World asset prices have recently crashed more violently than at any time since the Great Depression. How could so many economists have failed to see this coming? Is economic equilibrium theory missing something?

The answer is leverage, a crucial variable which traditional models have too long ignored. Traditionally the interest rate has been regarded as the most important variable in the economy. Whenever the economy slows, and asset prices fall, the press clamors for lower interest rates, and the Fed often obliges. The Fed just obliged yet again, lowering the federal funds rate nearly to zero. But sometimes, especially in times of crisis, collateral (or what economists call leverage) is far more important.

In standard economic theory, the equilibrium of supply and demand determines the interest rate on loans. But 400 years ago Shakespeare got it right. In real life, just as depicted in the Merchant of Venice, when somebody takes out a loan, he must negotiate two things: the interest rate, and the collateral. A proper theory of economic equilibrium should explain both. Standard economic theory has not really come to grips with this problem for the simple reason that it seems intractable: how can one supply-equals-demand equation for a loan determine two variables, the interest rate and the leverage? There is not enough space to explain the resolution of this puzzle here, but suffice it to say that the common sense conclusion that supply and demand also determines leverage is true.

In standard economic theory every asset is priced at its fundamental value. But in reality, for many assets there is a class of natural buyers for whom the asset is more valuable than it is for the rest of the public. The natural buyers may know better how to hedge their exposure to the assets, or they may be more risk tolerant, or they may simply like the assets more. If they can get their hands on more money through more leveraged borrowing, they will spend it on the assets and drive those asset prices up. If they lose wealth, or lose the ability to borrow, they will be able to buy less of the asset, and the asset will fall into more pessimistic hands and be valued less.

Leverage dramatically increased from 1999 to 2006, and then dramatically fell in 2007-8. A bank that in 2006 wanted to buy a AAA rated mortgage security could borrow 98.4% of the purchase price, using the security as collateral, and pay only 1.6% in cash. The leverage on AAA assets was thus 100/1.6 or about 60/1. The average leverage in 2006 across all of the $2.5 trillion of so-called toxic mortgage securities was about 16/1. This means that risk tolerant investors only needed to put up about $150 billion in cash to buy all those assets, because they were able to borrow the other $2.35 trillion.

Similarly, in 2006 a home purchaser could put 5% down and borrow the other 95% through a mortgage, leveraging himself 20/1.

Today leverage has been drastically curtailed because nervous lenders want more collateral for every dollar loaned. The so-called toxic mortgage securities are now leveraged on average about 2/1, meaning that to buy $2.5 trillion of those securities the risk tolerant investors would need to come up with $1.25 trillion of cash, instead of $150
billion. Similarly home buyers can now only leverage themselves 4/1, meaning that they must now put 25% down. No wonder mortgage security prices and home prices rose so high and have fallen so fast.

Yet instead of worrying about leverage, the Fed is still obsessed with picking the right interest rate. The Fed should manage system wide leverage, curtailing leverage in ebullient times, and propping up leverage in anxious times, and especially in a crisis. In the absence of Fed intervention, leverage will become too high in boom times, and too low in bad times. As a result, in boom times asset prices are too high, and in crisis times they are too low. This is the leverage cycle.

The leverage cycle is a recurring phenomenon. The derivatives crisis in 1994 that bankrupted Orange County was the tail end of a leverage cycle. So was the Emerging Markets-mortgage crisis of 1998 that bankrupted Long Term Capital. We are now in the throes of an even more violent crisis. Why? Because leverage this time got even higher than before.

The leverage cycle cannot be stopped by blaming or shaming greedy Wall Street investors or over-ambitious homeowners, or by exhortations not to panic. The cycle emerges even if -- in fact precisely because -- every agent is acting rationally. It is analogous to the Prisoner’s Dilemma, where individual rationality leads to collective disaster. The government must intervene.

But don’t free markets always choose optimally? No. Serious economic theorists know that in fact precisely the opposite is true -- free markets choose optimally only under extreme assumptions, the most important of which is that all possible insurance contracts are traded. Yet every hedge fund manager would say that the most important kind of insurance policy is not available, namely one that would pay him lots of money in case economy wide leverage/collateral got too tight.

Shakespeare knew that to take out a loan two things had to be negotiated, and he knew which of the two was more important. It is no accident that no one can remember the interest rate Shylock charged Antonio, but everybody remembers the pound of flesh that Shylock and Antonio agreed on as collateral. The upshot of the play, moreover, is that the regulatory authority (the court) intervenes and decrees a new collateral level very different from what Shylock and Antonio wanted: a pound of flesh, but not a drop of blood. The Fed should follow this lead and decree different collateral levels in order to manage the leverage cycle.