



A VIRAL MARKET UPDATE XII: THE RESILIENCE OF RISK CAPITAL

Risk on, risk off...

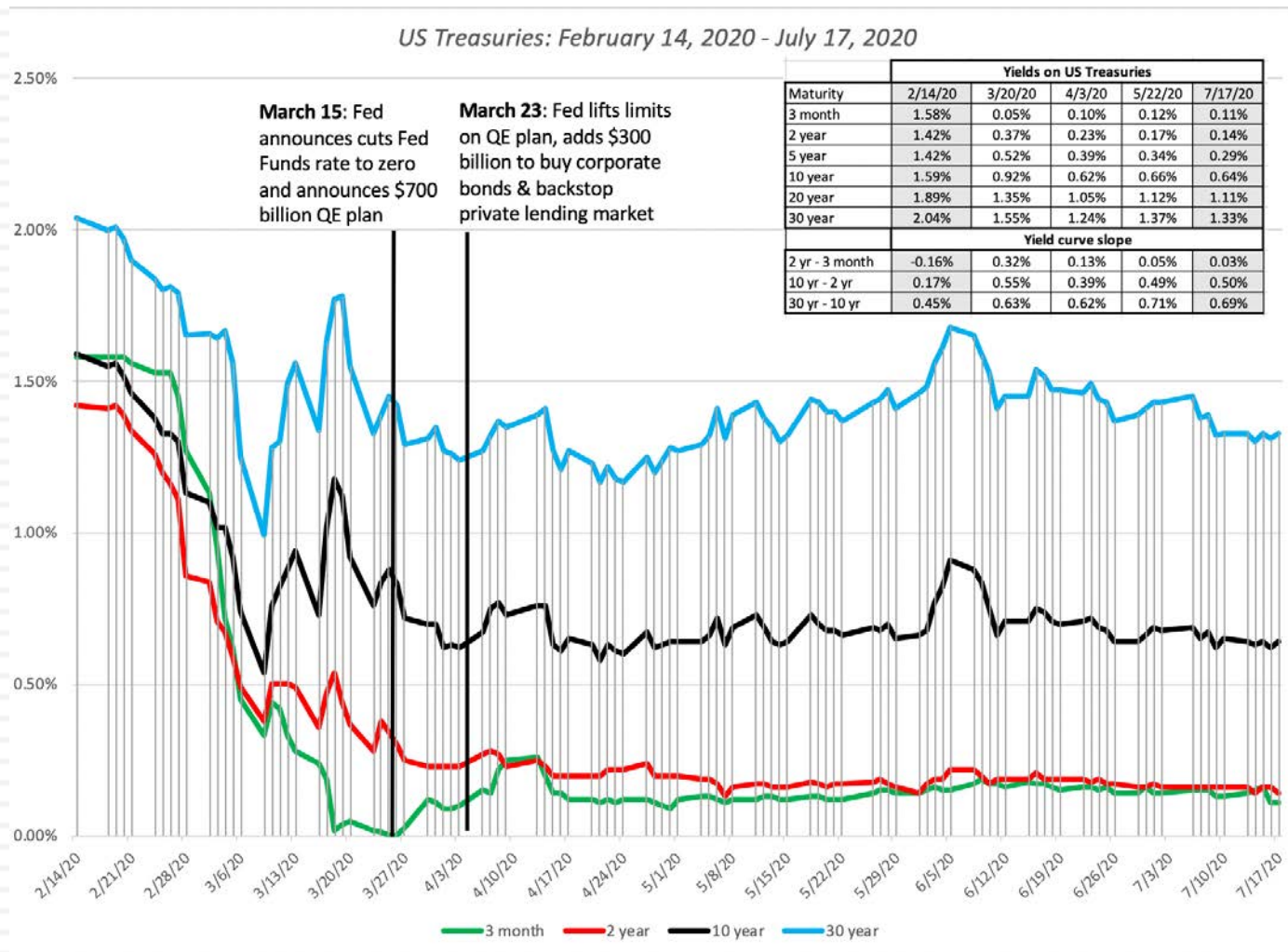
The lead in...

- Search for a Unifying Theory: In the midst of chaos and confusion, it is human nature to look for order, and finding a unifying theory that explains the world can help in this search.
- Winners and Losers: I have used the data from markets to try to come up with explanations for why markets have rebounded as much as they have, and in the process, why they have added value to some companies while reducing the value of others. It is in this pursuit that I noted that the crisis has enriched [growth companies](#) at the expense of value companies, [flexible companies](#) have gained at the expense of rigid ones, and [young companies](#) have gained on older, more mature businesses.
- The Answer: In this post, I look at a factor that lies behind all of these shifts, and that is the resilience of private risk capital, taking the form of venture capital for start ups and private business, initial public offerings in public markets and debt (in the form bonds and bank loans) to the riskiest companies, as the crisis has unfolded.

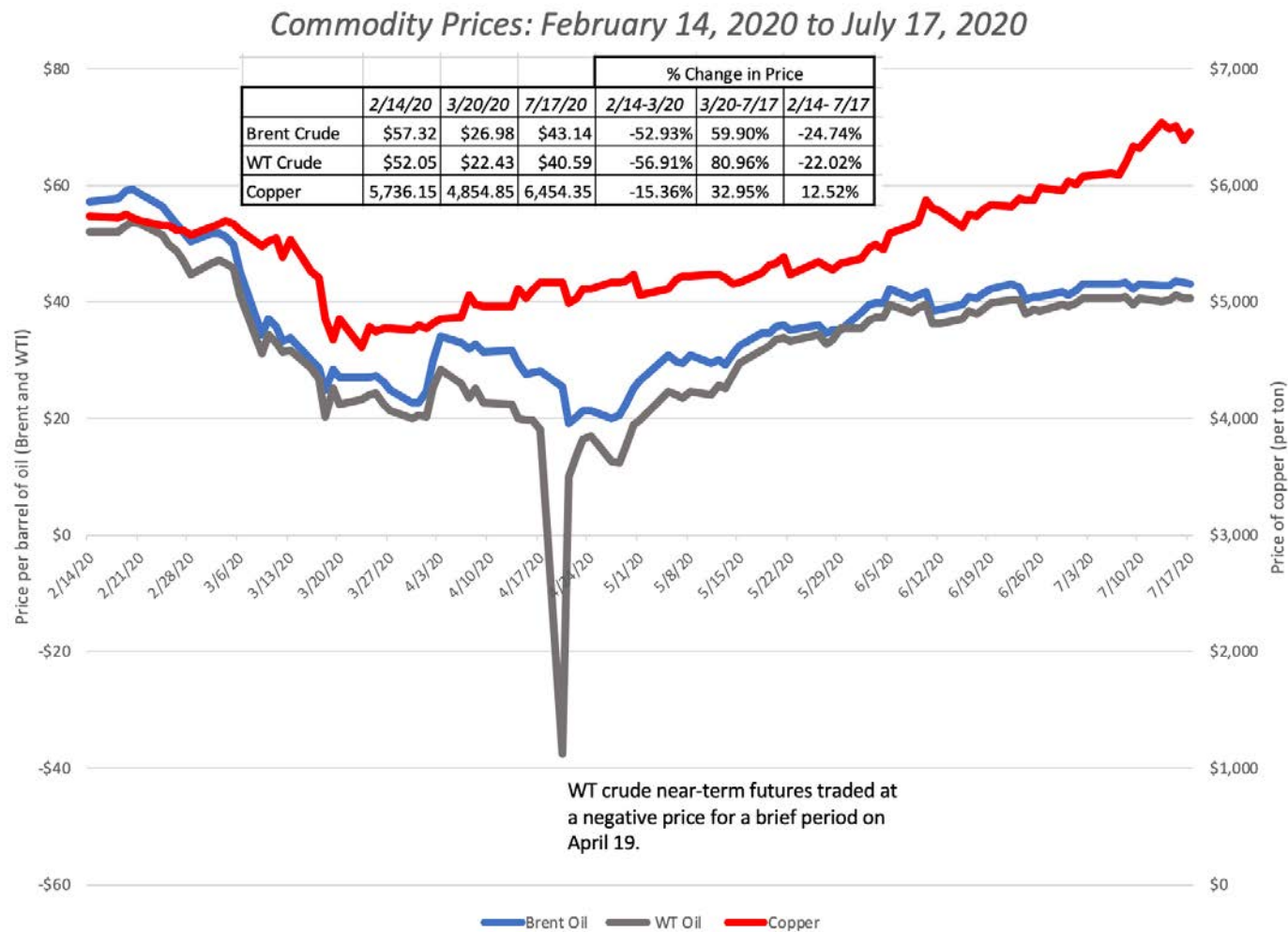
Market Overview: Equities

			Levels			% Change				
	Index	Country/Region	14-Feb	20-Mar	26-Jun	7/10-7/17	6/17-7/17	2/14-3/20	3/20-7/17	2/14 - 7/17
Americas	S&P 500	US	3374	2305	3225	0.28%	1.25%	-31.68%	39.91%	-4.42%
	NASDAQ 100	US	9712	6994	10645	0.18%	-1.76%	-27.99%	52.20%	9.61%
	TSX	Canada	17848	11852	16123	0.62%	2.61%	-33.59%	36.04%	-9.66%
	IPC Mexico	Mexico	45000	34270	36328	-0.38%	-0.38%	-23.84%	6.01%	-19.27%
	iBovespa	Brazil	114381	67069	102888	2.32%	2.86%	-41.36%	53.41%	-10.05%
Europe	FTSE 100	UK	7409	5191	6290	0.63%	3.20%	-29.94%	21.17%	-15.10%
	DAX	Germany	13744	8929	12920	0.35%	2.26%	-35.03%	44.70%	-6.00%
	CAC 40	France	6069	4131	5069	-0.31%	1.99%	-31.93%	22.71%	-16.48%
	S&P Europe 350	Europe	1731	1181	1488	0.09%	1.60%	-31.77%	26.00%	-14.04%
Asia	Nikkei 225	Japan	23688	16553	22681	-0.35%	1.75%	-30.12%	37.02%	-4.25%
	Shanghai 50	China	2895	2628	3186	0.75%	-4.95%	-9.22%	21.23%	10.05%
	Hang Seng	Hong Kong	27816	22805	25089	0.47%	-2.48%	-18.01%	10.02%	-9.80%
	Sensex	India	41258	29916	37020	1.50%	1.16%	-27.49%	23.75%	-10.27%
Australia & NZ	ASX 200	Australia	7133	4825	6034	0.38%	1.93%	-32.36%	25.06%	-15.41%
	NZX 50	New Zealand	11835	9202	11584	0.69%	1.66%	-22.25%	25.89%	-2.12%
Africa	FTSE/JSE TOP 40	South Africa	52050	36302	51501	0.27%	0.68%	-30.26%	41.87%	-1.05%
	NSE-All Share	Nigeria	27756	22198	24288	-0.17%	-0.08%	-20.02%	9.42%	-12.49%

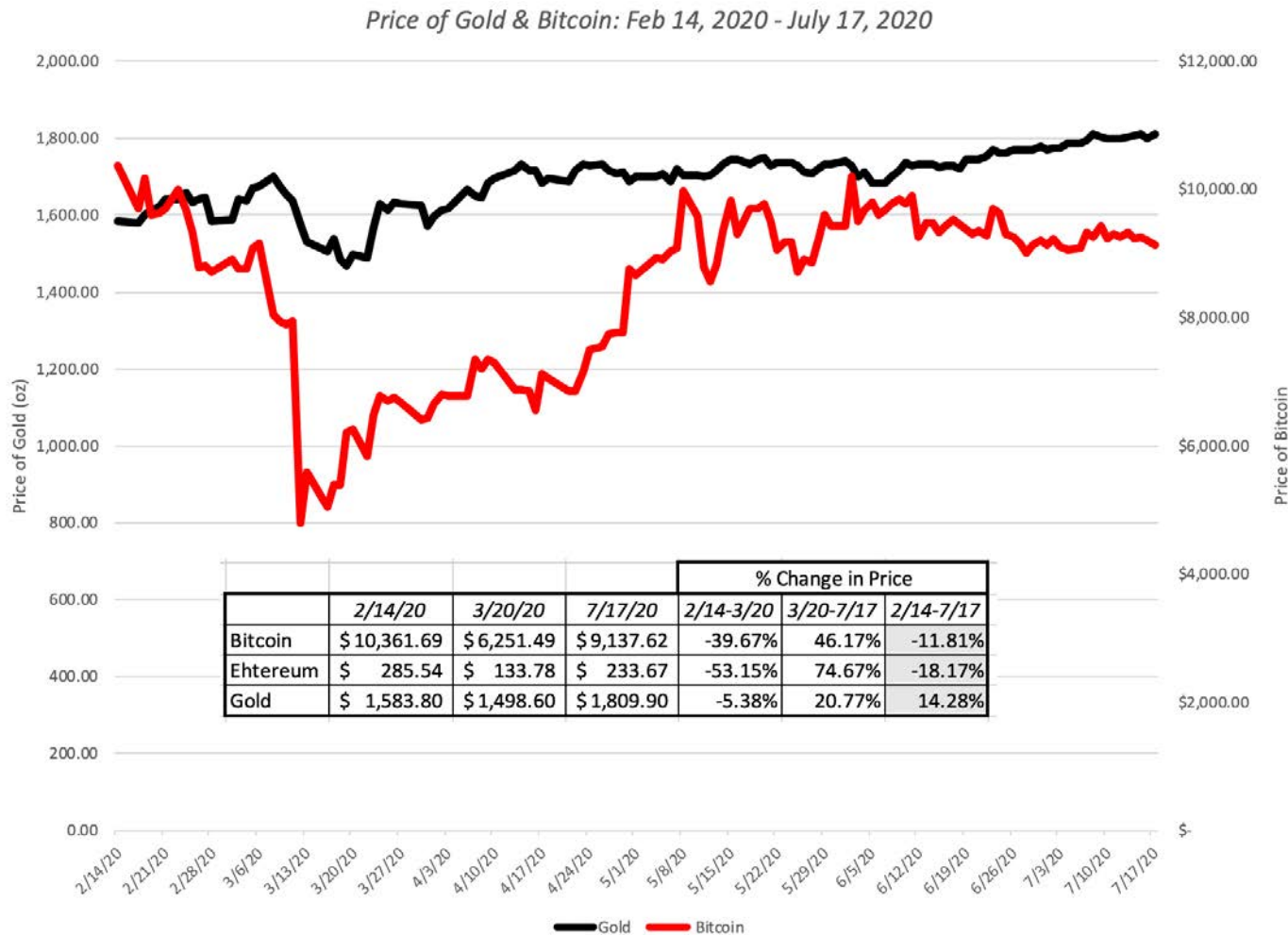
Market Overview: Treasuries



Market Overview: Commodities



Market Overview: Gold and Bitcoin



Global Equities: By Region

Sub Region	Number of firms	Market Capitalization (US \$)				Change in Market Cap (US \$)				% Change in Market Cap			
		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
Africa	725	\$ 580,341	\$ 363,726	\$ 416,438	\$ 464,668	\$ (216,615)	\$ 52,712	\$ 48,230	\$ (115,673)	-37.33%	14.49%	11.58%	-19.93%
Australia & NZ	1,380	\$ 1,613,256	\$ 948,523	\$ 1,257,885	\$ 1,474,908	\$ (664,733)	\$ 309,362	\$ 217,023	\$ (138,348)	-41.20%	32.62%	17.25%	-8.58%
Canada	1,591	\$ 2,228,039	\$ 1,351,965	\$ 1,761,566	\$ 1,981,992	\$ (876,073)	\$ 409,601	\$ 220,426	\$ (246,046)	-39.32%	30.30%	12.51%	-11.04%
China	6,225	\$ 14,035,639	\$ 12,434,328	\$ 13,070,519	\$ 15,526,291	\$ (1,601,311)	\$ 636,192	\$ 2,455,772	\$ 1,490,652	-11.41%	5.12%	18.79%	10.62%
EU & Environs	4,885	\$ 13,592,988	\$ 9,223,171	\$ 10,989,027	\$ 12,713,485	\$ (4,369,818)	\$ 1,765,856	\$ 1,724,459	\$ (879,503)	-32.15%	19.15%	15.69%	-6.47%
Eastern Europe & Russia	447	\$ 824,687	\$ 498,774	\$ 638,951	\$ 640,567	\$ (325,913)	\$ 140,177	\$ 1,616	\$ (184,120)	-39.52%	28.10%	0.25%	-22.33%
India	1,984	\$ 2,203,812	\$ 1,519,473	\$ 1,582,592	\$ 1,920,271	\$ (684,338)	\$ 63,118	\$ 337,679	\$ (283,541)	-31.05%	4.15%	21.34%	-12.87%
Japan	3,811	\$ 6,028,147	\$ 4,455,691	\$ 5,366,876	\$ 5,726,632	\$ (1,572,457)	\$ 911,186	\$ 359,756	\$ (301,515)	-26.09%	20.45%	6.70%	-5.00%
Latin America & Caribbean	1,131	\$ 2,473,516	\$ 1,446,219	\$ 1,608,737	\$ 1,877,259	\$ (1,027,297)	\$ 162,518	\$ 268,522	\$ (596,257)	-41.53%	11.24%	16.69%	-24.11%
Middle East	1,389	\$ 3,102,088	\$ 2,578,180	\$ 2,906,278	\$ 2,989,557	\$ (523,908)	\$ 328,098	\$ 83,279	\$ (112,531)	-16.89%	12.73%	2.87%	-3.63%
Small Asia	8,273	\$ 5,121,005	\$ 3,584,453	\$ 4,307,038	\$ 4,893,414	\$ (1,536,553)	\$ 722,585	\$ 586,376	\$ (227,591)	-30.00%	20.16%	13.61%	-4.44%
UK	1,122	\$ 3,067,813	\$ 1,922,871	\$ 2,332,350	\$ 2,553,894	\$ (1,144,942)	\$ 409,480	\$ 221,544	\$ (513,919)	-37.32%	21.30%	9.50%	-16.75%
United States	4,996	\$ 35,579,759	\$ 23,840,131	\$ 31,019,849	\$ 34,060,863	\$ (11,739,627)	\$ 7,179,718	\$ 3,041,014	\$ (1,518,896)	-33.00%	30.12%	9.80%	-4.27%
Global	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%

Global Equities: By Sector

Primary Sector	Number of firms	Market Capitalization (US \$)				Change in Market Cap (US \$)				% Change in Market Cap			
		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
Communication Services	1,731	\$ 7,317,717	\$ 5,480,057	\$ 6,692,506	\$ 7,406,450	\$ (1,837,660)	\$ 1,212,449	\$ 713,944	\$ 88,734	-25.11%	22.12%	10.67%	1.21%
Consumer Discretionary	5,187	\$ 10,171,743	\$ 7,077,597	\$ 8,964,672	\$ 10,572,377	\$ (3,094,146)	\$ 1,887,075	\$ 1,607,705	\$ 400,633	-30.42%	26.66%	17.93%	3.94%
Consumer Staples	2,468	\$ 7,194,331	\$ 5,755,503	\$ 6,516,474	\$ 7,233,703	\$ (1,438,828)	\$ 760,971	\$ 717,230	\$ 39,372	-20.00%	13.22%	11.01%	0.55%
Energy	1,348	\$ 5,934,575	\$ 3,850,798	\$ 4,738,382	\$ 4,877,124	\$ (2,083,777)	\$ 887,584	\$ 138,742	\$ (1,057,451)	-35.11%	23.05%	2.93%	-17.82%
Financials	4,243	\$ 14,966,820	\$ 9,957,256	\$ 10,765,127	\$ 12,153,788	\$ (5,009,563)	\$ 807,870	\$ 1,388,662	\$ (2,813,031)	-33.47%	8.11%	12.90%	-18.80%
Health Care	3,469	\$ 8,912,595	\$ 6,857,781	\$ 8,827,926	\$ 9,760,935	\$ (2,054,814)	\$ 1,970,145	\$ 933,009	\$ 848,341	-23.06%	28.73%	10.57%	9.52%
Industrials	6,732	\$ 10,112,767	\$ 6,888,228	\$ 8,108,214	\$ 9,206,140	\$ (3,224,540)	\$ 1,219,986	\$ 1,097,926	\$ (906,628)	-31.89%	17.71%	13.54%	-8.97%
Information Technology	4,913	\$ 13,578,601	\$ 9,721,055	\$ 12,602,614	\$ 14,356,617	\$ (3,857,546)	\$ 2,881,559	\$ 1,754,003	\$ 778,017	-28.41%	29.64%	13.92%	5.73%
Materials	4,540	\$ 4,985,820	\$ 3,521,349	\$ 4,325,435	\$ 5,000,036	\$ (1,464,471)	\$ 804,085	\$ 674,601	\$ 14,216	-29.37%	22.83%	15.60%	0.29%
Real Estate	2,456	\$ 4,063,599	\$ 2,720,303	\$ 3,082,921	\$ 3,356,464	\$ (1,343,296)	\$ 362,618	\$ 273,543	\$ (707,135)	-33.06%	13.33%	8.87%	-17.40%
Utilities	864	\$ 3,211,907	\$ 2,337,104	\$ 2,633,215	\$ 2,899,538	\$ (874,803)	\$ 296,112	\$ 266,323	\$ (312,369)	-27.24%	12.67%	10.11%	-9.73%
Global	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%

Global Equities: Industry Winners & Losers

Worst Performing Industries													
Industry	Number of firms	Market Capitalization (US \$)				Change in Market Cap (US \$)				% Change in Market Cap			
		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
Oil/Gas (Production and Exploration)	493	\$ 693,972	\$ 318,951	\$ 473,722	\$ 472,363	\$ (375,020)	\$154,771	\$ (1,360)	\$ (221,609)	-54.04%	48.52%	-0.29%	-31.93%
Air Transport	155	\$ 558,873	\$ 315,542	\$ 336,507	\$ 383,146	\$ (243,331)	\$ 20,965	\$ 46,640	\$ (175,726)	-43.54%	6.64%	13.86%	-31.44%
Aerospace/Defense	214	\$1,219,995	\$ 674,020	\$ 784,781	\$ 877,946	\$ (545,975)	\$110,761	\$ 93,164	\$ (342,049)	-44.75%	16.43%	11.87%	-28.04%
Broadcasting	126	\$ 165,337	\$ 94,492	\$ 111,952	\$ 119,888	\$ (70,845)	\$ 17,460	\$ 7,936	\$ (45,449)	-42.85%	18.48%	7.09%	-27.49%
Oil/Gas Distribution	186	\$ 645,226	\$ 355,848	\$ 470,221	\$ 469,346	\$ (289,377)	\$114,373	\$ (876)	\$ (175,880)	-44.85%	32.14%	-0.19%	-27.26%
Food Wholesalers	121	\$ 93,408	\$ 50,303	\$ 64,131	\$ 68,901	\$ (43,106)	\$ 13,828	\$ 4,770	\$ (24,507)	-46.15%	27.49%	7.44%	-26.24%
Banks (Regional)	803	\$1,010,949	\$ 656,582	\$ 710,559	\$ 759,550	\$ (354,367)	\$ 53,977	\$ 48,990	\$ (251,399)	-35.05%	8.22%	6.89%	-24.87%
Reinsurance	34	\$ 180,664	\$ 98,286	\$ 115,458	\$ 137,368	\$ (82,379)	\$ 17,172	\$ 21,910	\$ (43,296)	-45.60%	17.47%	18.98%	-23.97%
Hotel/Gaming	574	\$ 711,791	\$ 384,350	\$ 494,130	\$ 544,831	\$ (327,440)	\$109,780	\$ 50,701	\$ (166,959)	-46.00%	28.56%	10.26%	-23.46%
Bank (Money Center)	629	\$6,848,003	\$4,654,398	\$4,743,951	\$5,243,515	\$ (2,193,604)	\$ 89,553	\$499,564	\$ (1,604,487)	-32.03%	1.92%	10.53%	-23.43%
Best Performing Industries													
Industry	Number of firms	Market Capitalization (US \$)				Change in Market Cap (US \$)				% Change in Market Cap			
		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
Software (Internet)	110	\$ 226,454	\$ 166,465	\$ 286,700	\$ 323,843	\$ (59,988)	\$120,235	\$ 37,143	\$ 97,390	-26.49%	72.23%	12.96%	43.01%
Retail (Online)	255	\$2,457,236	\$1,991,178	\$2,635,256	\$3,223,694	\$ (466,059)	\$644,079	\$588,438	\$ 766,458	-18.97%	32.35%	22.33%	31.19%
Precious Metals	522	\$ 419,174	\$ 297,425	\$ 483,048	\$ 546,917	\$ (121,748)	\$185,623	\$ 63,869	\$ 127,743	-29.04%	62.41%	13.22%	30.48%
Drugs (Biotechnology)	915	\$1,406,869	\$1,133,255	\$1,541,746	\$1,773,440	\$ (273,614)	\$408,491	\$231,694	\$ 366,571	-19.45%	36.05%	15.03%	26.06%
Healthcare Information and Technology	317	\$ 771,555	\$ 606,652	\$ 826,228	\$ 960,423	\$ (164,903)	\$219,576	\$134,194	\$ 188,868	-21.37%	36.19%	16.24%	24.48%
Education	193	\$ 194,194	\$ 151,211	\$ 176,709	\$ 223,915	\$ (42,983)	\$ 25,497	\$ 47,206	\$ 29,721	-22.13%	16.86%	26.71%	15.30%
Entertainment	525	\$1,115,900	\$ 843,682	\$1,083,757	\$1,254,954	\$ (272,218)	\$240,075	\$171,197	\$ 139,054	-24.39%	28.46%	15.80%	12.46%
Software (System & Application)	1,084	\$3,761,431	\$2,789,268	\$3,691,214	\$4,135,406	\$ (972,163)	\$901,947	\$444,192	\$ 373,975	-25.85%	32.34%	12.03%	9.94%
Healthcare Products	635	\$1,832,387	\$1,350,787	\$1,795,988	\$2,011,121	\$ (481,601)	\$445,201	\$215,134	\$ 178,734	-26.28%	32.96%	11.98%	9.75%
Semiconductor Equip	285	\$ 525,747	\$ 340,467	\$ 481,655	\$ 574,369	\$ (185,280)	\$141,188	\$ 92,714	\$ 48,622	-35.24%	41.47%	19.25%	9.25%

Risk Capital in Crises

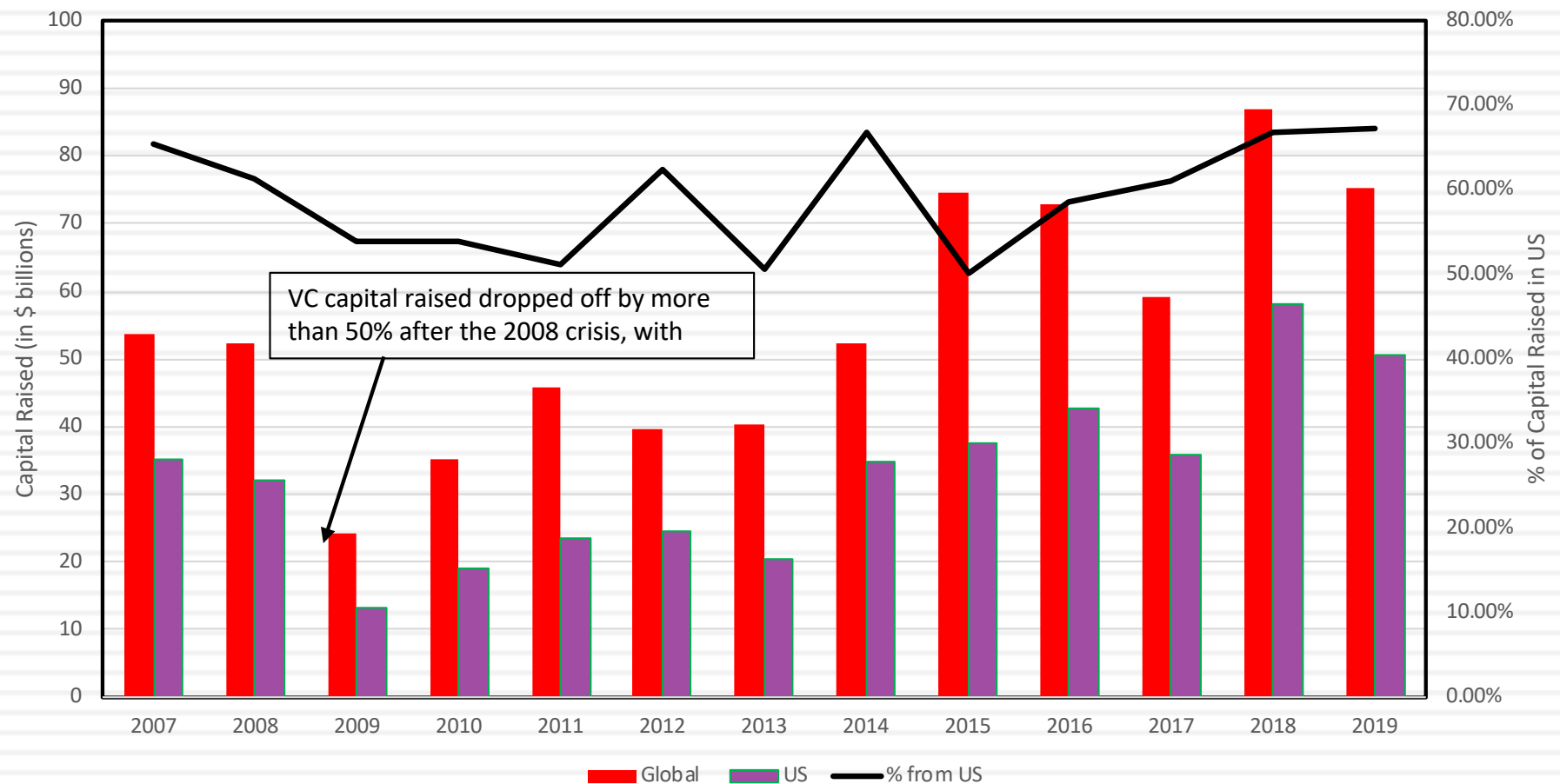
- Risk capital is capital that is invested in the riskiest assets and markets and it encompasses a wide range of investment activity.
 - For young companies, often private and in need of capital to be able to deliver on their potential, it takes the form of venture capital.
 - In public markets, it manifests itself in the money that flows into initial public offerings and to the riskiest companies, often smaller and more money losing.
 - It can also take the form of debt, especially to firms that are in or on the verge of distress and or in high yield bonds.
- In most market crises, risk capital is a casualty, as fear dominates greed, and investors look for safety.
 - Thus, you will see venture capital, always a boom and bust business, become scarce, and the young companies that are dependent on it have to either shut down or sell themselves to deep-pocketed and more established companies at bargain basement prices.
 - In public markets, initial public offerings become rare or non-existent and money flows out of the riskiest companies to safer companies (generally with stable earnings and large dividends).
 - In corporate bond market, new issuance of corporate bonds drops off, across the board, but much more so for the riskiest companies (those below investment grade). As I will argue in the rest of this section, that has not been the case in this crisis.

Private Equity Risk Capital

- Investing in young companies, especially start-ups and angel ventures, has always been a high-risk endeavors for two reasons.
 - First, these businesses have to be priced or valued with much less information on business models or history than more mature companies, and many are uncomfortable making that leap.
 - Second, the failure rate among these companies is high, since more than two thirds do not make the transition to being viable businesses.
- Venture capital's role is to nurture these young companies through these early dangers, and in return, the hope is that the investment will earn outside returns.
- This accentuated risk return trade off makes venture capital the canary in the coal mine, during a crisis, and you can see that play out in the following graph, tracking venture capital raised by year, both in the US and globally:

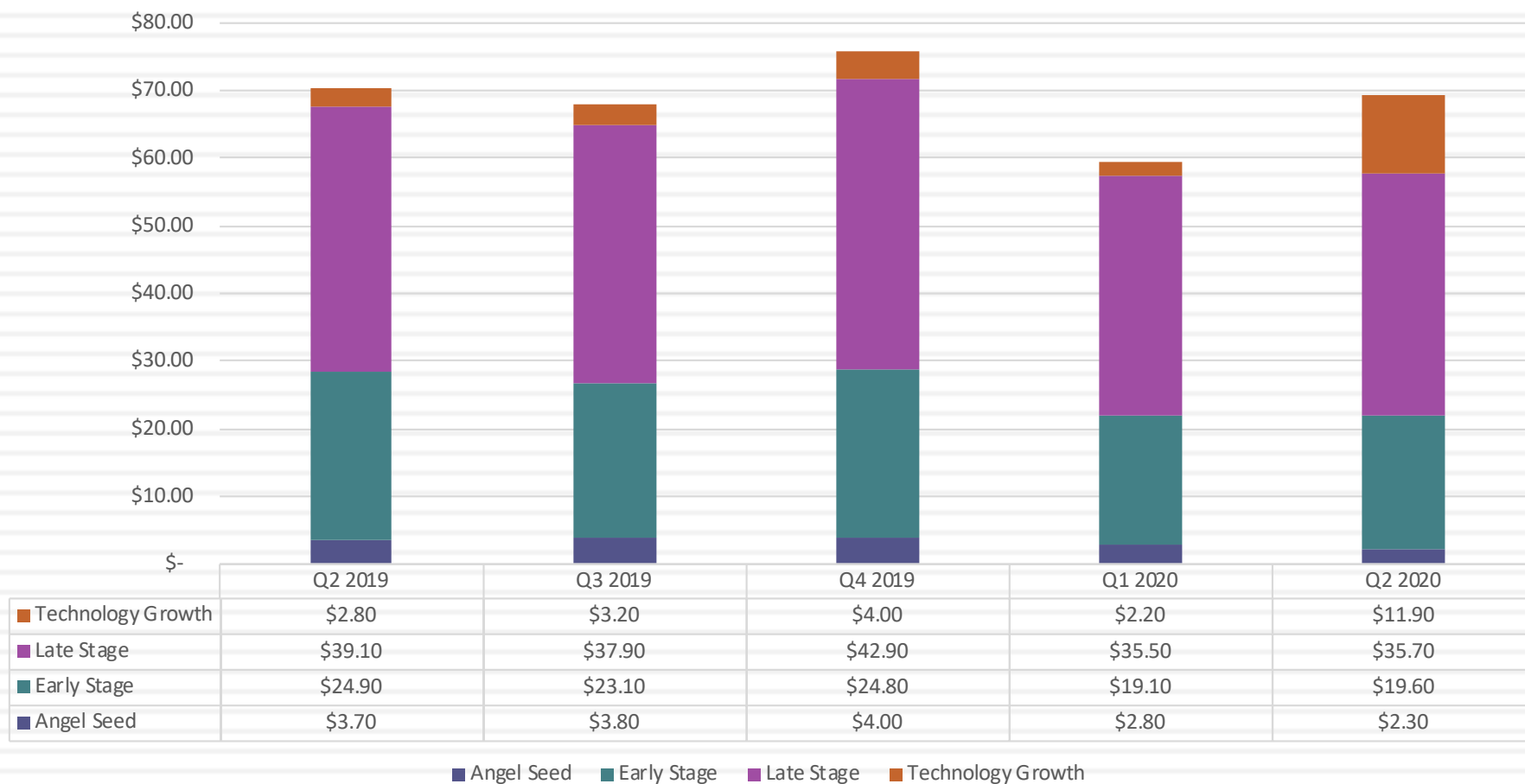
VC: The 2008 Crisis

Capital Raised by Venture Capital: US and Global: 2007-2019



VC: The COVID crisis

VC Investing: By Type



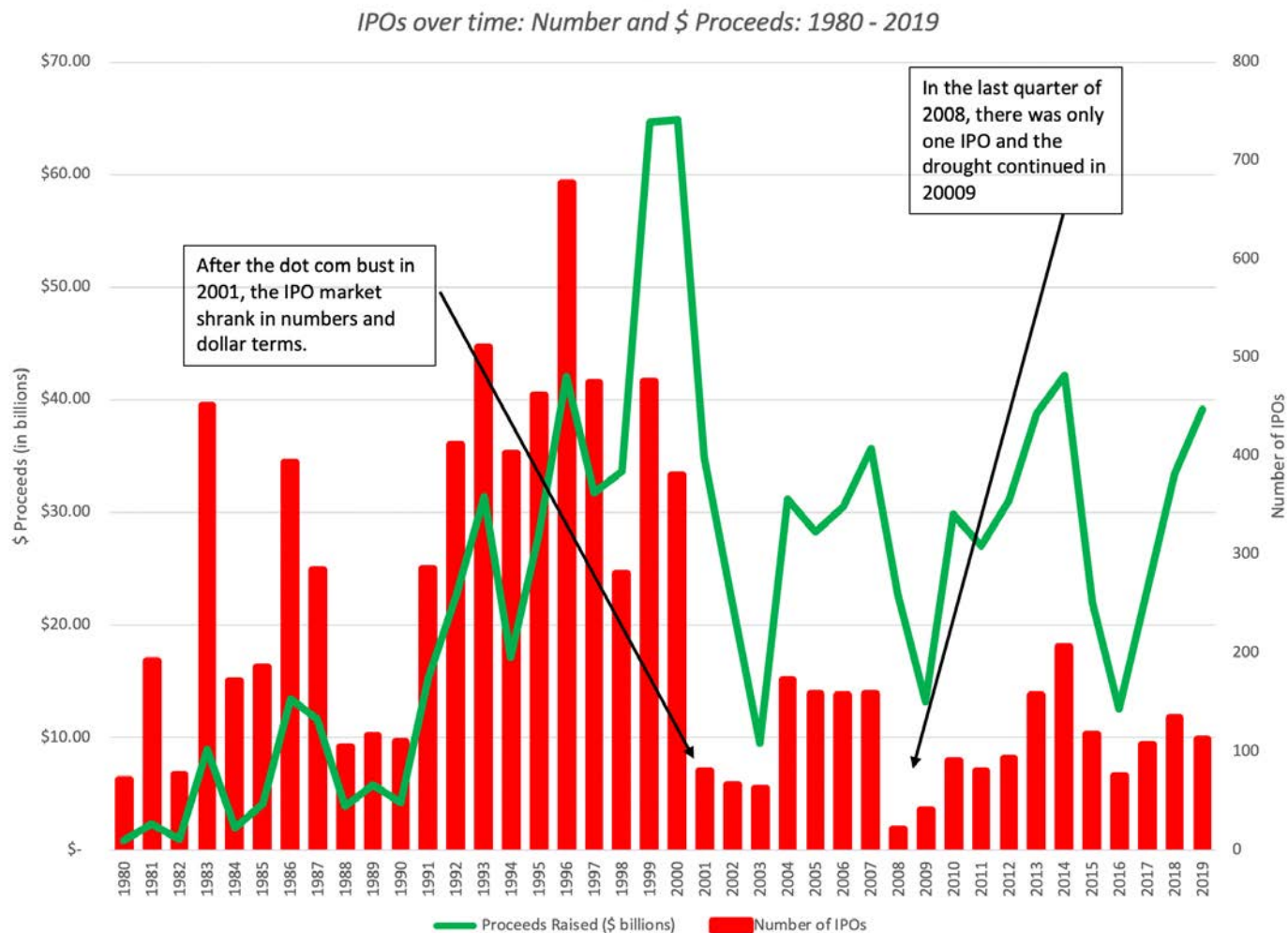
Public Markets: The Role of Risk Capital

- In public markets, risk capital plays out in more subtle ways than in public markets, flowing in and out of the riskiest segments of the market, as fears rise during a crisis.
 - In most crises, as I noted earlier, the money flow favors the safer companies, pushing up their pricing and valuation, and works against the riskiest companies.
 - At the same time, new companies are reluctant to list in public markets, leading to a drop off in IPOs.
 - The shrinking of risk capital also leads to increases in the price of risk in the equity market, with investors demanding higher equity risk premiums.

Public Market Value Flows: COVID Effects

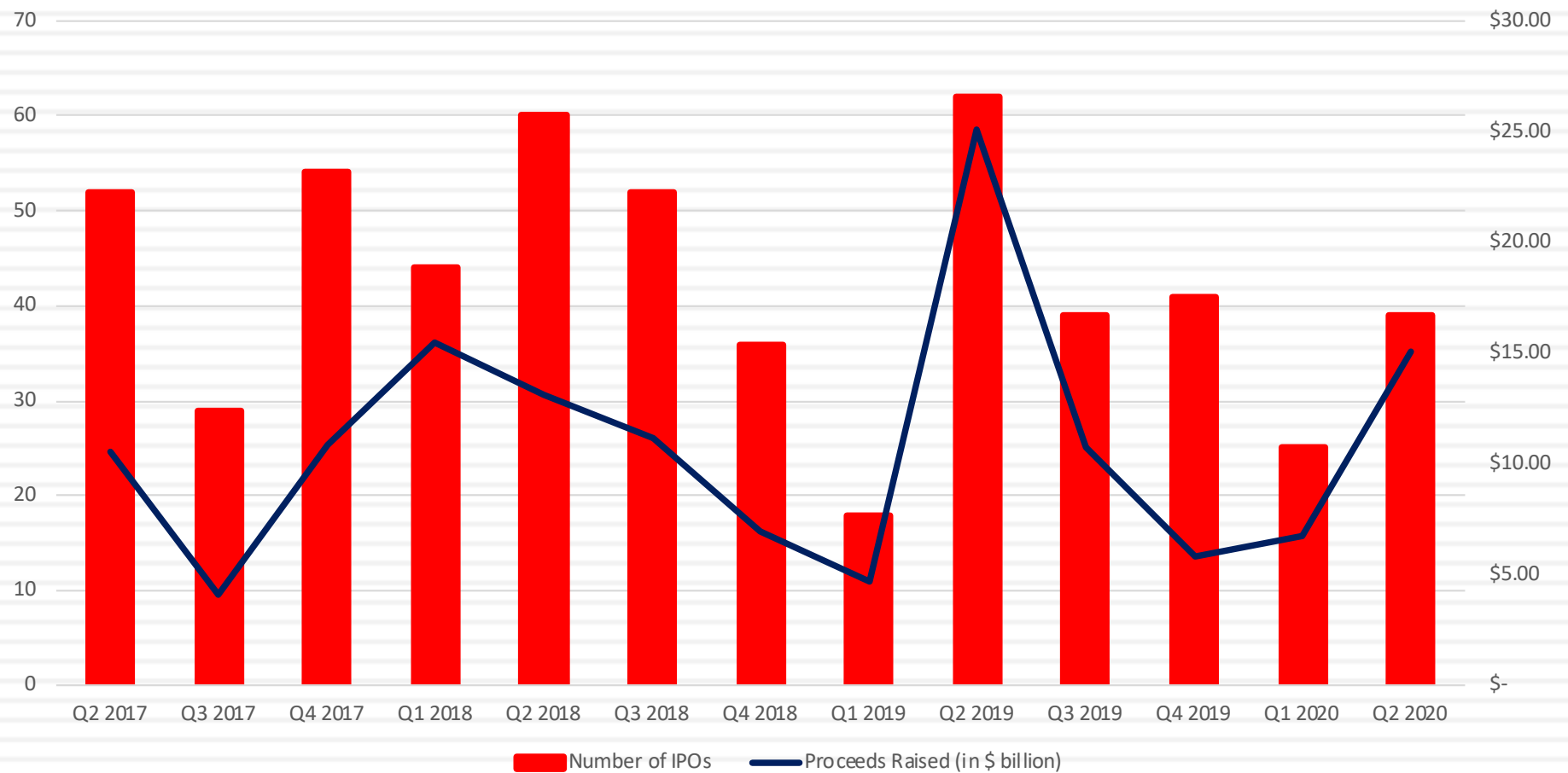
Grouping	Risk On	Returns (2/14/20 - 7/17/20)		Risk Off	Returns (2/14/20 - 7/17/20)	
		% Change	\$ Change (billions)		% Change	\$ Change (billions)
PE	High PE	10.81%	\$674.00	Low PE	-8.31%	-\$246.00
PBV	High PBV	7.98%	\$1,974.00	Low PBV	-17.85%	-\$340.00
Dividend Yield	No or low Dividend Yield	3.33%	\$1,182.00	High Dividend Yields	-16.06%	-\$1,421.00
Corporate Age	Young companies	6.59%	\$176.00	Old companies	-13.01%	-\$3,162.00
Growth	High growth	35.60%	\$1,046.00	Low growth	-22.49%	-\$1,819.00
Size	Small Market Cap	16.79%	\$54.00	Large Market Cap	-4.17%	-\$3,223.00
Debt	High debt	-15.49%	-\$1,082.00	Low debt	12.32%	\$300.00
Returns reported for firms in the highest and lowest deciles of each grouping, except for dividends, reported in quintiles.						

IPOs: The 2008 Crisis

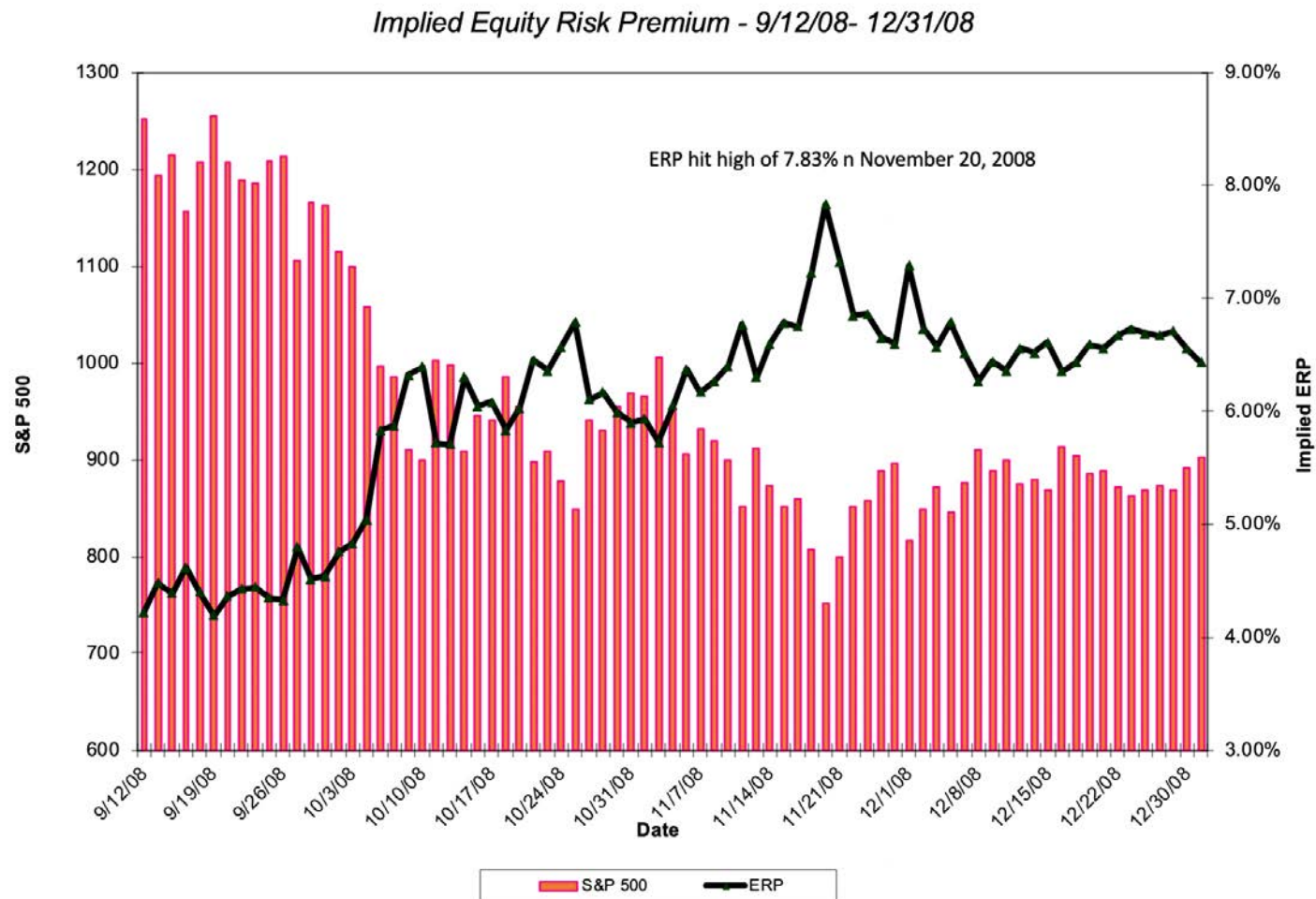


IPOs: The COVID effect

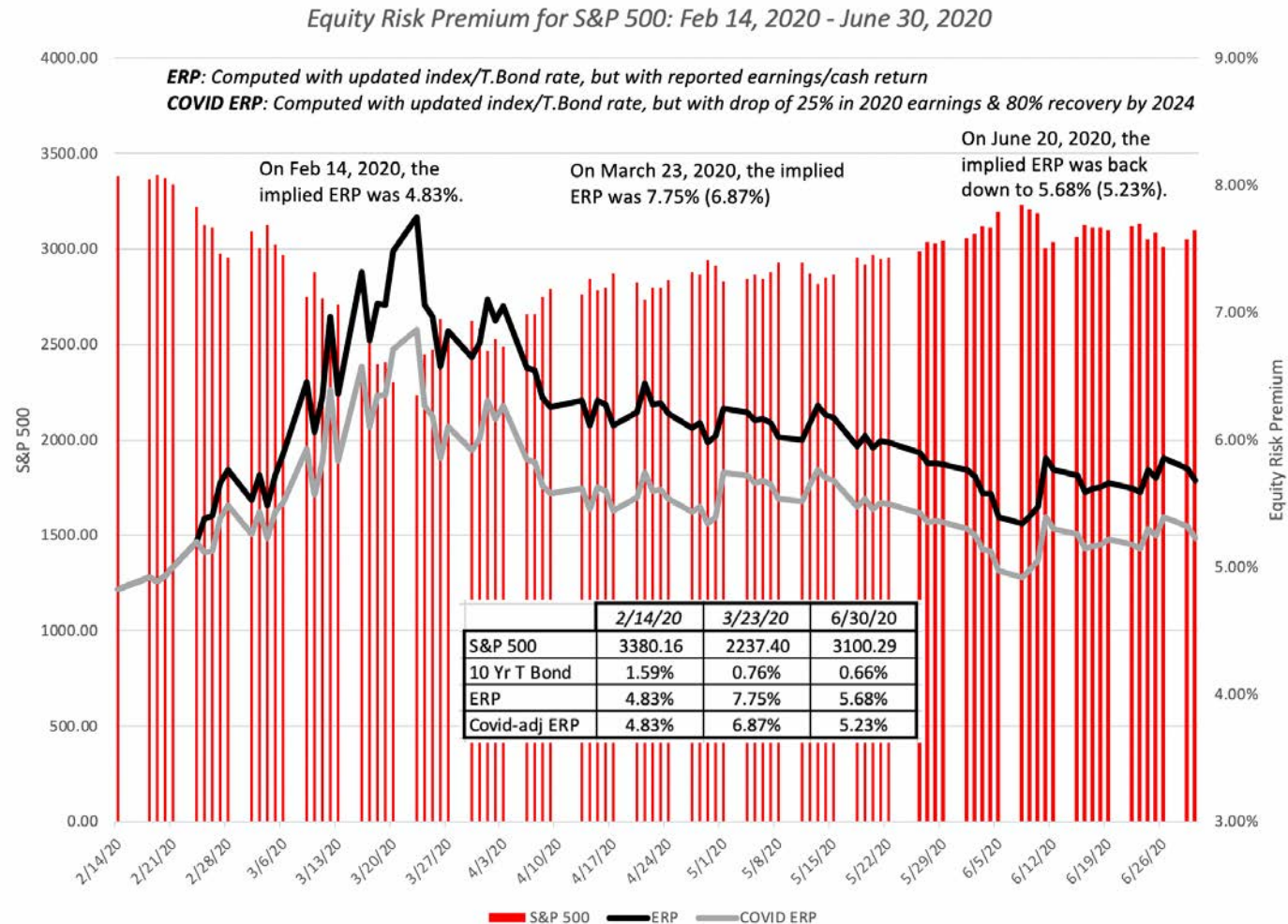
IPOs by Quarter: Including COVID quarters



ERP: The 2008 Crisis



ERP: The COVID effect



Andorra	7.08%	9.49%	8.03%	Italy	7.37%	10.04%	8.46%
Austria	5.59%	6.74%	5.81%	Jersey	5.89%	7.30%	6.12%
Belgium	5.80%	7.12%	6.12%	Liechtenstein	5.20%	6.01%	5.23%
Cyprus	8.16%	11.51%	9.64%	Luxembourg	5.20%	6.01%	5.23%
Denmark	5.20%	6.01%	5.23%	Malta	6.04%	7.56%	6.48%
Finland	5.59%	6.74%	5.81%	Netherlands	5.20%	6.01%	5.23%
France	5.69%	6.92%	5.96%	Norway	5.20%	6.01%	5.23%
Germany	5.20%	6.01%	5.23%	Portugal	7.37%	10.04%	8.46%
Greece	9.64%	14.25%	11.84%	Spain	6.77%	8.93%	7.58%
Guernsey	6.77%	8.93%	6.12%	Sweden	5.20%	6.01%	5.23%
Iceland	6.04%	7.56%	6.48%	Switzerland	5.20%	6.01%	5.23%
Ireland	6.04%	7.56%	6.48%	Turkey	9.64%	14.25%	11.84%
Isle of Man	5.69%	6.92%	5.96%	United Kingdom	5.69%	6.92%	5.96%

Canada	5.20%	6.01%	5.23%
United States	5.20%	6.01%	5.23%

Argentina	14.08%	27.97%	22.86%
Belize	11.62%	17.91%	16.25%
Bolivia	8.75%	14.25%	11.84%
Brazil	8.16%	11.51%	9.64%
Chile	5.89%	7.30%	6.26%
Colombia	7.08%	9.49%	8.03%
Costa Rica	9.64%	16.08%	13.32%
Ecuador	11.62%	24.30%	19.92%
El Salvador	11.62%	17.91%	14.79%
Guatemala	7.66%	10.58%	8.90%
Honduras	9.64%	14.25%	11.84%
Mexico	6.38%	8.21%	7.58%
Nicaragua	10.63%	17.91%	14.79%
Panama	6.77%	8.93%	7.58%
Paraguay	7.66%	10.58%	8.90%
Peru	6.38%	8.21%	6.99%
Suriname	10.63%	16.08%	14.79%
Uruguay	7.08%	9.49%	8.03%
Venezuela	22.89%	29.46%	27.14%

Country	1/20	4/20	7/20
Angola	11.62%	17.91%	14.79%
Benin	10.63%	16.08%	13.32%
Botswana	6.04%	7.56%	6.48%
Burkina Faso	10.63%	16.08%	13.32%
Cameroon	10.63%	16.08%	13.32%
Cape Verde	10.63%	16.08%	13.32%
Congo (DR)	12.59%	19.73%	16.25%
Congo (Rep)	14.08%	22.49%	18.46%
Côte d'Ivoire	8.75%	12.60%	10.52%
Egypt	10.63%	16.08%	13.32%
Ethiopia	9.64%	14.25%	13.32%
Gabon	12.59%	19.73%	16.25%
Ghana	11.62%	17.91%	14.79%
Kenya	10.63%	16.08%	13.32%
Mali	11.62%	17.91%	14.79%
Morocco	7.66%	10.58%	8.90%
Mozambique	14.08%	22.49%	18.46%
Namibia	8.16%	11.51%	9.64%
Niger	11.62%	17.91%	14.79%
Nigeria	10.63%	16.08%	13.32%
Rwanda	10.63%	16.08%	13.32%
Senegal	8.75%	12.60%	10.52%
South Africa	7.37%	10.58%	8.90%
Swaziland	10.63%	16.08%	13.32%
Tanzania	9.64%	14.25%	11.84%
Togo	11.62%	17.91%	14.79%
Tunisia	10.63%	16.08%	13.32%
Uganda	10.63%	16.08%	13.32%
Zambia	14.08%	27.97%	22.86%

Albania	9.64%	14.25%	11.84%
Armenia	8.75%	12.60%	10.52%
Azerbaijan	8.16%	11.51%	9.64%
Belarus	11.62%	17.91%	14.79%
Bosnia and Herzegovina	11.62%	17.91%	14.79%
Bulgaria	7.08%	9.49%	8.03%
Croatia	8.16%	11.51%	9.64%
Czech Republic	5.80%	7.12%	6.12%
Estonia	5.89%	7.30%	6.26%
Georgia	8.16%	11.51%	9.64%
Hungary	7.37%	10.04%	8.46%
Kazakhstan	7.37%	10.04%	8.46%
Kyrgyzstan	10.63%	16.08%	13.32%
Latvia	6.38%	8.21%	6.99%
Lithuania	6.38%	8.21%	6.99%
Macedonia	8.75%	12.60%	10.52%
Moldova	11.62%	17.91%	14.79%
Montenegro	9.64%	14.25%	11.84%
Poland	6.04%	7.56%	6.48%
Romania	7.37%	10.04%	8.46%
Russia	7.37%	10.04%	8.46%
Serbia	8.75%	12.60%	10.52%
Slovakia	6.04%	7.56%	6.48%
Slovenia	6.77%	8.93%	7.58%
Tajikistan	11.62%	17.91%	14.79%
Ukraine	12.59%	19.73%	14.79%
Uzbekistan	9.64%	14.25%	11.84%

Abu Dhabi	5.69%	6.92%	5.96%
Bahrain	10.63%	16.08%	13.32%
Iraq	12.59%	19.73%	16.25%
Israel	5.89%	7.30%	6.26%
Jordan	9.64%	14.25%	11.84%
Kuwait	5.69%	6.92%	5.96%
Lebanon	14.08%	27.97%	22.86%
Oman	7.66%	11.51%	10.52%
Qatar	5.80%	7.12%	6.12%
Ras Al Khaimah (Emirate of)	12.59%	19.73%	6.48%
Saudi Arabia	5.89%	7.30%	6.26%
Sharjah	6.38%	9.49%	8.03%
United Arab Emirates	5.69%	6.92%	5.96%

Region	Weighted Average: ERP
Africa	12.42%
Asia	6.78%
Australia & New Zealand	5.23%
Caribbean	13.37%
Central and South America	10.70%
Eastern Europe & Russia	8.42%
Middle East	7.70%
North America	5.23%
Western Europe	6.44%
Global	6.76%

Country	PRS	1-Jan	1-Apr	1-Jul
Algeria	55	11.62%	17.91%	22.86%
Brunei	80	5.59%	6.74%	6.48%
Gambia	63.5	11.62%	17.91%	14.79%
Guinea	54	15.06%	24.30%	22.86%
Guinea-Bissau	62	11.62%	17.91%	16.25%
Guyana	65	11.62%	17.91%	13.32%
Haiti	54.5	14.08%	22.49%	22.86%
Iran	58.5	11.62%	17.91%	18.46%
Korea, D.P.R.	50.3	17.03%	27.97%	22.86%
Liberia	53.5	21.71%	31.93%	22.86%
Libya	58.3	8.16%	11.51%	18.46%
Madagascar	63	10.63%	16.08%	14.79%
Malawi	57.8	11.62%	17.91%	18.46%
Myanmar	62.8	11.62%	17.91%	14.79%
Sierra Leone	59	15.06%	24.30%	18.46%
Somalia	50.5	17.03%	27.97%	22.86%
Sudan	36.3	21.71%	31.93%	27.14%
Syria	53.8	17.03%	27.97%	22.86%
Yemen, Republic	50	17.03%	27.97%	27.14%
Zimbabwe	51.3	17.03%	27.97%	22.86%

Bangladesh	8.75%	12.60%	10.52%
Cambodia	10.63%	16.08%	13.32%
China	5.89%	7.30%	6.26%
Fiji	8.75%	12.60%	10.52%
Hong Kong	5.69%	7.12%	6.12%
India	7.08%	9.49%	8.46%
Indonesia	7.08%	9.49%	8.03%
Japan	5.89%	7.30%	6.26%
Korea	5.69%	6.92%	5.96%
Laos	NA	8.21%	6.99%
Macao	5.80%	7.12%	6.12%
Malaysia	6.38%	8.21%	6.99%
Maldives	10.63%	16.08%	14.79%
Mauritius	6.77%	8.93%	7.58%
Mongolia	11.62%	17.91%	14.79%
Pakistan	11.62%	17.91%	14.79%
Papua New Guinea	10.63%	16.08%	13.32%
Philippines	7.08%	9.49%	8.03%
Singapore	5.20%	6.01%	5.23%
Solomon Islands	11.62%	17.91%	14.79%
Sri Lanka	10.63%	16.08%	13.32%
Taiwan	5.80%	7.12%	6.12%
Thailand	6.77%	8.93%	7.58%
Vietnam	8.75%	12.60%	10.52%

Australia	5.20%	6.01%	5.23%
Cook Islands	9.64%	14.25%	11.84%
New Zealand	5.20%	6.01%	5.23%

Blue: ERP on 7/1/20

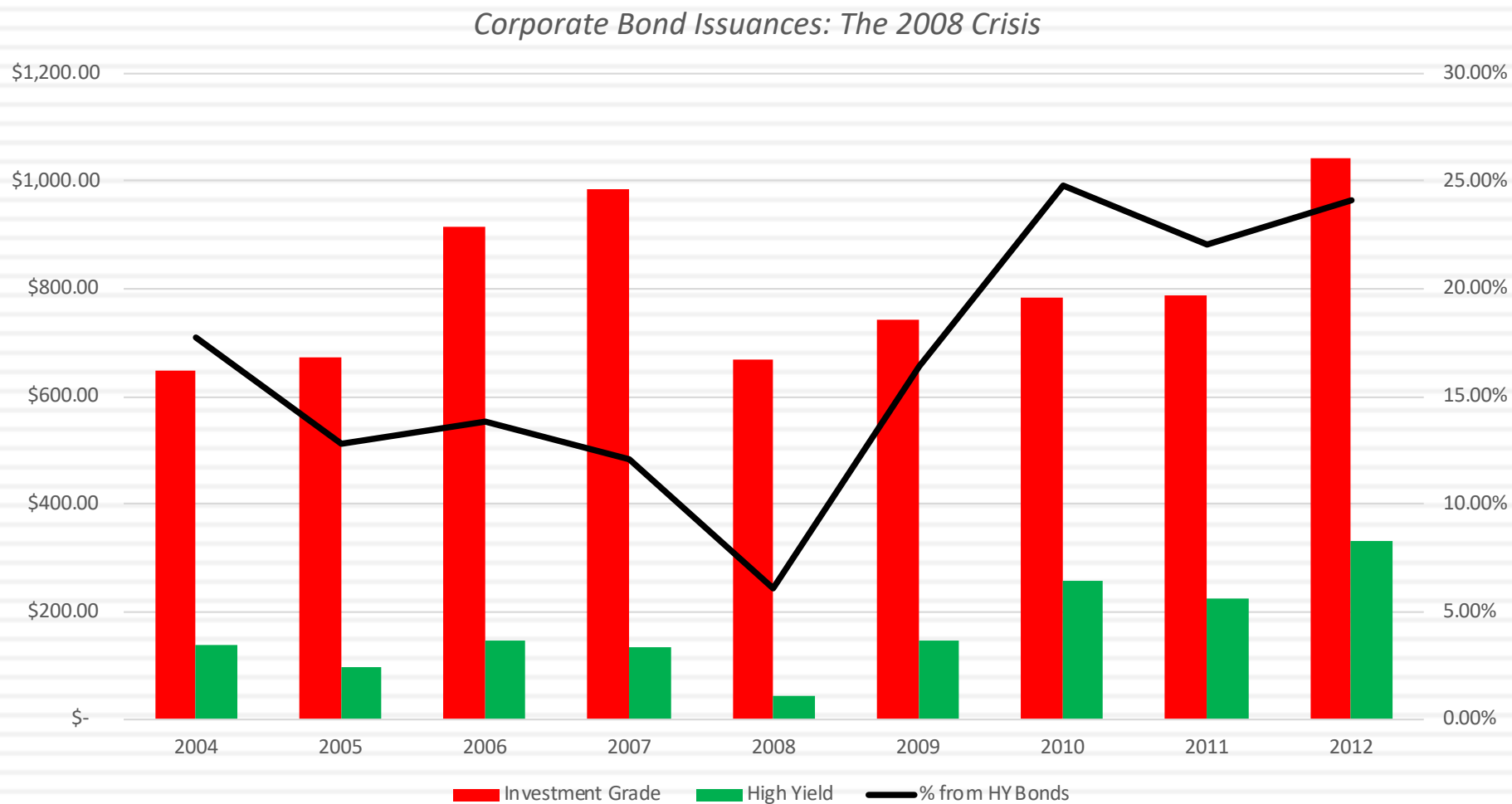
Red: ERP on 4/1/20

Green: ERP on 1/1/20

Risk Capital in Debt/Bond Markets

- Much of the discussion about risk capital so far has been focused on equity markets, but there is risk capital in other markets as well.
 - In the private lending market, risk capital is what supplies debt to the companies most in need of it, often distressed.
 - In the corporate bond market, it manifests itself as demand for the riskiest corporate bonds, usually below investment grade.
 - The absence of risk capital causes default spreads to rise in debt markets, and more so for the riskiest companies.

Corporate Bond Issuance: The 2008 Crisis

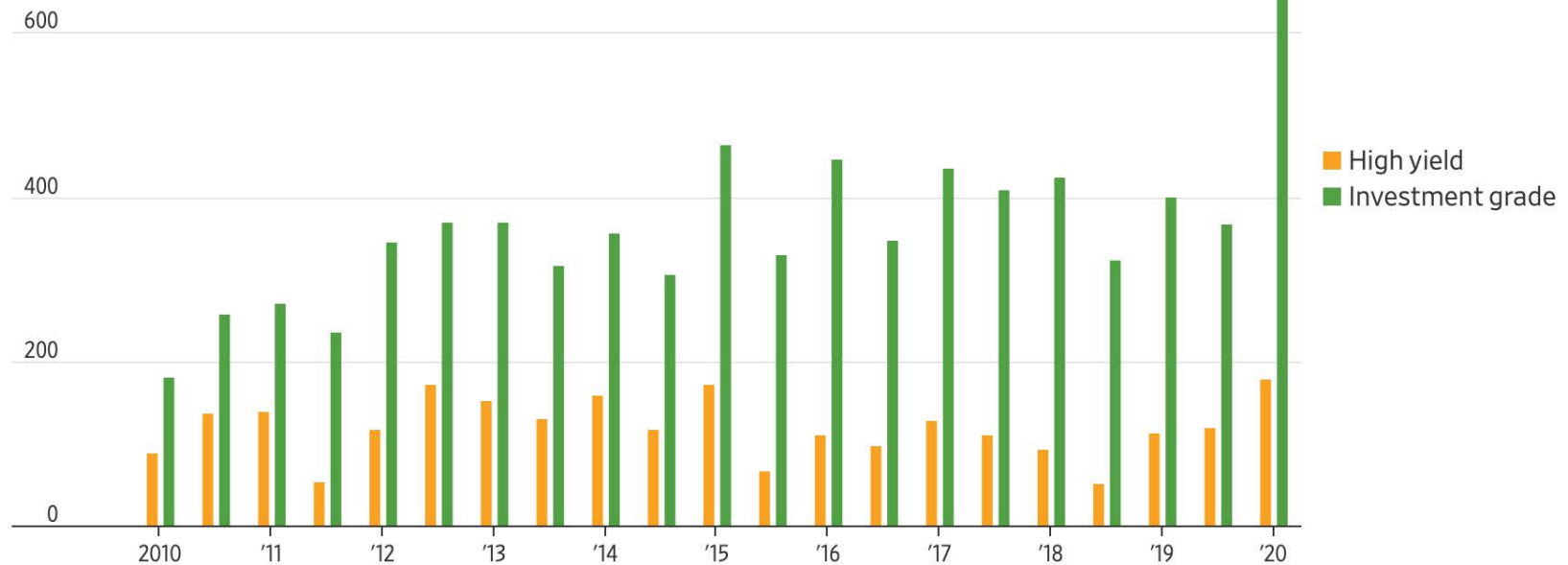


Corporate Bond Issuance: The COVID effect

Corporate bond issuance*

\$800 billion

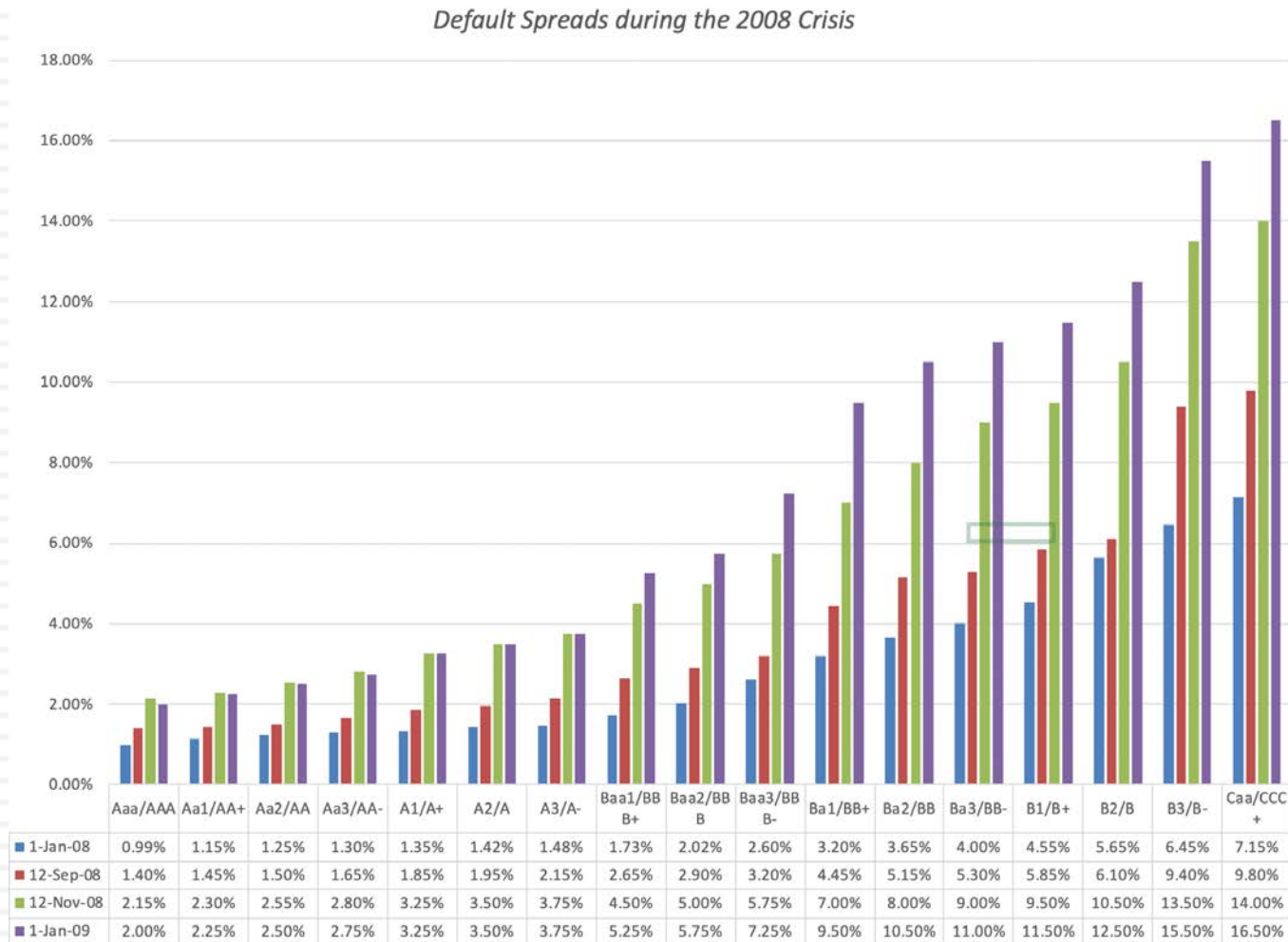
High yield bond issuances hit an all-time high in June 2020



*Deal value, half-year data

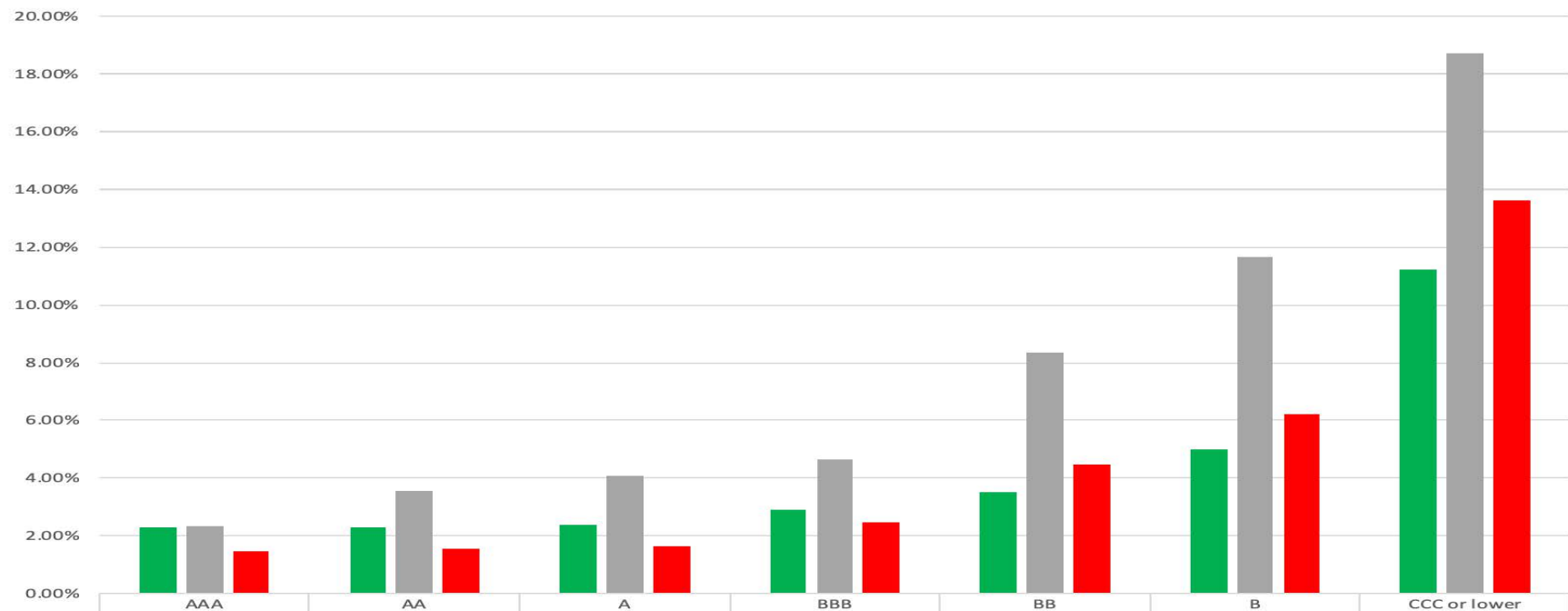
Source: Dealogic

The Price of Bond Market Risk: The 2008 Crisis



The Price of Bond Market Risk: The COVID effect

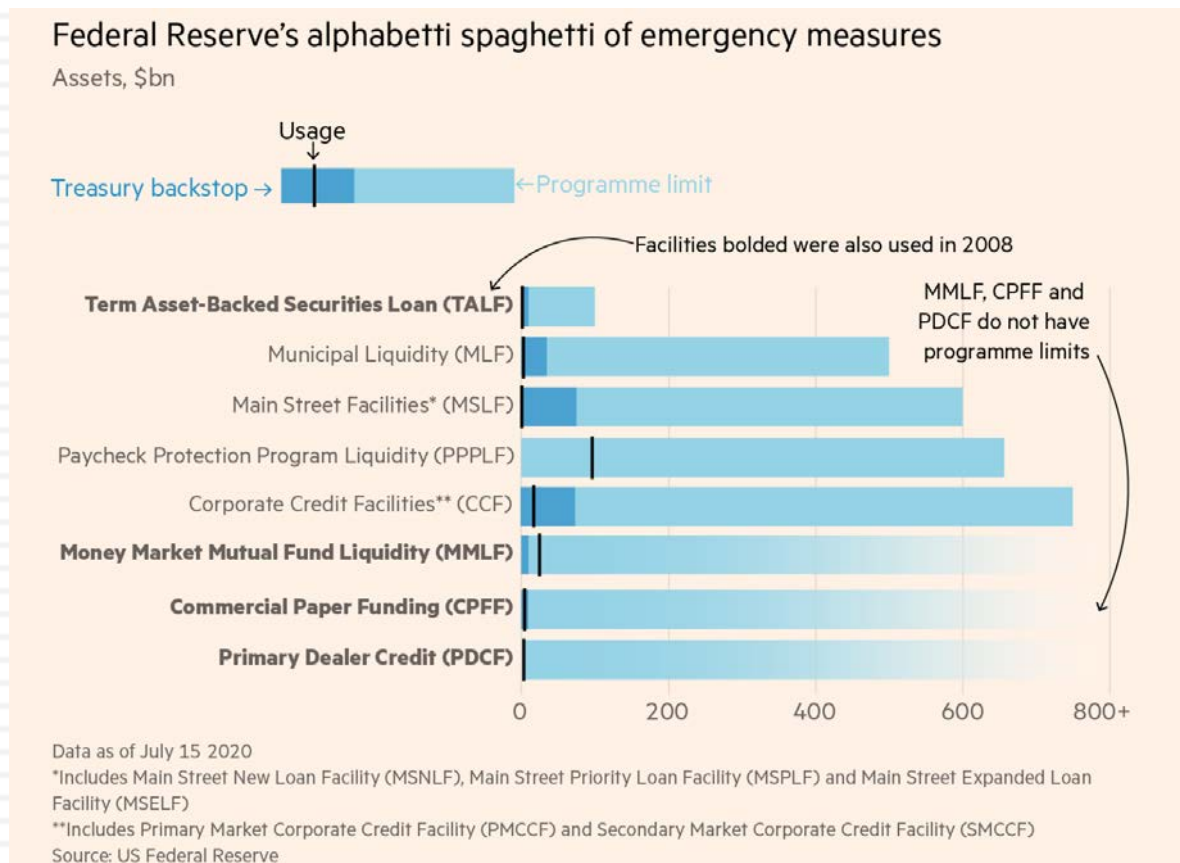
Corporate Bond Default Spreads: The COVID effect



S&P Bond Rating	Yields and Spreads on Corporates						Change in default spread		
	Spread over 10-yr Treasury			Yield on Corporate			2/14-3/20	3/20-7/17	2/14-7/17
	2/14/20	3/20/20	7/17/20	2/14/20	3/20/20	7/17/20			
AAA	0.69%	1.43%	0.83%	2.28%	2.35%	1.47%	0.74%	-0.60%	0.14%
AA	0.72%	2.64%	0.90%	2.31%	3.56%	1.54%	1.92%	-1.74%	0.18%
A	0.80%	3.15%	1.02%	2.39%	4.07%	1.66%	2.35%	-2.13%	0.22%
BBB	1.33%	3.73%	1.85%	2.92%	4.65%	2.49%	2.40%	-1.88%	0.52%
BB	1.93%	7.45%	3.82%	3.52%	8.37%	4.46%	5.52%	-3.63%	1.89%
B	3.40%	10.74%	5.56%	4.99%	11.66%	6.20%	7.34%	-5.18%	2.16%
CCC or lower	9.65%	17.81%	13.00%	11.24%	18.73%	13.64%	8.16%	-4.81%	3.35%

Explaining the Resilience: The Fed did it.. But did it?

- The turnaround in this market can be traced to the Fed's announcement on March 23, that it would provide a backstop to the corporate bond/lending market. While its targets were lofty, its actions have been modest:



Explaining the Resilience: Contributing Factors

- *Investor Composition:* First, investors are much more willing to invest across markets; money moves from equity to debt markets and across geographies much more easily than it used to. Second, the investment world has flattened, as retail investors catch up to institutional investors in terms of access to information, data and tools.
- *Unique Crisis:* Unlike prior crises, where market meltdowns came first and the economic damage followed, in this one, the economic shutdown, precipitated by the virus, came when markets were at all-time highs and risk capital was widely accessible.
- *Change in Corporate Structure:* The biggest companies of today's markets are less capital intensive and more flexible than the companies of yester-year. That flexibility, allowing them to take advantage of opportunities quickly and scale down quickly in the face of threats, limits downside and increases upside. There is more optionality in the biggest companies of today, making risk more an ally than an enemy for investors and with options, risk is more ally than enemy.