be construed as an offer, solicitation, recommendation, or endorsement of any particular security, product, service, or considered to be tax advice. There are no guarantees investment strategies will be successful. Investing involves risks, including possible loss of principal. © 2020 Index Fund Advisors, Inc. (IFA.com)

Not just stocks..



There is no consistency.. Winners don't stay winners for long

If there is consistency in performance, funds in a specific quartile should be more likely to stay in that quartile than move to another. The shaded numbers on the diagonal should all be much higher than 25%.

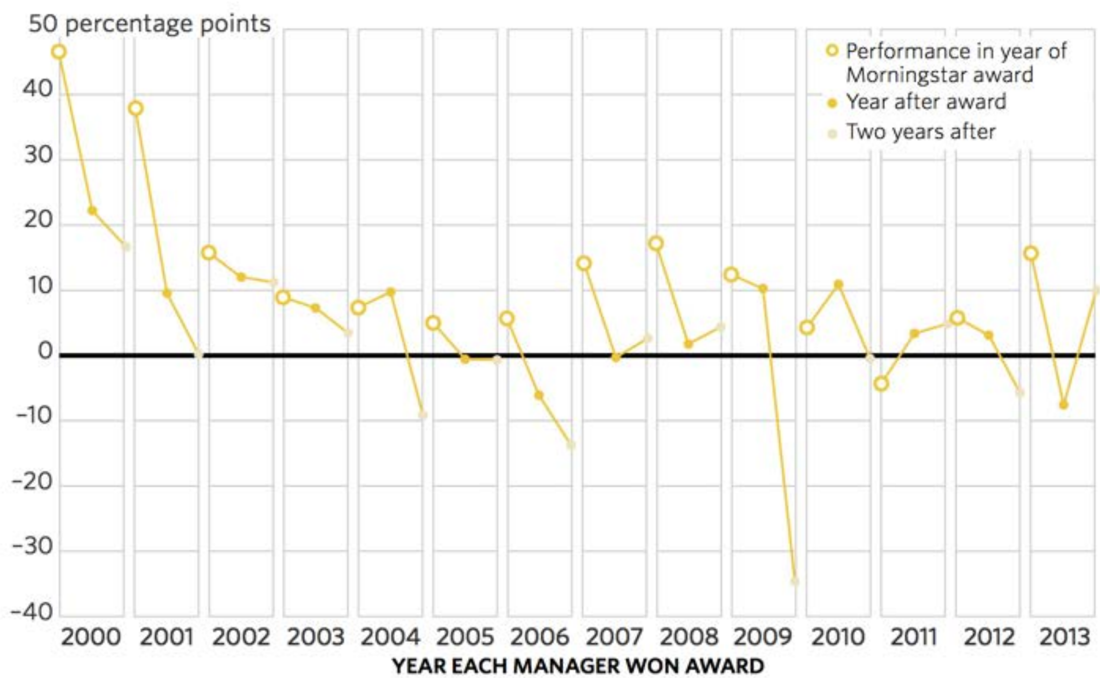
A top performing fund in the last year is more likely to become among the worst perfoming in the next few periods, than stay top performing.

		Following three year period				
		Quartile 1	*Quartile 2*	*Quartile 3*	*Quartile 4*	*Merged/Liquidated*
Last year	Quartile 1	16.53%	21.42%	25.80%	29.51%	6.75%
	Quartile 2	27.10%	23.06%	21.89%	19.19%	8.75%
	Quartile 3	26.31%	21.92%	19.90%	16.02%	15.85%
	Quartile 4	15.18%	18.72%	17.37%	20.40%	28.33%

A large percentage of the worst performing funds fail or are merged, creating a strong survivor bias. Consequently, any study that looks at the returns on only those funds that survived is likely to overstate the returns earned by actively managed funds.

And super star managers fade quickly..

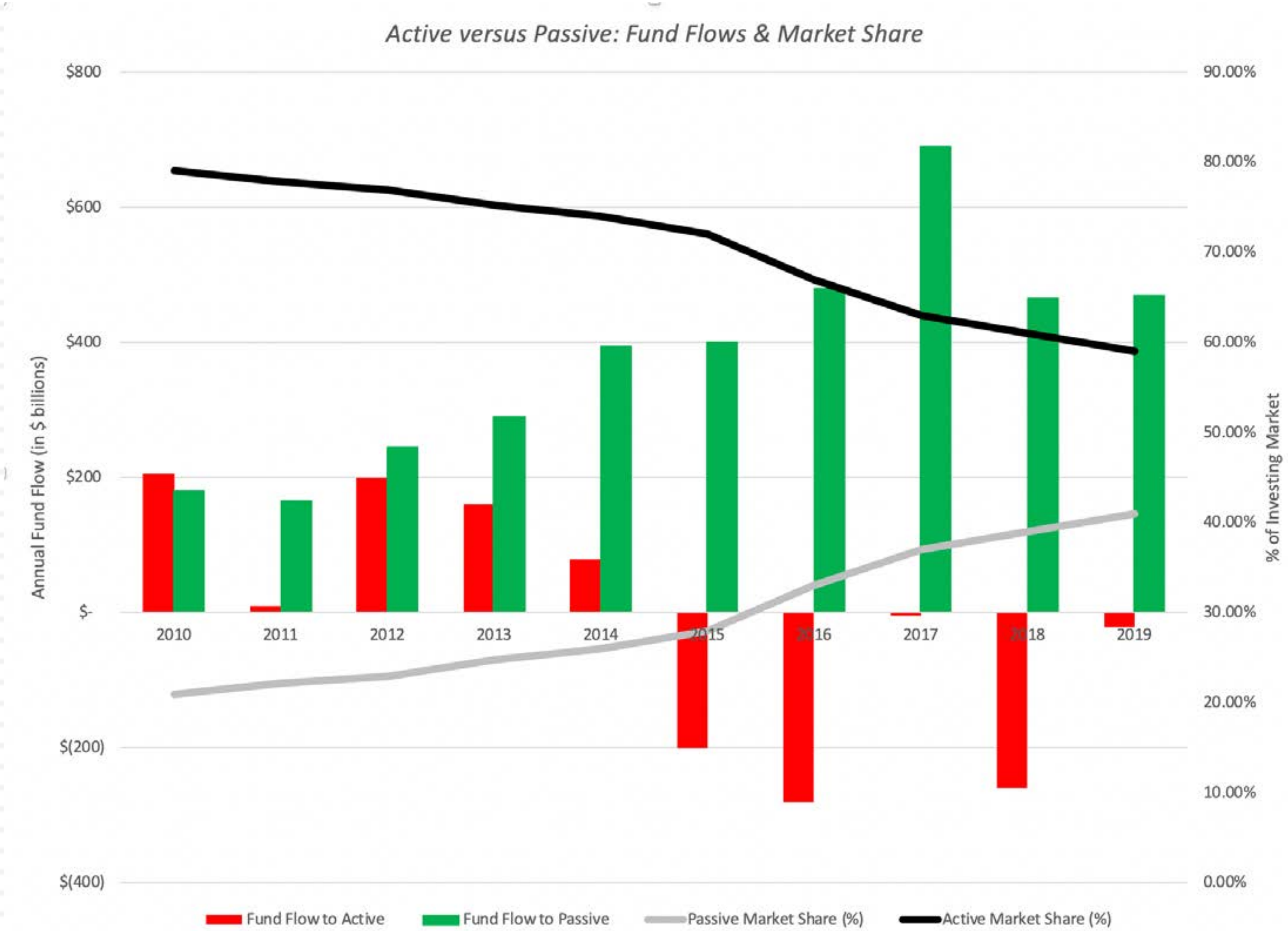
Managers named by Morningstar as top performers for a given year generally didn't perform as well relative to the S&P 500 in subsequent years.



Note: Performance of Morningstar Domestic Stock Fund Manager of the Year, relative to annual total return of the S&P 500. Analysis uses largest fund if manager helmed multiple funds.

Source: Morningstar

A Not Surprising Consequence: Its been a passive investing decade



The Active Investing Counter

- During the last decade, as active investors have lost ground to passive investing vehicles, active money managers argued that we would all see their worth if you entered a crisis.
  - The active market timers were arguing that their expertise would allow them to get you out of stocks before a crisis hit, and back into stocks at the right time.
  - The stock pickers contended that they would pick stocks that were less affected by the crisis, as stocks fell, and move you into stocks that would benefit as stocks came back.
- The COVID crisis has given active investing a chance. Let's see how it has measured up.

Active investing in the COVID crisis

The Crisis Test: Active Mutual Funds in the First Quarter of 2020

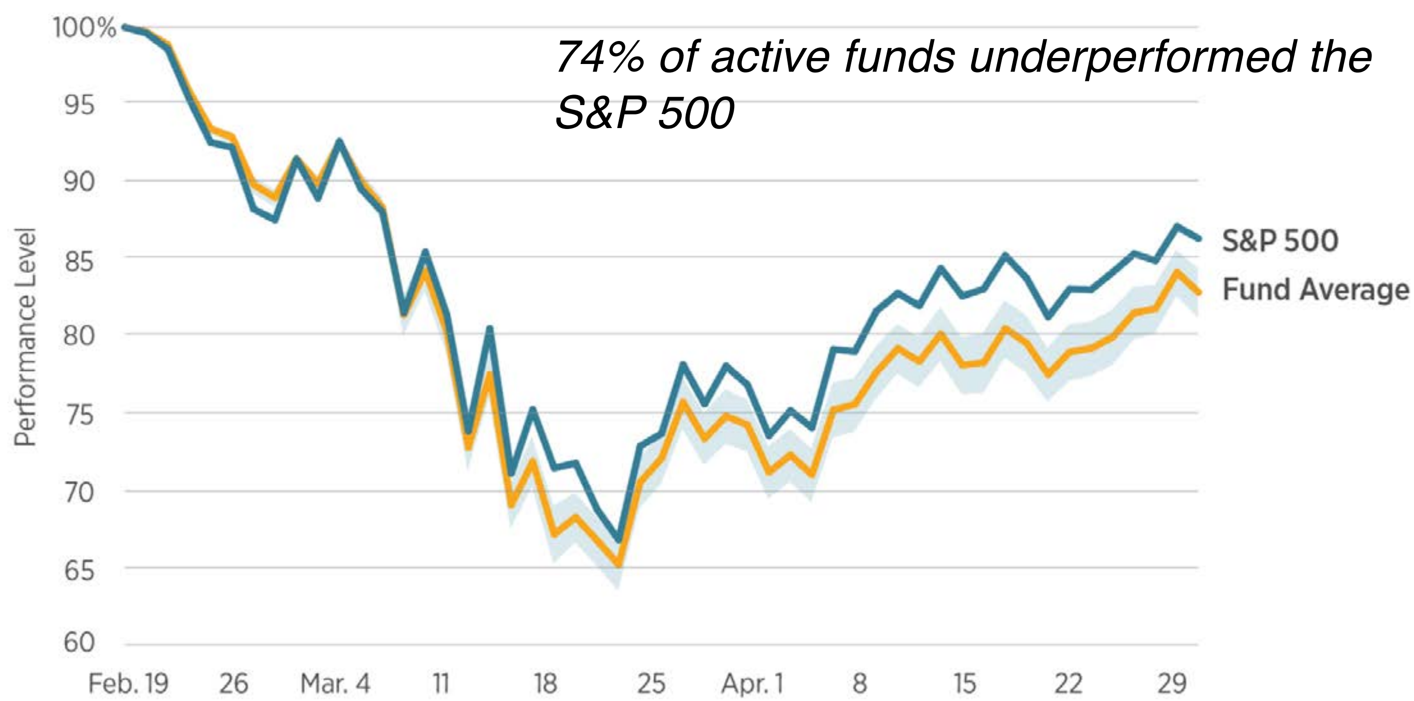
	Returns in 2020, First Quarter		
Equity Mutual Funds	*Mutual Funds*	*MS Index*	*Active Excess Return*
Large Blend	-20.92%	-17.86%	-3.06%
Large Growth	-15.48%	-11.51%	-3.97%
Large Value	-26.77%	-25.10%	-1.67%
Mid-Cap Blend	-28.28%	-26.42%	-1.86%
Mid-Cap Growth	-20.64%	-17.00%	-3.64%
Mid-Cap Value	-32.53%	-35.52%	2.99%
Small Blend	-32.37%	-31.61%	-0.76%
Small Growth	-24.59%	-21.45%	-3.14%
Small Value	-36.89%	-39.68%	2.79%
All US Equity Funds	-21.94%	-20.57%	-1.37%

Exhibit 1: Percentage of U.S. Equity Funds Outperformed by Benchmarks

FUND CATEGORY	COMPARISON INDEX	JAN.-APRIL 2020 (%)	Q1 2020 (%)	Q4 2019-Q1 2020 (%)	1-YEAR (%)	3-YEAR (%)	5-YEAR (%)	10-YEAR (%)	15-YEAR (%)
All Domestic Funds	S&P Composite 1500	64.3	62.4	67.2	71.5	72.5	83.1	87.3	88.4
All Large-Cap Funds	S&P 500	58.7	54.4	58.4	61.0	69.6	79.0	85.6	87.7
All Mid-Cap Funds	S&P MidCap 400	36.3	32.4	35.9	31.9	44.5	55.4	73.6	82.2
All Small-Cap Funds	S&P SmallCap 600	39.1	41.2	42.7	43.9	57.2	68.2	79.2	82.2

The Crisis Test: Active Mutual Funds

Average Fund Performance vs. the S&P 500 During the COVID-19 Crisis



Notes: The figure plots the performance of the average equity mutual fund against the S&P 500 from February 20 to April 30, 2020. Both price indices are initialized at 100 on February 19, 2020 and are computed by compounding daily returns. The shaded blue area represents 95% confidence intervals.

Becker Friedman Institute

What about hedge funds?

Barclay Hedge Fund Index

MAY ROR† **2.67%†**

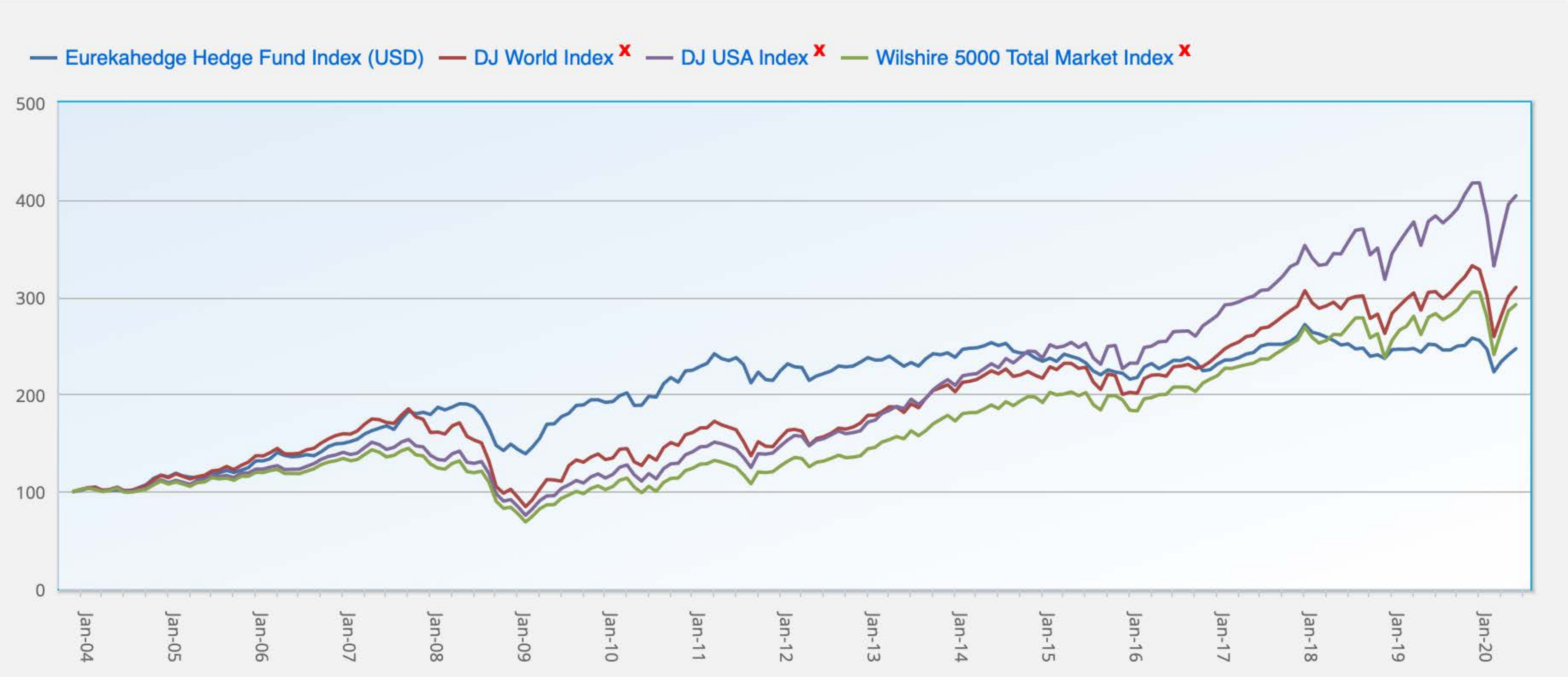
NUMBER OF FUNDS REPORTING† **1528**

YTD THROUGH MAY† **-4.72%***

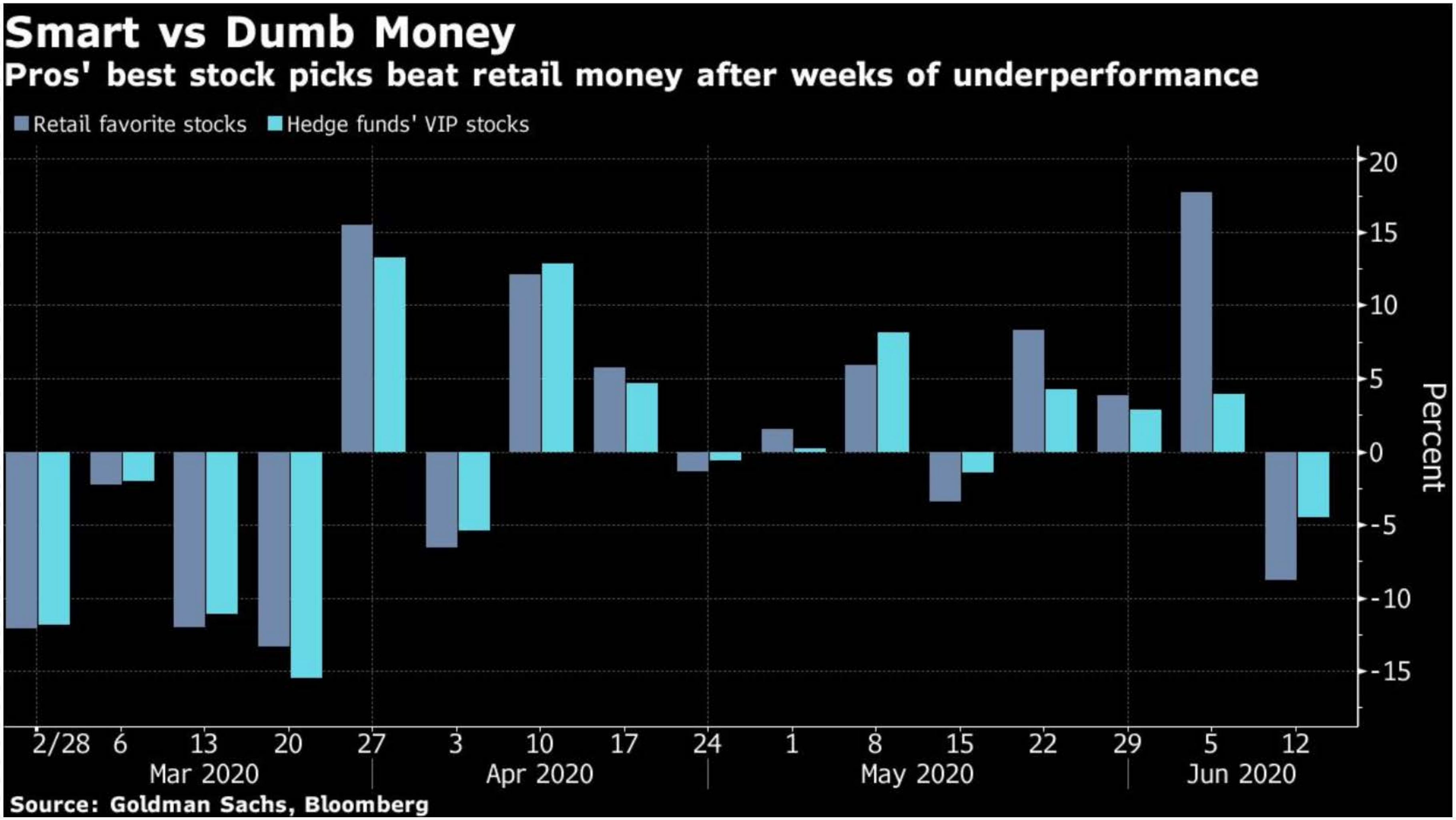
†Estimated performance for May 2020 calculated with reported data from 1528 funds.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2016	-2.99%	-0.35%	2.45%	1.03%	0.62%	-0.04%	2.04%	0.73%	0.89%	-0.31%	0.82%	1.14%	6.10%
2017	1.34%	1.11%	0.51%	0.59%	0.34%	0.37%	1.08%	0.63%	1.03%	1.08%	0.64%	1.15%	10.36%
2018	2.07%	-1.52%	-0.72%	0.45%	0.74%	-0.47%	0.62%	0.13%	-0.09%	-3.30%	-0.41%	-2.75%	-5.23%
2019	3.64%	1.25%	0.61%	1.15%	-1.72%	2.11%	0.48%	-0.96%	0.32%	0.71%	0.99%	1.67%	10.64%
2020	-0.18%	-2.84%	-9.16%	5.33%§	2.67%†	-	-	-	-	-	-	-	-4.72%*

The Crisis Test: Hedge Funds



The Robinhood Phenomenon



The Roots of the Active Investing Malaise

1. A Flatter Investment World: The advantages that professional money managers have over retail investors have shrunk considerably.
2. No Core Philosophy: Most professional money managers seem to have no core philosophy, careening from one to another, based upon last year's winners.
3. Bloated Cost Structures: The costs of professional money managers reflect an older, more forgiving investment world.
4. Lazy investing strategies: Much of active investing is built around using publicly available metrics (PE, PBV etc.) to pick stocks and trusting in mean reversion to deliver results. If you bring nothing to the table, why would you expect to take something away.

And clients bear some of the blame..

- Don't ask, don't know: Knowing past returns are too good to be true, they refuse to ask questions, perhaps because they don't want to hear the answers.
- Long term in principle, short term in results: They claim to be long term, while demanding to see positive performance every three months.
- Make me a lot of money, but don't ever lose a lot: They complain about quasi indexing (while using tracking error to make sure that deviations from the index get punished)
- Not my fault: They refuse to take responsibility for their own financial affairs (blaming their financial advisors for all that goes bad).

In effect, clients get the active money managers they deserve.

The Future of Active Investing

- The active investing business will shrink: Fees will continue to drop but market share will also continue to decline. It will be less profitable and hire fewer people as analysts, portfolio managers and support staff.
- More disruption is coming: The businesses that are most ripe for disruption are ones where the business is big (in terms of dollars spent), the value added is small relative to the costs of running the business and where everyone involved (businesses and their customers) are all unhappy with the status quo. That fits the active money management perfectly.
- Quant investing is not the answer. Anything that can be quantified can be imitated and anything that can be imitated will.

If you want to be an active investor, here is your road map

1. Have an investment philosophy that fits you: The best investment philosophy for you is the one that best fits you as an investor, in sync not only with your views about markets but with your personal makeup (in terms of patience, liquidity needs and skill sets).
2. Balance faith with feedback: Investing requires balancing faith with feedback, faith in your core market beliefs with enough of an acceptance that you can be wrong on the details, to allow for feedback that can modify your investing decisions.
3. Find your investing edge: Drawing on the language of competitive advantages and moats, what sets you apart does not have to be unique, but it does have to be scarce and not easily replicable.

If you are trusting someone else to invest for you, here's what to look for..

- Humble vs Arrogant: I think that investors are better grouped into humble and arrogant, with
  - Humble investors recognizing that success, when it comes, is as much a function of luck as it is of skill, and failure, when it too arrives, is part of investing and an occasion for learning.
  - Arrogant investors claim every investing win as a sign of their skill and view every loss as an affront, doubling down on their mistakes.
- If I had to pick someone to manage my money, the quality that I would value the most in making that choice is humility, since humble investors are less likely to overpromise and overcommit.

The telltale signs of arrogance…

- Fee structure: There is no more telling sign of arrogance than a fee structure that pre-supposes that you can not only beat the market, but that you can beat it handily (and easily).
- Self Credentials: Incessant talk of credentials (schooling, degrees, companies you worked for), mostly to establish intellectual superiority.
- Reliving the past: Stories of past exploits and investing wins, with the narrator as the hero, who swoops into the market at the right time and leaves before the rest.
- Belittling of the market/other investors: Describe the market as in ”a bubble” and other investors as blind, shallow and stupid, thus explaining away why your investments have not delivered the promised rewards.

Arrogance Squared: Arrogant Founder + Arrogant Venture Investor = Lead in to WeWork IPO

Capital Raised by WeWork from intitiation to IPO filing			
Date	*Investors*	*Capital Raise*	*Imputed Pricing*
Apr-09	NA	$17.50	97
Nov-10	NA	$ 41.00	$ 440.00
Jul-11	Aleph	$ 156.40	$ 4,800.00
Jan-12	NA	$ 6.90	NA
Jan-12	Benchmark, GS, Harvard Mgmt,JPM Chase, T. Rowe Price, Wellington	$ 198.80	NA
Dec-14	Benchmark, GS, Harvard Mgmt,JPM Chase, T. Rowe Price, Wellington	$ 198.80	$ 5,000.00
Jun-15	Fdelity, Glade Brook, Capital Partners, JPM Chase, T. Rowe Price	$ 742.50	$ 10,200.00
Jul-15	Horny Capital, Legend Holdings	$ 750.00	$ 15,800.00
Aug-17	Softbank	$ 4,700.00	$ 21,100.00
Aug-17	NA (Debt)	$ 702.00	NA
Aug-18	Softbank (Debt)	$ 1,000.00	NA
Nov-18	Softbank	$ 3,000.00	$ 45,000.00
Jan-19	Masayoshi Son, Softbank	$ 2,000.00	$ 47,000.00
May-19	Amazon, Fidelity, Greenoaks, T.Rowe Price	$ 575.00	NA
	Total Raised	**$14,088.90**	

WeWork: The "Visionary" CEO

WeWork: Governance Structure (in prospectus)

- A Corporate Dictatorship: There are three classes of shares, with the class A shares that will be offering in the IPO having one twentieth the voting rights of the class B and class C shares, leaving control of the company in the hands of Adam Neumann.
- Open about it: The prospectus is brutally direct on this front, stating that "*Adam's voting control will limit the ability of other stockholders to influence corporate activities and, as a result, we may take actions that stockholders other than Adam do not view as beneficial*" and that his ownership stake will result in WeWork being categorized as a controlled company, *relieving it of the requirement to have independent directors on its compensation and nominating committees*.
- Really?: The prospectus also specifies a line of succession for the CEO, where if Adam Neumann was incapacitated, here is what would happen:

The plan puts Rebekah Neumann at the helm of a committee with two board members charged with selecting a new CEO in the case Adam is permanently disabled or deceased anytime within 10 years of the IPO's completion.

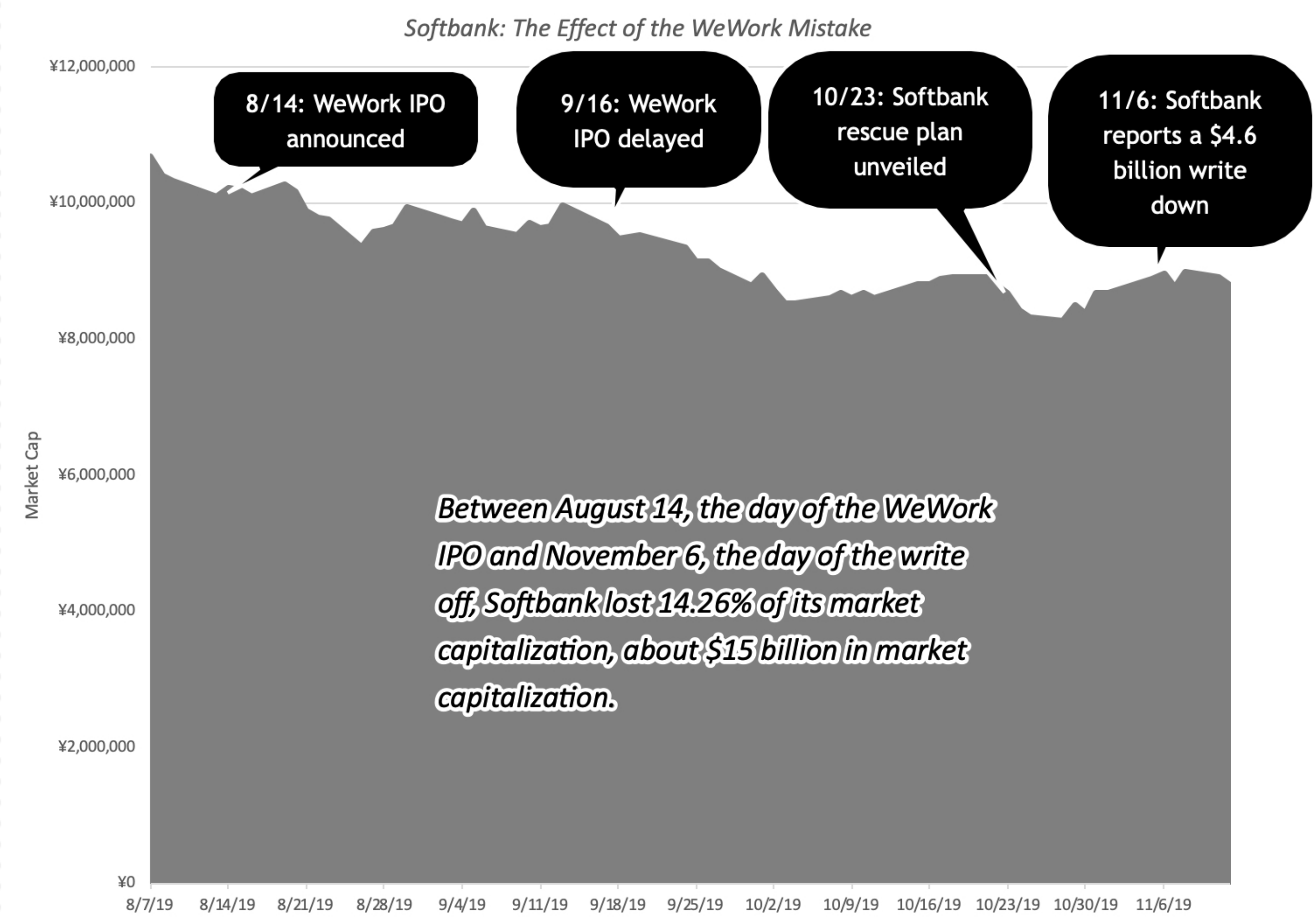
WeWork: Story Telling run amok…

- CEO arrogance: Adam Neumann has been remarkably short sighted, starting with his sale of almost $800 million in shares leading into the IPO, continuing with his receipt of $5.2 million for giving the company the right to use the name "We" and the conflicts of interest that are sowed all over the corporate structure.
- Game playing: WeWork's description (with more than a 100 mentions in its prospectus) of itself as a tech company is at odds with its real estate business model, but investors would perhaps have been willing to overlook that if the company had not also indulged in accounting game playing in the past. This is the company that coined *Community EBITDA* an abomination, where almost all expenses are added back to get to adjusted earnings.
- Denial: Since even a casual observer can see the mismatch that lies at the heart of the WeWork business model, it behooves the company to confront that problem directly. Instead, through 220 pages of a prospectus, the company bobs and weaves, leaving the question unanswered.

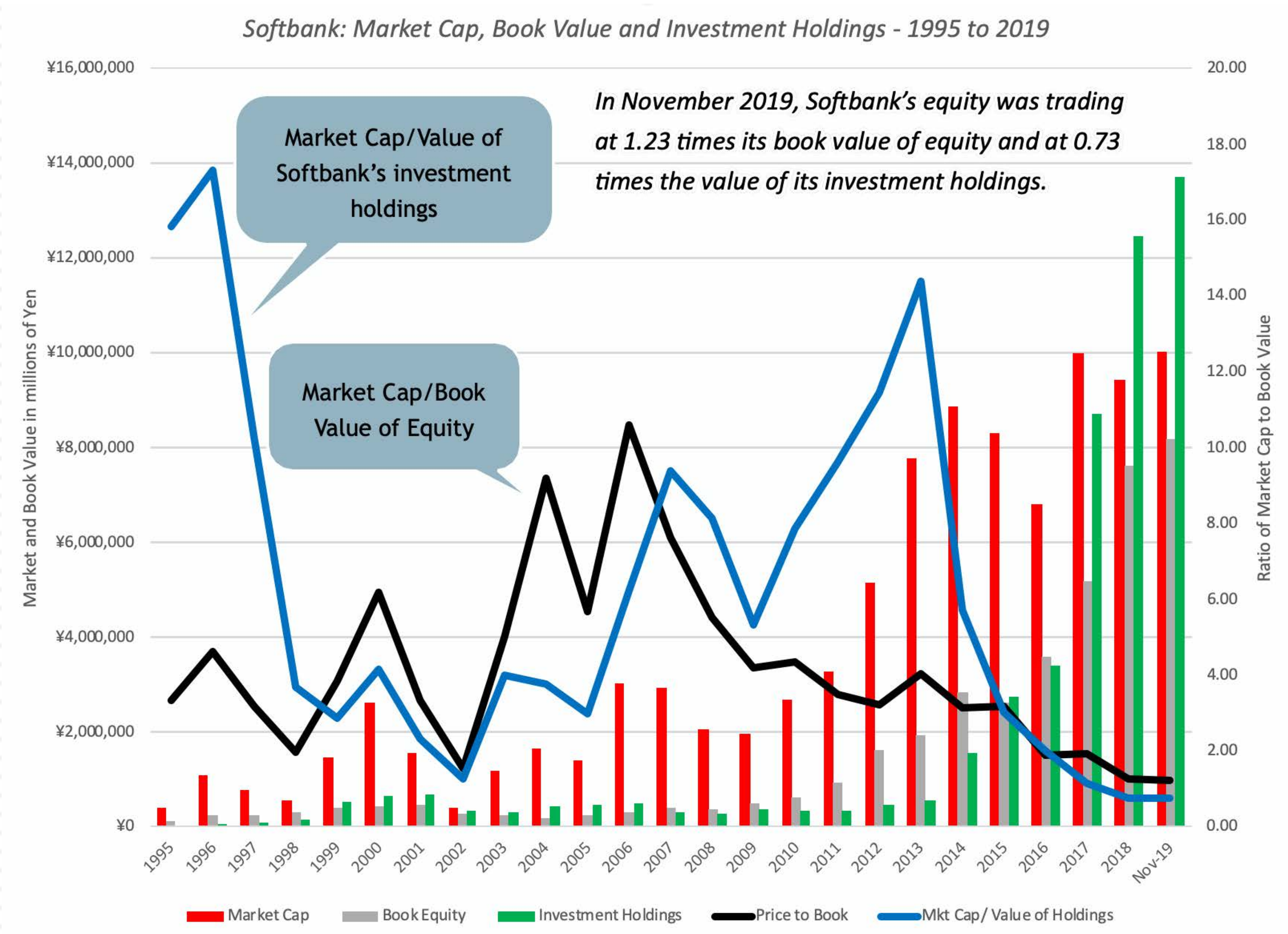
Masa Son: A humbragger?

- His past: Anyone who makes three hundred year plans and things that bigger is always better has a God complex, and success feeds that arrogance.
- Penance?: I would like to believe that the WeWork setback has chastened Mr. Son, and in his remarks to shareholders this week, he said the right things, stating that he had “made a bad investment decision, and was deeply remorseful”, speaking of WeWork.
- Words? However, he then undercut his message by not only claiming that the pathway to profit for WeWork would be simple (it is not) but also asserting that his Vision fund was still better than other venture capitalists in seeking out and finding promising companies.
- Judgment day: Masa Son may need a few more reminders about humility from the market, since neither his words nor his actions indicate that he has learned any lessons.

Softbank: The WeWork Effect



A measure of trust



Appendix

Moneyball..

Let’s play Moneyball

- Every crisis brings forth explanations for why it is happening, and what we should do about it, with half-baked rationales and anecdotal evidence. Listen, with respect, but verify for yourself.
- For people with agendas, the crisis has offered an opportunity to not only say, “I told you so”, but also to push for legal and regulatory changes to advance their viewpoints.
- Here are two stories that are making the rounds
  - Just punishment: The market drop is well-deserved punishment for those who invested in high flying companies and on momentum.
  - Buybacks are the problem: The surge in buybacks are caused companies to become weak and exposed, and the market is punishing those companies.

Value versus Growth: A pre-crisis lead in..

Value vs Growth: US Stocks, by decade

	Lowest PBV	*Highest PBV*	*Difference*	*Lowest PE*	*Highest PE*	*Difference*
1930-39	6.04%	4.27%	1.77%	NA	NA	NA
1940-49	22.96%	7.43%	15.53%	NA	NA	NA
1950-59	25.06%	20.92%	4.14%	34.33%	19.16%	15.17%
1960-69	13.23%	9.57%	3.66%	15.27%	9.79%	5.48%
1970-79	17.05%	3.89%	13.16%	14.83%	2.28%	12.54%
1980-89	24.48%	12.94%	11.54%	18.38%	14.46%	3.92%
1990-99	20.17%	21.88%	-1.71%	21.61%	22.03%	-0.41%
2000-09	8.59%	-0.49%	9.08%	13.84%	0.61%	13.23%
2010-19	**11.27%**	**16.67%**	**-5.39%**	**11.35%**	**17.09%**	**-5.75%**

The under performance of value has played out not only in the mutual fund business, but it has also brought many legendary value investors down to earth. We were told that this was temporary, and that a crisis would put value back on top again…

PE and Market Returns – During Crisis

		Market Capitalzation (US $)				*Change in Market Cap (US $)*				*% Change in Market Cap*			
decile(Trailing PE)	*Number of firms*	*2/14/20*	*3/20/20*	*5/22/20*	*7/17/20*	*2/14-3/20*	*3/20-5/22*	*5/22-7/17*	*2/14-7/17*	*2/14-3/20*	*3/20-5/22*	*5/22-7/17*	*2/14/7/17*
Bottom decile	2,478	$ 2,958,320	$ 2,304,688	$ 2,487,820	$ 2,711,791	$ (653,632)	$ 183,132	$ 223,970	$ (246,529)	-22.09%	7.95%	9.00%	-8.33%
2nd decile	2,478	$ 3,730,146	$ 2,600,424	$ 2,908,409	$ 3,208,972	$ (1,129,722)	$ 307,985	$ 300,563	$ (521,174)	-30.29%	11.84%	10.33%	-13.97%
3rd decile	2,477	$ 4,883,497	$ 3,333,788	$ 3,835,161	$ 4,242,892	$ (1,549,709)	$ 501,373	$ 407,731	$ (640,605)	-31.73%	15.04%	10.63%	-13.12%
4th decile	2,480	$ 6,491,812	$ 4,452,656	$ 5,117,351	$ 5,663,346	$ (2,039,155)	$ 664,695	$ 545,995	$ (828,466)	-31.41%	14.93%	10.67%	-12.76%
5th decile	2,478	$ 8,036,977	$ 5,516,372	$ 6,425,671	$ 7,043,446	$ (2,520,606)	$ 909,300	$ 617,774	$ (993,531)	-31.36%	16.48%	9.61%	-12.36%
6th decile	2,478	$ 12,169,682	$ 8,975,532	$ 10,432,585	$ 11,476,328	$ (3,194,151)	$ 1,457,054	$1,043,743	$ (693,354)	-26.25%	16.23%	10.00%	-5.70%
7th decile	2,479	$ 13,239,428	$ 9,473,098	$ 11,709,484	$ 13,252,220	$ (3,766,330)	$ 2,236,387	$1,542,736	$ 12,792	-28.45%	23.61%	13.18%	0.10%
8th decile	2,478	$ 13,697,261	$ 9,935,147	$ 12,092,317	$ 13,622,618	$ (3,762,113)	$ 2,157,169	$1,530,302	$ (74,642)	-27.47%	21.71%	12.66%	-0.54%
9th decile	2,478	$ 10,818,892	$ 7,883,240	$ 9,649,331	$ 10,886,440	$ (2,935,652)	$ 1,766,091	$1,237,109	$ 67,548	-27.13%	22.40%	12.82%	0.62%
Top decile	2,479	$ 6,234,486	$ 4,639,706	$ 5,928,549	$ 6,908,336	$ (1,594,780)	$ 1,288,842	$ 979,787	$ 673,849	-25.58%	27.78%	16.53%	10.81%
Negative Earnings	13,177	$ 8,190,587	$ 5,052,853	$ 6,671,427	$ 7,807,411	$ (3,137,734)	$ 1,618,574	$1,135,984	$ (383,176)	-38.31%	32.03%	17.03%	-4.68%
All firms	37,960	$ 90,451,088	$ 64,167,504	$ 77,258,106	$ 86,823,800	$(26,283,585)	$13,090,602	$9,565,695	$(3,627,288)	-29.06%	20.40%	12.38%	-4.01%

Dividends and Market Returns

		Market Capitalzation (US $)				Change in Market Cap (US $)				% Change in Market Cap			
Dividend Yield	Number of firms	2/14/20	3/20/20	5/22/20	7/17/20	2/14-3/20	3/20-5/22	5/22-7/17	2/14-7/17	2/14-3/20	3/20-5/22	5/22-7/17	2/14/7/17
Non-Dividend Paying	17,511	$ 21,226,096	$ 14,799,581	$ 18,899,952	$ 21,673,846	$ (6,426,515)	$ 4,100,371	$2,773,894	$ 447,750	-30.28%	27.71%	14.68%	2.11%
Bottom quintile	4,089	$ 14,311,088	$ 10,499,288	$ 12,945,049	$ 15,045,533	$ (3,811,800)	$ 2,445,761	$2,100,484	$ 734,446	-26.64%	23.29%	16.23%	5.13%
2nd quintile	4,090	$ 16,695,402	$ 11,899,079	$ 14,521,477	$ 16,316,540	$ (4,796,324)	$ 2,622,398	$1,795,063	$ (378,862)	-28.73%	22.04%	12.36%	-2.27%
3rd quintile	4,090	$ 14,285,438	$ 9,978,241	$ 11,753,066	$ 12,978,405	$ (4,307,197)	$ 1,774,825	$1,225,339	$(1,307,033)	-30.15%	17.79%	10.43%	-9.15%
4th quintile	4,090	$ 15,089,384	$ 10,921,395	$ 12,343,116	$ 13,385,982	$ (4,167,990)	$ 1,421,721	$1,042,866	$(1,703,402)	-27.62%	13.02%	8.45%	-11.29%
Top quintile	4,090	$ 8,843,679	$ 6,069,920	$ 6,795,445	$ 7,423,493	$ (2,773,760)	$ 725,525	$ 628,048	$(1,420,186)	-31.36%	11.95%	9.24%	-16.06%

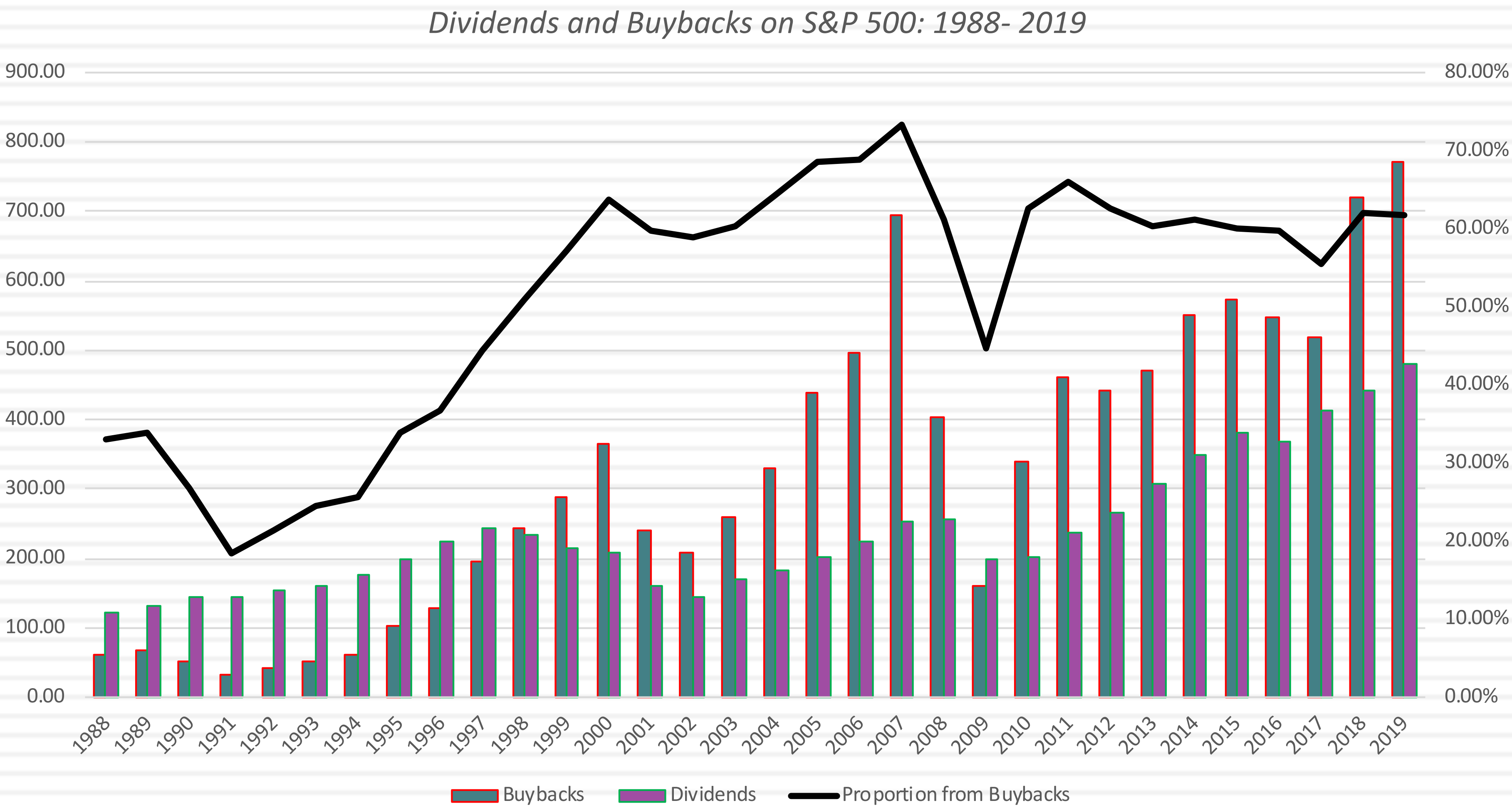
Momentum and Damage

		Market Capitalzation (US $)				Change in Market Cap (US $)				% Change in Market Cap			
Price Momentum	Number of firms	2/14/20	3/20/20	5/22/20	7/17/20	2/14-3/20	3/20-5/22	5/22-7/17	2/14-7/17	2/14-3/20	3/20-5/22	5/22-7/17	2/14/7/17
Bottom decile	3,546	$ 908,171	$ 569,861	$ 728,541	$ 854,061	$ (338,310)	$ 158,680	$ 125,520	$ (54,110)	-37.25%	27.85%	17.23%	-5.96%
2nd decile	3,546	$ 2,458,137	$ 1,685,780	$ 1,901,420	$ 2,131,054	$ (772,357)	$ 215,640	$ 229,634	$ (327,084)	-31.42%	12.79%	12.08%	-13.31%
3rd decile	3,546	$ 5,301,074	$ 3,559,672	$ 4,064,507	$ 4,455,424	$ (1,741,402)	$ 504,835	$ 390,917	$ (845,650)	-32.85%	14.18%	9.62%	-15.95%
4th decile	3,547	$ 5,694,568	$ 3,959,746	$ 4,434,562	$ 4,900,526	$ (1,734,822)	$ 474,816	$ 465,963	$ (794,043)	-30.46%	11.99%	10.51%	-13.94%
5th decile	3,546	$ 7,489,357	$ 5,342,279	$ 6,104,608	$ 6,727,945	$ (2,147,078)	$ 762,330	$ 623,337	$ (761,412)	-28.67%	14.27%	10.21%	-10.17%
6th decile	3,546	$ 8,049,023	$ 5,777,603	$ 6,605,309	$ 7,340,094	$ (2,271,420)	$ 827,706	$ 734,786	$ (708,929)	-28.22%	14.33%	11.12%	-8.81%
7th decile	3,547	$ 12,847,243	$ 9,049,986	$ 10,573,192	$ 11,698,216	$ (3,797,257)	$ 1,523,206	$1,125,023	$(1,149,028)	-29.56%	16.83%	10.64%	-8.94%
8th decile	3,546	$ 21,456,217	$ 15,087,088	$ 18,519,766	$ 20,723,031	$ (6,369,129)	$ 3,432,678	$2,203,266	$ (733,185)	-29.68%	22.75%	11.90%	-3.42%
9th decile	3,546	$ 13,740,094	$ 9,745,072	$ 12,206,251	$ 13,915,056	$ (3,995,023)	$ 2,461,179	$1,708,805	$ 174,961	-29.08%	25.26%	14.00%	1.27%
Top decile	3,547	$ 8,947,749	$ 6,463,816	$ 8,673,657	$ 10,314,302	$ (2,483,933)	$ 2,209,840	$1,640,646	$ 1,366,554	-27.76%	34.19%	18.92%	15.27%

Bottom Line on Value vs Growth

- Value failed this crisis test: During this crisis, following the value investing playbook of buying low PE stocks with high dividend yields would have resulted in far worse punishment being meted out than buying high PE stocks, based upon momentum.
- In my view: I believe that value investing has become ritualistic (worshiping at the altar of Buffett and Munger, and paying lip service to Ben Graham) and righteous (with finger wagging and worse reserved for anyone who invested in growth or tech companies).
- Hope? On a hopeful note, I think that value investing can recover, but only if it is open to more flexible thinking about value, less hero worship and less of a sense of entitlement.

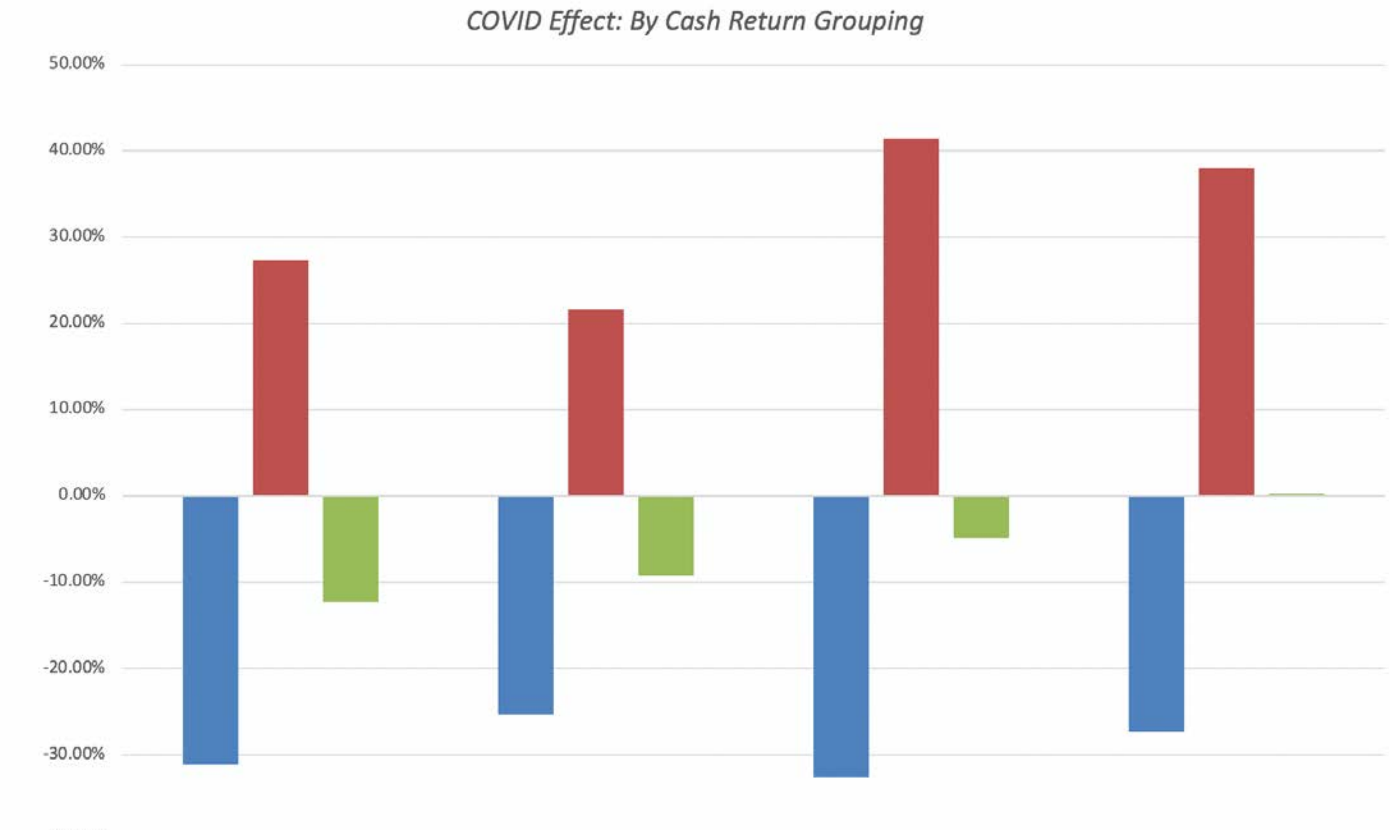
The Buyback Bogeyman…



Cash Returns and the Crisis…

		Market Cap ($ millions)			Change in Market Cap ($ millions)			% Change in Market Cap		
(Dividends+Buybacks)/ Net Income	Number of firms	2/14/20	3/20/20	6/26/20	2/14-3/20	3/20-6/26	2/14-6/26	2/14-3/20	3/20-6/26	2/14-6/26
Bottom decile	1,919	$ 2,967,674	$ 2,150,563	$ 2,839,196	$ (817,111)	$ 688,633	$ (128,479)	-27.53%	32.02%	-4.33%
2nd decile	1,920	$ 7,938,475	$ 5,741,000	$ 7,662,658	$ (2,197,474)	$ 1,921,657	$ (275,817)	-27.68%	33.47%	-3.47%
3rd decile	1,920	$ 6,104,819	$ 4,432,951	$ 5,863,841	$ (1,671,867)	$ 1,430,889	$ (240,978)	-27.39%	32.28%	-3.95%
4th decile	1,920	$ 8,044,613	$ 5,632,176	$ 7,393,756	$ (2,412,437)	$ 1,761,580	$ (650,857)	-29.99%	31.28%	-8.09%
5th decile	1,920	$ 8,667,724	$ 6,133,595	$ 7,924,867	$ (2,534,129)	$ 1,791,272	$ (742,857)	-29.24%	29.20%	-8.57%
6th decile	1,920	$ 8,978,606	$ 6,446,483	$ 8,015,325	$ (2,532,122)	$ 1,568,841	$ (963,281)	-28.20%	24.34%	-10.73%
7th decile	1,920	$11,138,692	$ 8,053,634	$ 9,840,747	$ (3,085,058)	$ 1,787,113	$(1,297,945)	-27.70%	22.19%	-11.65%
8th decile	1,920	$ 8,495,881	$ 6,387,028	$ 7,615,372	$ (2,108,853)	$ 1,228,344	$ (880,509)	-24.82%	19.23%	-10.36%
9th decile	1,920	$ 5,686,394	$ 4,101,973	$ 4,915,426	$ (1,584,421)	$ 813,453	$ (770,968)	-27.86%	19.83%	-13.56%
Top decile	1,920	$ 5,172,790	$ 3,471,244	$ 4,283,611	$ (1,701,546)	$ 812,367	$ (889,179)	-32.89%	23.40%	-17.19%

A Test on Buybacks..

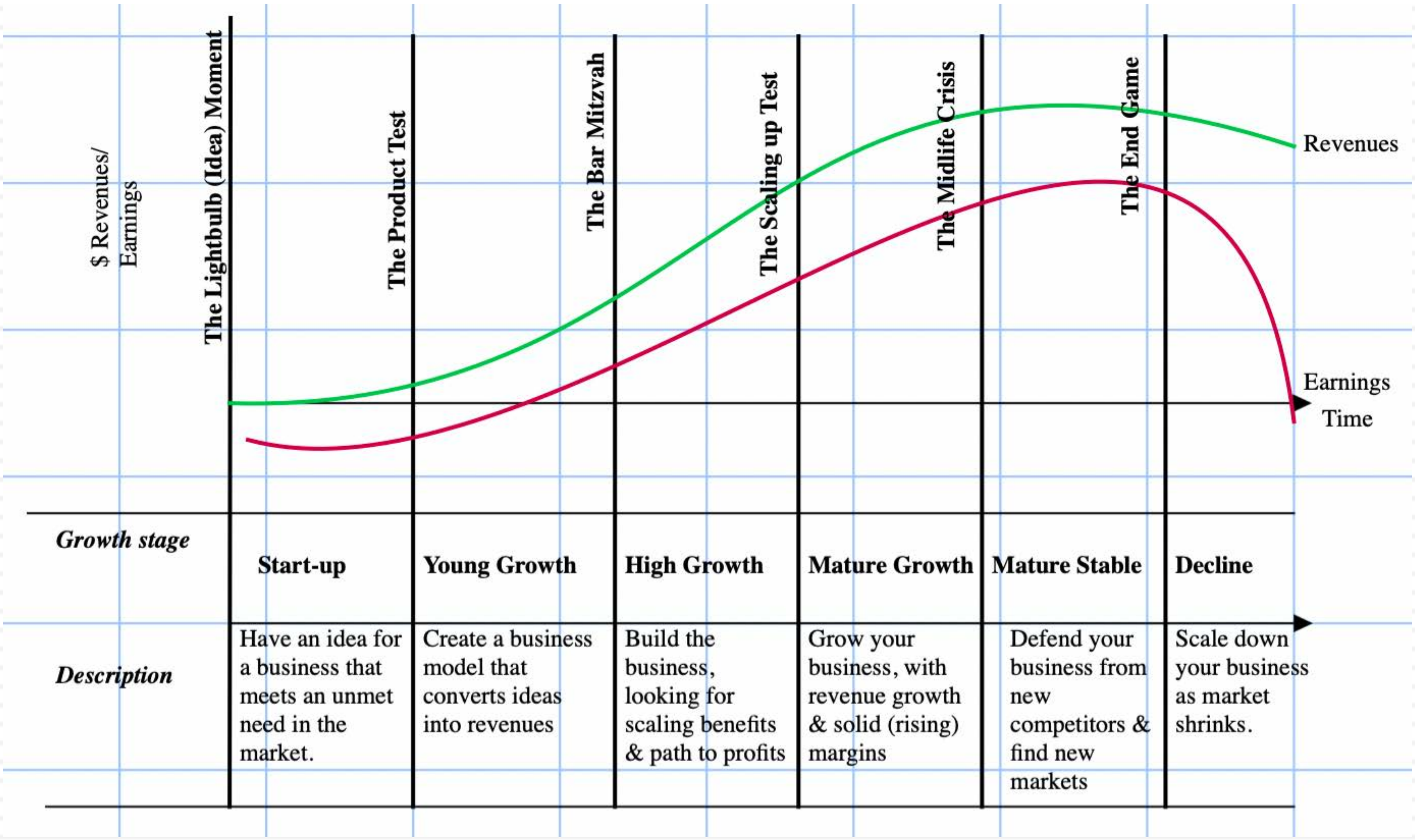


	Dividends + Buybacks	Only dividends	Only buybacks	No dividends or buybacks
2/14-3/20	-31.15%	-25.39%	-32.67%	-27.34%
3/20-6/26	27.39%	21.60%	41.30%	37.94%
2/14-6/26	-12.28%	-9.27%	-4.86%	0.23%

The Real Culprit…

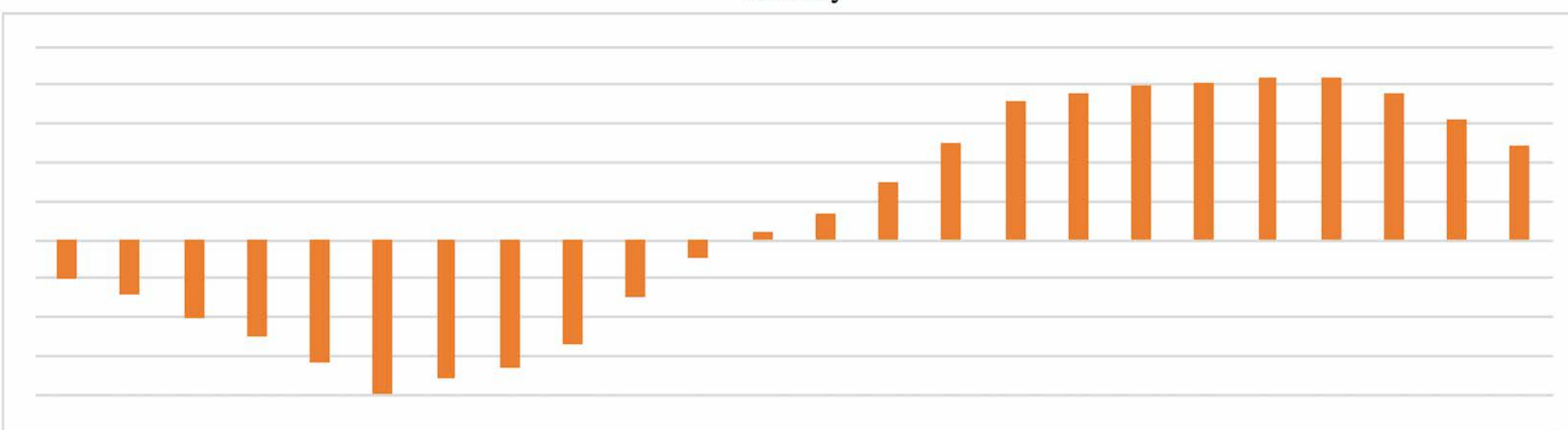
		Market Capitalzation (US $)				Change in Market Cap (US $)				% Change in Market Cap			
decile(Net Debt/EBITDA)	Number of firms	2/14/20	3/20/20	5/22/20	7/17/20	2/14-3/20	3/20-5/22	5/22-7/17	2/14-7/17	2/14-3/20	3/20-5/22	5/22-7/17	2/14/7/17
Bottom decile	2,603	$ 2,435,267	$ 1,932,943	$ 2,268,704	$ 2,735,372	$ (502,324)	$ 335,761	$ 466,669	$ 300,106	-20.63%	17.37%	20.57%	12.32%
2nd decile	2,604	$ 5,379,573	$ 4,160,185	$ 5,208,917	$ 6,019,389	$ (1,219,388)	$ 1,048,732	$ 810,471	$ 639,815	-22.67%	25.21%	15.56%	11.89%
3rd decile	2,604	$ 8,234,742	$ 6,277,805	$ 7,681,990	$ 8,654,953	$ (1,956,937)	$ 1,404,184	$ 972,963	$ 420,211	-23.76%	22.37%	12.67%	5.10%
4th decile	2,604	$ 8,156,430	$ 6,298,765	$ 7,541,409	$ 8,410,048	$ (1,857,665)	$ 1,242,644	$ 868,639	$ 253,618	-22.78%	19.73%	11.52%	3.11%
5th decile	2,604	$ 12,479,288	$ 9,068,773	$ 11,378,430	$ 12,852,242	$ (3,410,515)	$ 2,309,657	$1,473,812	$ 372,953	-27.33%	25.47%	12.95%	2.99%
6th decile	2,603	$ 12,123,846	$ 8,544,165	$ 10,224,055	$ 11,275,767	$ (3,579,681)	$ 1,679,889	$1,051,712	$ (848,080)	-29.53%	19.66%	10.29%	-7.00%
7th decile	2,604	$ 11,057,928	$ 7,560,374	$ 9,193,570	$ 10,312,129	$ (3,497,554)	$ 1,633,196	$1,118,559	$ (745,799)	-31.63%	21.60%	12.17%	-6.74%
8th decile	2,604	$ 8,201,697	$ 5,507,080	$ 6,646,543	$ 7,326,942	$ (2,694,617)	$ 1,139,462	$ 680,399	$ (874,755)	-32.85%	20.69%	10.24%	-10.67%
9th decile	2,604	$ 6,576,259	$ 4,157,572	$ 4,984,287	$ 5,493,768	$ (2,418,687)	$ 826,714	$ 509,481	$(1,082,491)	-36.78%	19.88%	10.22%	-16.46%
Top decile	2,604	$ 2,317,194	$ 1,502,022	$ 1,737,441	$ 1,958,254	$ (815,172)	$ 235,418	$ 220,813	$ (358,941)	-35.18%	15.67%	12.71%	-15.49%

The Corporate Life Cycle

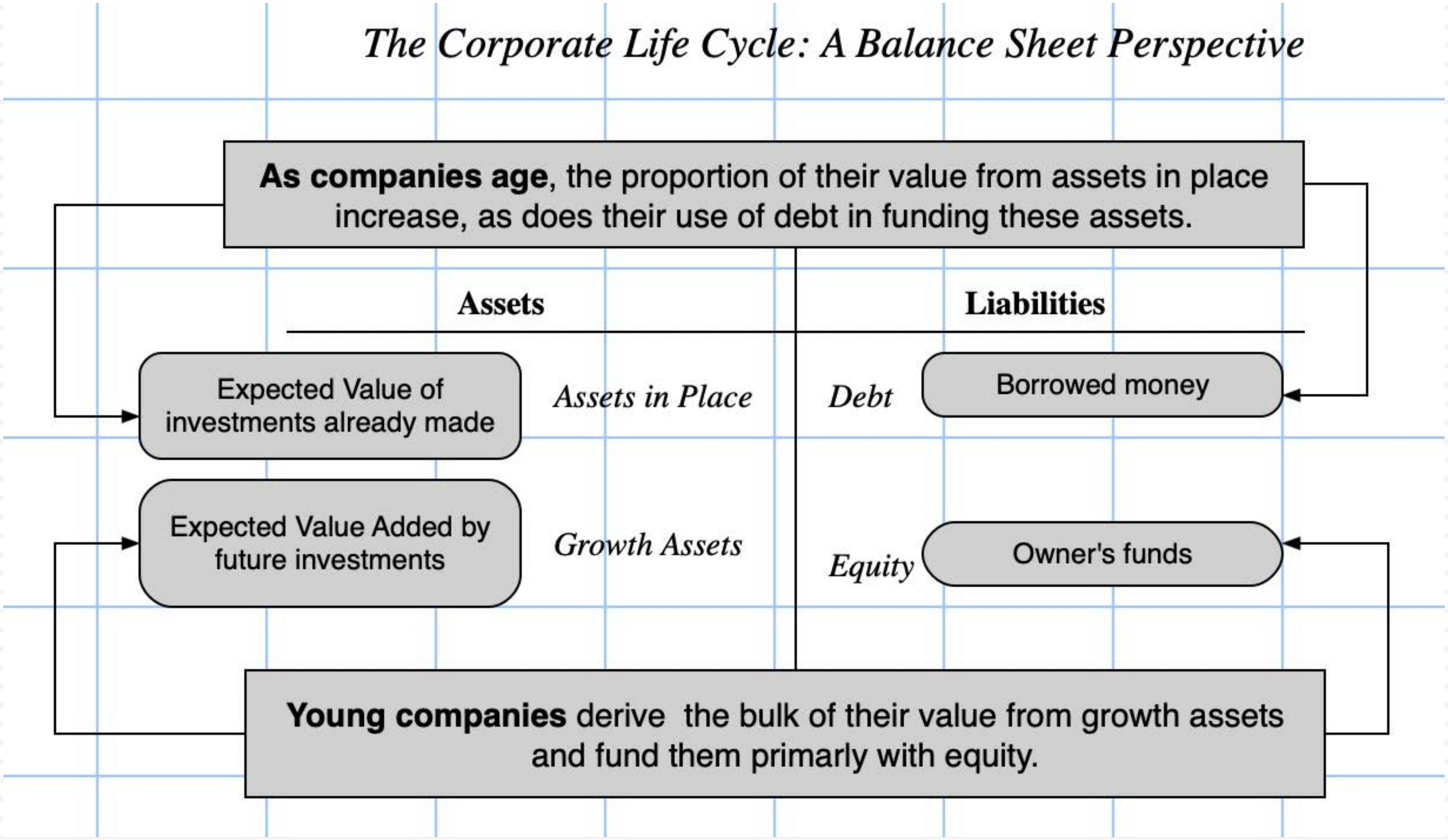


Cashflows across the life cycle…

Growth stage	Stage 1 Start-up	Stage 2 Young Growth	Stage 3: High Growth	Stage 4 Mature Growth	Stage 5 Mature Stable	Stage 6 Decline
Operating Profits	Large operating losses	Operating losses narrow	Operating profits turn positive	Operating profits grow quickly	Operating profits level off	Operating profits decline
Reinvestment	Very high	High	Remain large, but scale down as percent of firm	Decrease	Scale down further	Divestment
Free Cash Flow to Firm	Negative	Negative	Cross over to positive territory	Positive & growing	Positive & stable	Positive & dropping



And a Balance Sheet perspective…



How crisis affect companies across the life cycle…

- Start up and very young companies: For young companies, the challenge is survival, since they mostly have small or no revenues, and are money losers. They need capital to make it to the next and more lucrative phases in the life cycle, and in a crisis, access to capital (from venture capitalists or public equity) can shut down or become prohibitively expensive, as investors become more fearful.
- Young growth companies: For young growth companies that have turned the corner on profitability, capital access still remains critical since it is needed for future growth. Without that capital, the values of these firms will shrink towards assets in place, and in a crisis, these firms have to hunker down and scale back their growth ambitions.
- Mature firms: For mature firms, the bigger damage from a crisis is the punishment it metes to assets in place, as the economy slows or goes into recession, and consumers cut back on spending. The effect will be greater on companies that sell discretionary products than on companies that sell staples.
- Declining firms: For declining firms, especially those with substantial debt, a crisis can tip them into distress and default, especially if access to risk capital declines, and risk premiums increase.

COVID: Young versus Old

		Market Capitalzation (US $)				Change in Market Cap (US $)				% Change in Market Cap			
Age of company	Number of firms	2/14/20	3/20/20	5/22/20	7/17/20	2/14-3/20	3/20-5/22	5/22-7/17	2/14-7/17	2/14-3/20	3/20-5/22	5/22-7/17	2/14/7/17
Youngest	2,989	$ 2,675,490	$ 1,860,200	$ 2,462,845	$ 2,851,720	$ (815,290)	$ 602,645	$ 388,876	$ 176,230	-30.47%	32.40%	15.79%	6.59%
2nd decile	3,084	$ 3,307,738	$ 2,360,484	$ 2,937,986	$ 3,395,529	$ (947,254)	$ 577,502	$ 457,542	$ 87,791	-28.64%	24.47%	15.57%	2.65%
3rd decile	3,765	$ 5,365,896	$ 4,005,202	$ 5,014,458	$ 5,863,618	$ (1,360,694)	$ 1,009,255	$ 849,160	$ 497,722	-25.36%	25.20%	16.93%	9.28%
4th decile	3,284	$ 8,183,079	$ 6,248,620	$ 7,414,872	$ 8,457,421	$ (1,934,460)	$ 1,166,253	$1,042,548	$ 274,341	-23.64%	18.66%	14.06%	3.35%
5th decile	3,446	$ 6,658,066	$ 5,118,354	$ 6,247,885	$ 7,188,799	$ (1,539,712)	$ 1,129,531	$ 940,914	$ 530,733	-23.13%	22.07%	15.06%	7.97%
6th decile	3,597	$ 6,734,867	$ 4,926,946	$ 5,735,010	$ 6,470,710	$ (1,807,921)	$ 808,064	$ 735,700	$ (264,157)	-26.84%	16.40%	12.83%	-3.92%
7th decile	3,420	$ 9,256,513	$ 6,592,209	$ 8,339,484	$ 9,325,488	$ (2,664,304)	$ 1,747,275	$ 986,004	$ 68,975	-28.78%	26.51%	11.82%	0.75%
8th decile	3,435	$ 7,651,522	$ 5,080,712	$ 6,250,104	$ 6,921,449	$ (2,570,809)	$ 1,169,391	$ 671,345	$ (730,072)	-33.60%	23.02%	10.74%	-9.54%
9th decile	3,396	$ 12,395,319	$ 8,968,250	$ 10,432,486	$ 11,371,856	$ (3,427,069)	$ 1,464,236	$ 939,370	$(1,023,463)	-27.65%	16.33%	9.00%	-8.26%
Oldest	3,413	$ 24,312,918	$ 16,201,520	$ 19,137,789	$ 21,150,936	$ (8,111,398)	$ 2,936,268	$2,013,147	$(3,161,982)	-33.36%	18.12%	10.52%	-13.01%

COVID: High Growth versus Low Growth

		Market Capitalzation (US $)				Change in Market Cap (US $)				% Change in Market Cap			
Revenue Growth	Number of firms	2/14/20	3/20/20	5/22/20	7/17/20	2/14-3/20	3/20-5/22	5/22-7/17	2/14-7/17	2/14-3/20	3/20-5/22	5/22-7/17	2/14/7/17
Bottom decile	1,419	$ 8,090,878	$ 4,897,727	$ 5,885,469	$ 6,271,246	$ (3,193,151)	$ 987,742	$ 385,777	$(1,819,632)	-39.47%	20.17%	6.55%	-22.49%
2nd decile	1,420	$ 8,735,921	$ 5,608,046	$ 6,490,022	$ 7,145,268	$ (3,127,875)	$ 881,976	$ 655,245	$(1,590,654)	-35.80%	15.73%	10.10%	-18.21%
3rd decile	1,420	$ 9,478,728	$ 6,180,618	$ 7,173,754	$ 7,909,886	$ (3,298,110)	$ 993,135	$ 736,132	$(1,568,842)	-34.79%	16.07%	10.26%	-16.55%
4th decile	1,418	$ 10,464,315	$ 7,299,207	$ 8,516,285	$ 9,397,399	$ (3,165,108)	$ 1,217,078	$ 881,114	$(1,066,916)	-30.25%	16.67%	10.35%	-10.20%
5th decile	1,416	$ 11,473,387	$ 8,216,561	$ 9,858,907	$ 10,791,785	$ (3,256,826)	$ 1,642,346	$ 932,878	$ (681,602)	-28.39%	19.99%	9.46%	-5.94%
6th decile	1,426	$ 10,664,808	$ 7,749,782	$ 9,348,858	$ 10,408,208	$ (2,915,026)	$ 1,599,076	$1,059,350	$ (256,600)	-27.33%	20.63%	11.33%	-2.41%
7th decile	1,398	$ 6,611,170	$ 4,792,489	$ 5,806,176	$ 6,463,666	$ (1,818,681)	$ 1,013,687	$ 657,490	$ (147,504)	-27.51%	21.15%	11.32%	-2.23%
8th decile	1,438	$ 8,092,555	$ 6,085,325	$ 7,685,512	$ 8,796,691	$ (2,007,230)	$ 1,600,187	$1,111,179	$ 704,136	-24.80%	26.30%	14.46%	8.70%
9th decile	1,424	$ 8,242,729	$ 6,513,586	$ 8,387,575	$ 10,070,792	$ (1,729,143)	$ 1,873,989	$1,683,217	$ 1,828,063	-20.98%	28.77%	20.07%	22.18%
Top decile	1,420	$ 2,938,401	$ 2,260,180	$ 3,189,509	$ 3,984,364	$ (678,221)	$ 929,329	$ 794,855	$ 1,045,963	-23.08%	41.12%	24.92%	35.60%

What’s different?

- Crisis Origins: This crisis seems to have had a much greater negative impact on older, more mature companies than on younger, high growth ones. perhaps because it started at a time, when capital markets were buoyant and investors were eagerly taking on risk, with risk premiums in both equity and bond markets at close to decade-level lows, with a global economic shut down, with a cessation of most business activity.
- With a Timer: That shut down came with a time frame, though there was uncertainty not only about when economic activity would start up again, but how vigorously it would return.
- Private Risk Capital: Young companies have benefited from the fact, that after being on hold in the first few weeks of the crisis, risk capital came roaring back in the middle of March, both in public and private markets. That access to risk capital has also benefited distressed companies at the other end of the life cycle, explaining why you have seen surges in airline stock prices and in portions of the oil sector.