A LOOK AHEAD

How will the next decade change markets?

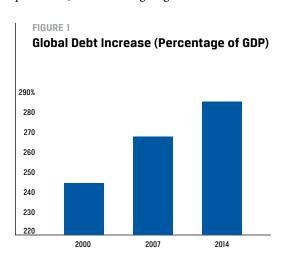


Back in 2006, CFA Institute Magazine asked me to consider some of the trends most likely to shape the next decade. There was no shortage of candidates, but the handful that stood out as both likely and consequential involved globalization (China in particular seemed headed for big things), financial engineering in the form of algorithmic trading, securitization and derivatives, and, alas, imminent financial crisis. [See "Orders of Magnitude: Hyperchange at Hyperspeed—Project Yourself Into 2015" in the January/February 2006 issue.]

Much of what that article predicted has indeed come true. China is now a world power, with India and several other developing nations close behind it. The housing/consumer spending bubble burst spectacularly in 2008. And black-box trading has had an exponential rise in processing power to ubiquity within hedge funds and investment banks. But the spread of securitization and derivatives to new and exotic niches hit the brick wall of the Great Recession. Both sectors still thrive—though in only slightly broader forms than in 2006.

As the saying goes, it's tough to make predictions, especially about the future. But it's manifestly worth the effort because catching big trends is how fortunes are made and catastrophic losses are avoided.

With those goals in mind, it's time for another look ahead. I'll go out on a limb and say that the coming decade will see even more dramatic change than the previous one, with several trends (and trend reversals) likely to hit the investing world like earthquakes. A decade ago, much of what seemed to be coming was engineered by and/or very favorable for the financial services industry; this time around, several Next Big Things emerging from Silicon Valley are aiming at the heart of Wall Street. So, the story is both more exciting and-for money managers and bankers-far more challenging. Hold on to your portfolios, because it's going to be a wild ride.



Source: Based on data from McKinsev & Company. "Debt and (Not Much) Deleveraging" (February 2015).

THE DEBT BINGE ENDS

The world changed in 1971, when US President Richard Nixon broke the final link between national currencies and gold. Or it changed in 1980, when President Ronald Reagan proved that massive deficits were acceptable to voters if earmarked for important goals. Whichever starting point we choose, the decades since have seen a radical shift in the developed world's attitudes about (perhaps even embrace of) debt.

Even the near-death experience of 2008-2009 did not derail this trend. According to a study by McKinsey & Company ["Debt and (Not Much) Deleveraging," February 2015], the world took on another \$57 trillion of new debt between 2007 and 2014, raising the global debt-to-GDP ratio by 17 percentage points to an unprecedented 286%.

And that's just officially reported debt. An even bigger increase has occurred in "unfunded pension liabilities" and entitlement programs. According to various studies, the gap between what these plans should have accumulated to cover future obligations and what they actually have on hand is more than \$50 trillion for both the US and European Union, and some sources have estimated the number to be much higher. [For example, the report "The US Debt in Perspective," published 16 July 2015 by the Mercatus Center at George Mason University, analyzes differences between official estimates of

FIGURE 2 Change in Global Stock of Debt Outstanding, 2000-2014 (\$ trillions at constant 2013 exchange rates)

	\$57 trillion increase			,	Compound annual growth rate, %	
					2000-07	2007-14
			199	Total	7.3	5.3
		1.00	40	Household	8.5	2.8
		142 33	56	Corporate	5.7	5.9
	19	38	58	Government	5.8	9.3
	26 22 20	33 37	45	Financial	9.4	2.9
	Q4 2000	Q4 2007	Q2 2014			
	246%	269%	286%	Total debt as a share of GDP		

Note: Q4 2007 data do not sum to 100 because of rounding. Q2 2014 data for advanced economies and China; Q4 2013 data for other developing countries.

Source: Based on data from McKinsey & Company, "Debt and (Not Much) Deleveraging" (February 2015).

US unfunded liabilities and "alternative debt estimates."] These obligations to retired voters are every bit as compelling as, say, bond interest owed to a frenemy trading partner. And both the size and trajectory of these obligations "make them completely unsustainable," says John Mauldin, chairman of Phoenix financial consultancy Mauldin Economics.

But why, one might reasonably ask, is that so? If debt has been rising since 1980 and the global economy is still chugging along, why does it have to stop in the coming decade? There are two main reasons: (1) debt leverage has stopped working and (2) instability is increasing.

Borrowing no longer generates growth. Back in the 1960s, each new unit of debt produced an almost equal amount of new wealth. But in recent years, this marginal productivity of debt has fallen perilously close to zero, meaning that leverage no longer translates to rising GDP. This explains why, in a world of low and sometimes negative interest rates and high government deficits, growth remains far below target for virtually every major developed economy. "There is a point at which too much debt sucks the life out of an economy, and we're getting there," says Mauldin.

Instability is increasing. The world has been purchasing growth on margin for decades, says Mauldin, and the result has been a series of booms and busts of increasing amplitude. The previous decade's crisis was the worst since the Great Depression, and the next crisis, given the subsequent increase in leverage, will be even bigger, he predicts.

This combination of less bang for each new borrowed buck and greater volatility induced by soaring leverage has placed a brick wall in the middle of the road. Hitting this wall, says Mauldin, will produce "a series of defaults" in such niches as energy-related junk bonds and emerging market sovereign debt. But he's especially concerned by the woefully underfunded pension plans of numerous US states. "I fully expect that Illinois [which was paying lottery winners with IOUs as this article was being written] will declare bankruptcy, defaulting on some of its bonds," he says. "The next equity bear market could push them over the cliff."

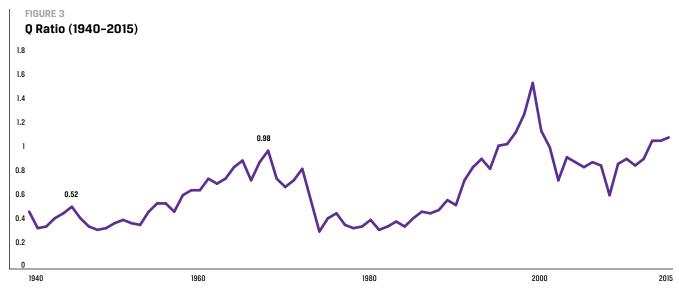
And so, one way or another, the debt binge will end. "Defaults will be intelligently initiated, or they'll be crisis induced, with less thought and more pain," says Mauldin. "Either way, they're coming."

INVESTMENT RETURNS PLUNGE

For virtually every major asset class, the half decade following the global financial crisis was a remarkably pleasant time, with prices rising almost without interruption. Equities around the world broke records, bond prices achieved unimaginable heights (which is to say, interest rates plumbed historic lows), and real estate exceeded 2007 bubble highs in such prestige markets as London, Hong Kong, and San Francisco.

But, as with debt, there are practical restraints on financial asset valuations. By virtually every historical measure, including P/E ratios, equity market capitalizations to GDP, dividend yields, and bond yields to maturity, the prices of developed-world financial assets were, by mid-2015, near their limits.

Consider the Q ratio, which relates stock market capitalization to corporate net worth and has been a reliable predictor of future equity returns. Its level in early 2015 was exceeded only once in modern times, during the 1999



Source: Based on data from US Federal Reserve, "Z.1 Flow of Funds" report.

technology stock blow-off. From each previous peak, the following decade saw extremely low investment returns. Based on this and several other measures, "present valuations are consistent with the expectation of *zero* return from equities over the coming 10-year period," concludes John Hussman, manager of the Cincinnati-based Hussman Funds, in a recent report to shareholders.

Bonds, meanwhile, have a different, much simpler kind of math problem: "Rates are lower," says Mauldin. "Ten years ago, you had rates in the 6%, 7%, 8% range. Now, on a five-year bond, you're getting 2% in the US and less than zero in several other countries. In the future, [bond investors] are by definition going to get less money."

ROBOTS BECOME (REALLY GOOD) MONEY MANAGERS

In 2015, a milestone of sorts was achieved when a joint survey by the *Journal of Financial Planning*, the Financial Planning Association (FPA), and FPA Research found that exchange-traded funds (ETFs) had become the top choice of financial advisers. In other words, passive funds designed to match market indexes or sectors at a very low cost are taking over.

"I think people will continue [to] seek passive strategies because of their low cost, transparency, and intraday trading," predicts Valerie Chaillé, director of practice management for the FPA. This is also apparently true for pension funds, as evinced by the California Public Employees' Retirement System's September 2014 announcement that, over the next few years, it will shift most of its equity portfolio to passive management.

Enter the robo-adviser. As for deciding which ETFs to own, that is also being automated via roboadvisers, online platforms that assimilate information on client age, goals, and risk tolerance and construct diversified, situation-appropriate ETF portfolios. The platforms then automatically rebalance portfolios and harvest losses and gains to optimize tax management, all for negligible fees. For instance, robo-adviser Wealthfront, based in Palo Alto, California, charges nothing on the first \$10,000 invested (with an account minimum of \$500) and an annual fee of just 0.25% on anything above that. And, unlike many brokers and financial planners, robo-advisers are fiduciaries, with a legal obligation to put clients' interests first.

Now the big players in fund management have begun offering such services in-house. Vanguard, Fidelity Investments, and Charles Schwab will manage a cumulative \$60 billion in this way by year-end 2015 (amounting to a 270% change from year-end 2014), according to Boston consultancy Aite Group.

And the robots will only get smarter. For example, "Wealthfront is replicating ETFs by buying the underlying stocks and trading them to achieve tax management optimization," says Alois Pirker, research director for Aite Group's wealth management practice. From there, it's a very small step to robo-stock picker. Charles Schwab already uses objective criteria to mechanically rank stocks for its clients. The results, according to published company data, are pretty good (see Figure 4). A robo-adviser with this or similar data can, in theory, build and maintain market-beating equity portfolios for a tiny fraction of what actively managed funds charge.

As a result of these trends, a growing part of the mutual fund/financial planning/stock brokerage world will go passive or otherwise be automated in the coming decade. "Most at

FIGURE 4
Average Annual Performance of Schwab Equity Ratings (2001–2015)

25%

20
15
10
5
0
A
B
C
D
F
Average of all Stocks

Note: 2015 data are through 10 August. Stocks are ranked from best (A) to worst (F). Source: Based on data from Charles Schwab & Company.

Growth of Crowdfunding Volume, 2012–2015
(\$ billions)

60

40

30

20

10

0

2012

2013

2014

2015 Est.

2016 Est.

Note: Estimated data beyond August 2015.

Source: Based on data from Crowdfunder and "2015CF Crowdfunding Industry Report," Massolution (April 2015): www.crowdsourcing.org.

risk are generic, long-only mutual funds and the 'Hey, I've got a hot stock tip' traditional brokers," says Chaillé.

What survives and thrives will be highend, high-touch consulting. "Putting portfolios together on a custom basis won't go away," says Pirker. "In fact, the high end of the market will likely grow as automation expands the pool of customers who want complex services and hand-holding."

CROWDFUNDERS BECOME INVESTMENT BANKS

Think of crowdfunding (the online solicitation of investment capital) as the finance world's version of Uber or Airbnb. In that sense, a platform like Kickstarter bypasses and potentially disrupts commercial banks in the same way that Uber affects the taxi business.

From a handful of sites attracting less than \$1 million in 2010, peer-to-peer financing is now projected by crowdfunding consultancy Massolution to exceed the venture capital industry's annual \$30 billion in funding in 2015. One year later, it is expected to surpass the combined \$54 billion total of venture capital and angel investing, says Chance Barnett, CEO of equity crowdfunding platform Crowdfunder, based in Playa del Rey, California.

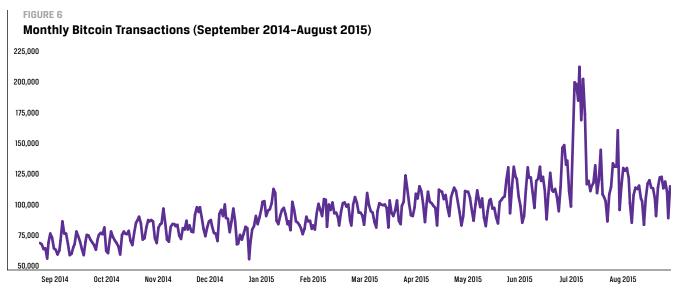
Next up, micro-IPOs. Peer-to-peer lending has fueled crowdfunding's initial growth and should continue to expand at high double-digit rates in the coming decade. But the more interesting story going forward is crowdfunded equity, which was born in 2012 with the passage in the US of Title II of the JOBS Act. Among other things, Title II standardized the regulation of

this kind of equity financing, although it still limited participation to accredited investors (defined as officers and directors of issuers and other institutions who meet certain criteria, people whose net worth exceeds \$1 million, or people whose income exceeds \$200,000 a year for an individual or \$300,000 a year for a married couple). Industry sources expect \$2.5 billion to be raised in this way in 2015 (mostly for real estate projects).

Then the real fun will begin. Other soon-to-be implemented parts of the JOBS Act will open the market to smaller investors and create exchanges on which early-stage equity securities can trade. Although small stakes in start-ups might be too illiquid to trade like traditional stocks, "it might be possible to bundle many stakes into securities that operate like ETFs. Instead of trading individual equity stakes directly, you would own a broad portfolio," says Barnett. He predicts that such a development will expand the market exponentially.

Another Wall Street product line. Unlike the threat posed by robo-investing to money managers, crowdfunding, while a potentially serious problem for commercial banks, is actually complementary to venture capitalists (VCs) and investment banks, says Barnett. "For an entrepreneur, a broad base of retail investors can do one thing for you, and great venture capital can do another. They can and do coexist in the same financing round. Many of the deals we facilitate also have angels or VCs." Some VCs are even using crowdfunding themselves: "We've raised capital for several VC funds," he says.

This combination of dramatic growth and complementarity will eventually make



Source: Based on data from www.bitcoin.info.

crowdfunding an attractive new business line for Wall Street banks, predicts Barnett. "There's a reason why investment banks don't do fundraising for startups. They're focused on leveraging institutional relationships to do big deals. Scalable technology platforms and hordes of unaccredited investors are too far outside their institutional comfort zone." Yet as a kind of farm system that attracts future investment banking clients, crowdfunding might have appeal. Barnett sees a handful of crowdfunding platforms gaining significant market share and then becoming logical acquisition candidates for Wall Street firms. "They're either my latestage investors or acquirers," he says.

SILICON VALLEY REDEFINES MONEY

The idea of free-market, digital money that can be stored online and spent with a mouse click—thus bypassing the cumbersome infrastructure of banks and government rules—has been around since the birth of the internet itself. But for a variety of regulatory and technological reasons, the promise went unfulfilled until 2009, when a shadowy person or group going by the name of Satoshi Nakamoto invented Bitcoin, the first demonstrably viable cryptocurrency.

Bitcoins are created and monitored by blockchain technology that both limits the currency's supply and provides a publicly visible ledger of all transactions. The result is a nearly frictionless value-transfer mechanism with no bank or credit card fees, no interminable wait for checks to clear, no hassle with currency conversions, and no value erosion because of central bank inflation policies.

The concept was an instant hit with techies, who could appreciate the blockchain's elegance. But over the past year, Bitcoin has gone decidedly mainstream. The average number of daily Bitcoin transactions has risen steadily, with the occasional spike in reaction to crises involving national currencies. [See Figure 6 for what happened in July when Greece temporarily closed its banks, causing many residents to open Bitcoin accounts.]

Several big players have taken notice. Citibank is working on its own cryptocurrency, dubbed "citicoin." IBM is experimenting with blockchain technology for cross-border currency transactions. And UK banking giant Barclays has partnered with online Bitcoin exchange Safello to facilitate charitable contributions.

A high-tech gold standard? Blazing a somewhat different trail to a digital currency future, several startups—including GoldMoney and Euro Pacific Bank, headquartered in Toronto and Saint

Vincent, respectively—have combined the oldest and newest forms of money by launching goldbased electronic payment systems that allow users to deposit gold in secure vaults and then spend it via a debit card or online transaction.

"Anything you can do with PayPal, you'll be able to do with [GoldMoney's currency] BitGold," says GoldMoney CEO Roy Sebag. "You'll be able to open an account, fund it with any source—credit/debit card, cash, check—and you'll own allocated and insured gold. Then you'll be able to use that gold in real-world transactions." (BitGold acquired GoldMoney in May 2015.)

The advantage of such a system? For one thing, it's cheaper and faster for foreign exchange transactions. "A settlement system using one thing in the middle that's very inexpensive to store allows large amounts of value to be transferred for virtually no cost," says Sebag. Another selling point is that idle balances, rather than sitting in depreciating local currencies, are in gold, which over long periods of time has held its value better than any nation's paper money.

Meanwhile, Big Tech loves digital currencies. Microsoft, Facebook, and a long list of other big-name tech companies now accept Bitcoins. According to Trace Mayer, Bitcoin venture capitalist and manager of the Bitcoin Knowledge podcast series, by mid-2015, more than 100 Bitcoin startups (most headquartered in either Silicon Valley or China) had received more than \$900 million of early venture funding. One of them, San Francisco–based multi-digital-currency payment platform Bitreserve, reported transactions exceeding \$210 million from 161 countries in its first 10 months of operation.

Silicon Valley's embrace of financial automation in general and digital money in particular means that governments and conventional banks will face serious opposition should they try to stifle this emerging competition, says Mayer. "Google and Apple have market caps of \$400 billion to \$600 billion. All the big banks combined aren't worth that much."

Mayer's conclusion: The financial services industry faces the kind of digital tsunami that has disrupted other established industries. "Look at what happened to our newspapers. Most of them are gone," he says. "Now Silicon Valley is eyeing the banks, and they're not just going to disrupt financial services; they're going to obliterate many of its entrenched interests."

John Rubino, a former financial analyst, manages DollarCollapse.com and is a freelance writer and author of several books on investment topics.