Credit Cycles and Minsky Moments

Why We Can't Stop Markets from Crashing

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A central assumption in academic finance is that markets are, in some sense, efficient: they incorporate information reflecting the value of different assets, and do so quite quickly.[1] And yet any long-term log chart of an asset will show jumps and crashes, which certainly look nonrandom. Did the net present value of profits really drop by 22.6% in a single day in 1987? Did half of corporate America's value-creating ability really disappear between late 2007 and early 2009?

Obviously something else is going on. The economist Hyman Minsky had an idea of what. Minsky was a broad thinker, but one of his most enduring insights was a model of how economic fundamentals and the financial industry interact. In a way, his argument actually bolsters the efficient market theory, because he does invent a framework in which economic fundamentals can rapidly deteriorate, such that companies really do lose half of their value in a short period.

What Minsky describes is a cycle where each epoch is defined by the role of credit. The stages in the cycle go something like this:

1. After a downturn (or when an economy first starts industrializing), there are plenty of cheap assets and growth opportunities—cash is the only missing ingredient. The hardy investors surviving the downturn are the ones who are able to take advantage of this, and they earn high returns from doing so.
2. Over time, the best opportunities get taken, and the marginal lending opportunity worsens. Meanwhile, economic growth leads to a decline in fundamental riskiness of lending. And that means that interest rates go down. (Or, at least, that the spread between the rate you'd earn on a risky investment compared to a government bond of similar terms declines.) And how do investors respond? Some of them decide to accept lower returns, but others take on more risk to maintain the returns to which they're accustomed. They start making loans where the borrower won't be able to repay the entire principal once it comes due, though it's reasonable to expect them to refinance by then.
3. Eventually, the economy enters a dangerous stage: loans are being made that cannot be expected to be paid back in full and or on time. In this stage every marginal dollar lent destroys wealth by allocating more money to bad projects than before. But this doesn't collapse right away. Instead, *the continued flow of credit actually allows borrowers to service their debts*.[2] As the worst ponzi borrowers can't even pay the interest on their debts without further borrowing.
4. Something happens to disturb the equilibrium. Maybe the pace of credit creation slows a bit, and the worst borrowers are suddenly unable to pay their bills. Maybe some extraneous shock to the market causes lenders to stop rolling over some loans—an event that often gets labeled a "Minsky Moment." Perhaps all this credit creation leads to inflation, and central banks respond by raising rates to drain liquidity from the system. Regardless, something goes wrong, and suddenly most of the assets financed in stage three are non-viable. But this leads to a self-fulfilling cycle of credit destruction, since the financing of those assets created demand in the first place, so even borrowers who were creditworthy in a normal economic environment are struggling to pay their loans back in a recession. Prices fall and the economy slows in a self-fulfilling cycle. And this continues until some combination of government intervention and investor risk tolerance kicks in and the cycle begins anew.

The critical point in the Minsky model is that there's some moment where the fundamentals superficially make sense specifically because the underlying bubble has reached a self-fulfilling state. A prudent mortgage underwriter might look at a family's financial background and see that they make good money, with steadily increasing wages, and conclude that they're creditworthy—but if that dual-earning couple consists of a construction worker married to a realtor, their creditworthiness is really predicated on the next borrower getting a loan, too.

This happened in the dot-com bubble, and in the more recent SaaS boom. In the dot-com era, companies bought ads at bigger online destinations in order to market themselves, which made those bigger destinations more profitable. (In 1999, Yahoo's incremental net profit margin was 21%, and this was a time when many things that can be scaled cheaply today could only be scaled expensively. The ads business treated them very well! If they hadn't been trading at 1,600x earnings, investors might have done well too.) In a more recent cycle, one driver of SaaS revenue was that other SaaS companies were customers: if DocuSign sales reps all use Zoom to sell their product, and Zoom's big deals are closed with DocuSign signatures, then each company's growth reinforces the other company's.

And Minsky's model can be applied more broadly than that. There are other cases where rising certainty leads to behaviors that create higher uncertainty around tail risks. A complex supply chain might be a good deal if every country it touches is stable and transportation between them won't be disrupted. But the more elaborate this supply chain is, the more likely it is that an invasion here, an earthquake there, or a pandemic everywhere will throw things into chaos.

In fact, you can apply his model even more broadly. For example, there are many people who are naturally skeptical of credit, since credit exists to let people spend money they don't have. But "credit" is not just a promise of a certain sum of money at a certain date; it's any kind of promise that other people count on. Imagine a Minsky Moment in a completely unrelated domain: let's say you're trying to throw a party and an afterparty. You tell guests that it's going to be wild, and that they won't believe who's going to show up. This entices some of them to show up. But the party ends up lamer than expected, everyone leaves early, and the afterparty doesn't happen at all. It's a Minsky Moment of socializing; you created credit (false hope) in order to invest in an asset (a potentially fantastic party) for which there wasn't enough underlying demand, then you pyramided that credit up further, and now you're alone.

The intrinsic uncertainty of economic and financial feedback loops means that you can never be sure when these different phases hit. A sufficiently sophisticated analysis of the flow of funds and demand through the economy might, in some cases, be able to identify the feedback loops and work, but good luck modeling how swift the mean reversion will be, and how far below-trend things will end up getting.[3]

Instead, the real value from Minsky is in the recognition that fundamentals and prices are inseparable. Entire civilizations go through a Minsky-esque credit cycle, where high trust enables projects that would otherwise be impossible, but ultimately creates too many rewards for defecting from social norms for personal gain. Trust gets built slowly and painfully, but gets destroyed quickly—and that part's painful, too.

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1. Different academics believe in different flavors of efficient markets, from the weakest form that prices are approximately right based on publicly available data, to the strongest form which argues that even with insider information it would be impossible to outperform. On the one hand, obviously some people do outperform. On the other hand, most people don't, so "reasonably efficient markets" is a good working assumption for someone who just wants to compound their money at a decent pace without doing anything too fancy. Also, it makes the rest of finance a lot more tractable; often, EMH is introduced because "markets may not be efficient" makes it impossible to do anything theoretically interesting anywhere else. And it turns out that even if some asset class is inefficiently priced, models that assume efficiency do have predictive value in understanding derivatives of those markets. So really, the right attitude towards the efficient market hypothesis is that markets are generally efficient enough.

2. Those people who bought houses at the peak of the housing bubble? Some of them worked in real estate, or real estate-adjacent industries; as long as the next round of houses got built and financed, they could still make the payment on their mortgage. And as long as the supply of mortgage dollars rose faster than the supply of housing, they could also refinance, extract some cash, and continue spending as normal.

3. And, of course, once the financial system is what's driving the on-paper performance of the economy, there's nothing holding those conditions back from lasting a long, long time; Japan's system was clearly unsustainable in the mid-1980s, but the market more than tripled thanks to companies' financial engineering and real estate speculation profits before collapsing into a long deflation.

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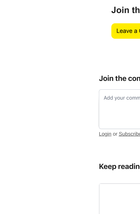

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