AN OCTOBER SURPRISE: MAKING SENSE OF MARKET MAYHEM!

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Reactions to a market sell off

- As stocks have gone through contortions, more down than up, like many of you, I have been looking at my portfolio, wondering whether this is the crash that the market bears have been warning me about since 2012, just a pause in a continuing bull market or perhaps a prognosticator of economic troubles to come
- I have been wrestling with what, if anything, I should be doing, as an investor, in response to the market movements.
- As in previous market crises, I find myself going back to a four-step process that gets me through with my sanity intact.

Step 1: Hit the pause button

- Take a breath: When faced with fast-moving markets, I have to force myself to consciously slow down. It helps that I don't work as a trader or a portfolio manager, since part of your job is to look like you are in control, even when you are not.
- Turn off the noise: I don't have a Bloomberg terminal on my desk, a ticker tape running on my computer or stock apps on my phone, and I am happy that I don't during periods like this month.

Step 2: Assess the damage

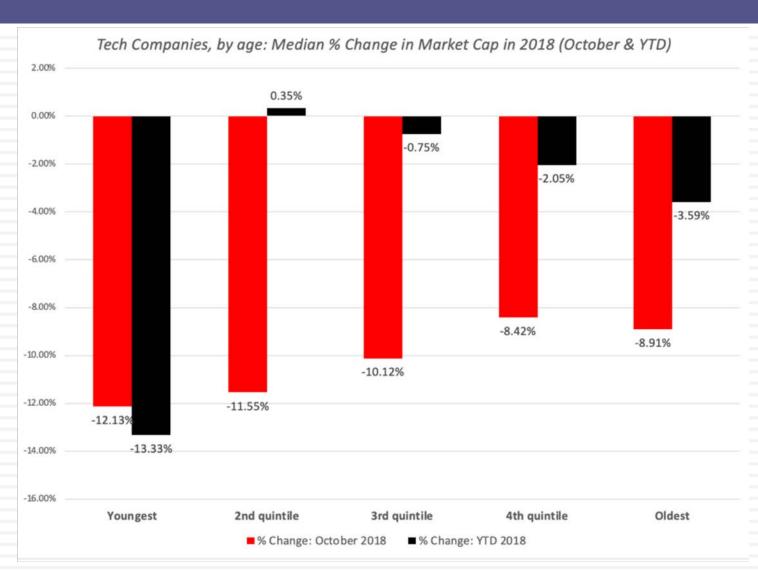
- During the last four weeks, I have seen at least a half a dozen hypotheses about the stock swoon, from it being the Fed's fault (as usual) to a long overdue tech company correction to it being a response to global crises (in Italy and Saudi Arabia).
- In keeping with the old adage of "trust, but verify", I decided to take a look at the data to see if there are answers in it to these questions.

A. The Fed's Fault?

End of Day	US 3-month T.Bill	US 2-yr T.Bond	US 10-yr T.Bond
1/1/08	3.29%	3.05%	4.04%
1/1/09	0.11%	0.76%	2.25%
1/1/13	0.05%	0.25%	1.78%
1/1/18	1.37%	1.89%	2.41%
9/28/18	2.18%	2.81%	3.06%
10/1/18	2.19%	2.82%	3.09%
10/2/18	2.19%	2.82%	3.05%
10/3/18	2.19%	2.85%	3.15%
10/4/18	2.18%	2.87%	3.19%
10/5/18	2.18%	2.88%	3.23%
10/8/18	2.19%	2.87%	3.22%
10/9/18	2.21%	2.88%	3.21%
10/10/18	2.23%	2.88%	3.22%
10/11/18	2.22%	2.85%	3.14%
10/12/18	2.23%	2.85%	3.15%
10/15/18	2.27%	2.85%	3.16%
10/16/18	2.26%	2.87%	3.16%
10/17/18	2.27%	2.89%	3.19%
10/18/18	2.27%	2.87%	3.17%
10/19/18	2.26%	2.92%	3.20%
10/22/18	2.30%	2.92%	3.20%
10/23/18	2.29%	2.89%	3.17%
10/24/18	2.29%	2.84%	3.10%
10/25/18	2.29%	2.86%	3.14%
10/26/18	2.33%	2.81%	3.08%

B. A tech meltdown?

					% Change: Oct	% Change: YTD	% Change: Last	% Change: Last 5
Primary Sector	Number	median(EV/EBITDA)	median(PE)	median(Age)	2018	2018	Year	years
Communication Services	400	10.37	14.10	20.00	-6.58%	1.51%	8.15%	85.54%
Consumer Discretionary	713	9.84	17.12	32.00	-9.22%	7.02%	16.34%	61.25%
Consumer Staples	345	12.30	20.55	25.00	1.30%	-3.61%	2.83%	29.66%
Energy	552	9.24	13.20	17.00	-11.37%	-1.14%	7.40%	-7.01%
Financials	1,170	12.01	15.84	44.00	-7.75%	-8.13%	-4.08%	45.75%
Health Care	1,207	15.73	30.34	18.00	-8.28%	7.48%	9.90%	72.03%
Industrials	875	10.68	17.83	35.00	-12.25%	-8.68%	-4.37%	34.45%
Information Technology	979	14.30	27.87	24.00	-8.76%	13.06%	17.36%	109.90%
Materials	420	8.39	15.09	23.00	-12.58%	-16.57%	-14.65%	40.33%
Real Estate	87	18.55	17.86	25.00	-6.48%	1.82%	17.93%	103.35%
Utilities	114	11.98	21.36	69.00	2.91%	7.01%	3.63%	55.82%
All firms	6,862	11.14	17.53	25.00	-8.01%	1.37%	6.29%	55.50%



Or those FANG stocks...

	\$ Change in Market Cap	\$ Change in Market Cap	% Change in Market Cap	% Change in Market Cap
Company	(Oct 2018)	(YTD 2018)	(October 2018)	(YTD 2018)
Apple	-\$36,031	\$200,736	-3.28%	23.32%
Amazon	-\$106,128	\$307,946	-10.86%	54.65%
Alphabet	-\$70,879	\$35,785	-8.48%	4.91%
Facebook, Inc.	-\$33,174	-\$76,933	-7.07%	-15.00%
Netflix, Inc.	-\$29,659	\$53,371	-17.86%	64.25%
FANG	-\$239,839	\$320,169	-9.79%	16.95%
FANG + Apple	-\$275,871	\$520,905	-7.78%	18.94%
All US Stocks	-\$2,470,732	\$385,264	-8.01%	1.38%

3. A Correction for over valued stocks...

					0/ Chanas	0/ Chanas	0/ Chanas	0/ Chanas
					% Change:	% Change:	% Change:	% Change:
PE Quintile	Number	EV/EBITDA: Median	PE: Median	median(Age)	Oct 2018	YTD 2018	Last Year	Last 5 years
Lowest PE	557	6.75	6.92	37.00	-8.76%	-13.82%	-8.39%	30.10%
2nd quintile	558	8.51	13.06	51.00	-6.86%	-5.41%	-0.01%	42.41%
3rd quintile	557	10.71	17.53	54.00	-7.99%	0.71%	5.79%	44.86%
4th quintile	558	13.03	26.03	48.00	-6.92%	-0.28%	4.17%	66.52%
Highest PE	558	18.37	58.33	34.00	-8.35%	10.99%	14.36%	90.82%
Negative Earnings	4,090	13.75		18.00	-9.58%	12.48%	19.27%	45.35%

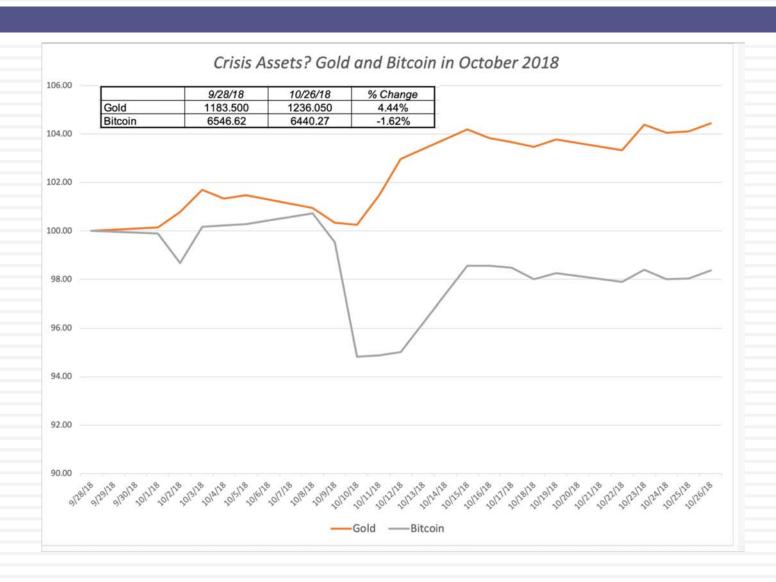
4. US Problem?

		Aggregate		% Change:	% Change:	% Change:	% Change:
Region	Number	EV/EBITDA	Aggregate PE	Oct 2018	YTD 2018	Last Year	Last 5 years
Africa and Middle East	2,132	11.67	14.82	-3.81%	-4.42%	3.12%	7.68%
Australia & NZ	1,697	13.69	18.65	-9.99%	-12.99%	-7.57%	-9.56%
Canada	2,659	8.23	19.54	-9.72%	-7.98%	-3.44%	10.93%
China	5,887	11.52	13.11	-10.09%	-20.60%	-19.32%	65.06%
EU & Environs	5,084	10.33	15.12	-9.63%	-12.04%	-10.49%	10.46%
Eastern Europe & Russia	549	4.58	6.55	-5.32%	0.05%	1.98%	-13.17%
India	3,538	14.01	31.90	-8.11%	-23.18%	-17.29%	72.35%
Japan	3,750	6.78	12.44	-10.09%	-10.71%	-5.91%	27.40%
Latin America & Caribbean	1,000	10.91	14.11	2.00%	-3.84%	-3.34%	-3.75%
Small Asia	8,594	8.91	12.76	-11.72%	-15.44%	-10.47%	12.49%
UK	1,201	7.47	14.09	-9.52%	-12.37%	-8.85%	-9.76%
United States	6,878	16.00	22.38	-8.01%	1.38%	6.30%	55.50%
Global	42,969	11.61	16.46	-8.73%	-8.65%	-5.10%	31.64%

5. Panic Attack?

30-Sep-18	26-Oct-18	% Change
0.8614	0.8775	1.87%
0.9836	1.0014	1.81%
0.7665	0.7809	1.88%
113.74	111.99	-1.54%
4.05	3.71	-8.40%
72.53	73.41	1.21%
6.87	6.94	1.02%
18.77	19.35	3.09%
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Crisis Assets?



Step 3: Look at the fundamentals

Base year Cash flow

Collective dividends and buybacks in most recent 12 months on S&P 500

Expected cashflow growth in next 5 years

Expected growth in aggregate earnings & cash flows from stocks in the index

Expected Cash Flows (E(CF)) in aggregate on the index

Intrinsic Value of the S&P 500

Value =
$$\frac{E(CF_1)}{(1+r)} + \frac{E(CF_2)}{(1+r)^2} + \frac{E(CF_3)}{(1+r)^3} + \frac{E(CF_4)}{(1+r)^4} + \frac{E(CF_5)}{(1+r)^5} + \frac{E(CF_6)}{(r-.0245)(1+r)^5}$$

Required return for investing in stocks (r)

Equity Risk Premium

Market-set number, reflecting the collective fears & risk aversion of all Investors.

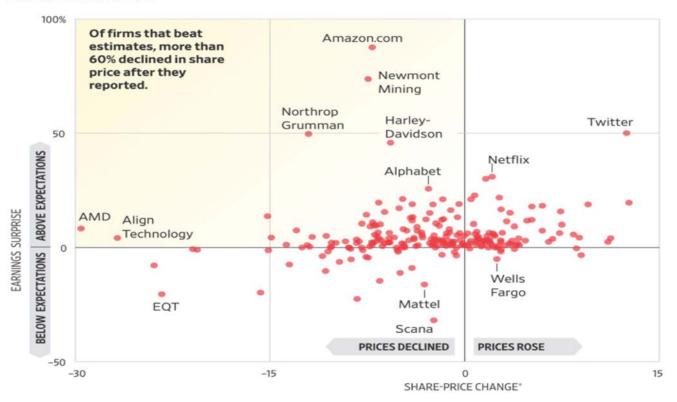
Earnings & cash flows grow at the same level as the economy forever

Risk free Rate urrent 10-year, US treasury bon

Current 10-year, US treasury bond rate

Is it earnings?

For many S&P 500 companies, better-than-expected earnings haven't been enough to insulate their shares from the market selloff.



^{*}Four-day performance for the two sessions before each earnings release through two sessions after. Three-day changes shown for companies that reported Oct. 25. Display excludes National Oilwell Varco, which broke even on a per-share basis but missed EPS estimates of 12 cents.

Source: FactSet

Is it growth?

- At the start of the year, the expectation that earnings growth would be strong for this year, helped both the tax law changes of last year and a strong economy.
- That growth has been delivered, but it is possible that investors are now doubtful about the sustainability of that earnings growth. That has not shown up yet in forecasted growth for next year, but it bears watching.

The Price of Equity Risk

End of Day	US 10-yr T.Bond	S&P 500	Implied ERP
9/28/18	3.06%	2913.98	5.38%
10/1/18	3.09%	2924.59	5.36%
10/2/18	3.05%	2923.43	5.36%
10/3/18	3.15%	2925.51	5.35%
10/4/18	3.19%	2901.61	5.39%
10/5/18	3.23%	2885.57	5.41%
10/8/18	3.22%	2884.43	5.42%
10/9/18	3.21%	2880.34	5.43%
10/10/18	3.22%	2785.68	5.61%
10/11/18	3.14%	2728.37	5.73%
10/12/18	3.15%	2767.13	5.65%
10/15/18	3.16%	2750.79	5.68%
10/16/18	3.16%	2809.92	5.57%
10/17/18	3.19%	2809.21	5.56%
10/18/18	3.17%	2768.78	5.65%
10/19/18	3.20%	2767.78	5.64%
10/22/18	3.20%	2755.88	5.67%
10/23/18	3.17%	2740.69	5.70%
10/24/18	3.10%	2656.10	5.89%
10/25/18	3.14%	2705.57	5.78%
10/26/18	3.08%	2658.69	5.89%%

A Value Bottom Line

- You could attribute the higher equity risk premiums to global crises (in Italy and Saudi Arabia) but that would be a reach since the increase in risk premiums predates both crises.
- In fact, halving the expected growth rate from 2019 on from the current estimate of 7.29% to 4.71% (the compounded average annual earnings growth rate over the last 10 years) reduces the equity risk premium to 5.28%, but even that number is a healthy one, relative to historic norms.
- The bottom line is that, at least by my calculations, I am estimating an equity risk premium that seems fair, given macro and micro fundamentals and my risk preferences.

Step 4: Investment Action

- One of the biggest perils of being reactive in a crisis is that it can knock you off your investment game and cause you to abandon your core philosophy.
- I don't believe that there is one investment philosophy that is right for every one, but I do believe that there is one that is right for you, and shifting away from it is a recipe for bad results

My philosophy: Value investing with a twist

- Under valued stocks can be found across sectors and the life cycle: I believe that we should try to assess fair value, not a conservative estimate of value, and that the value should include expected value added from future growth.
- Intrinsic value can change over time: I believe that intrinsic value is a dynamic number that changes over time, not only because new information may come out about a company. but also because the price of equity risk can change over time.

My investment actions

- No big asset allocation changes: The bottom line is that I am not changing my asset allocation in significant ways, moving money in or out of stocks, since I don't see a fundamental reason to do so.
- Revisit existing holdings: I have already starting revaluing my existing holdings, to see if they still meet my buy criteria.
- My short sales pay off: Finally, I did sell short on Amazon and Apple at the start of the month, and while I would like to claim prescience, it was pure luck on timing, and the market downdraft during the month has helped me.
- Check the carnage I plan to take a closer look at the stocks that have been pummeled the most during the month, including 3M and Caterpillar, to see if they are cheap at October 26 prices, and using an October 26 ERP in my valuation.