What's That You're Calling a Bubble?

by Justin Fox | 2:00 PM January 8, 2014

The bubble has become an inescapable element of modern economic discourse. Every day somebody is proclaiming a new one (http://www.nytimes.com/2014/01/06/opinion/the-bubble-is-back.html) , arguing that there isn't one (http://buzz.money.cnn.com/2014/01/07/bubble/) , proposing ways to prevent one (http://www.washingtonpost.com/opinions/lawrence-summers-strategies-for-sustainable-growth/2014/01/05/9143313c-74b9-11e3-8b3f-b1666705ca3b_story.html) , or complaining about how hard they are to prevent (http://blogs.hbr.org/2014/01/what-alan-greenspan-has-learned-since-2008/) .

What wielders of the term seldom do, though, is say exactly what they mean by it. And the definitions that do get offered can vary pretty dramatically. In November, for example, David Kestenbaum of NPR's Planet Money asked two just-anointed economics Nobelists, (http://www.npr.org/blogs/money/2013/11/15/245251539/whats-a-bubble) the University of Chicago's Eugene Fama and Yale University's Robert Shiller, what they thought a bubble was.

Fama is convinced that financial bubbles don't exist, and until the dot-com era he was able to keep most of his colleagues in academic finance from even using the word "bubble." Here's what he told Kestenbaum: "If you interpret the word 'bubble' to mean, 'I can predict when prices are gonna go down,' you can't do it."

Fama is surely right that nobody can reliably predict exactly when prices are gonna go down. But he's way off base when he implies that this is a widely accepted definition of "bubble." In fact, hardly anybody interprets the word to mean this. When I ran Fama's wording by former Fed chairman Alan Greenspan — love him or hate him, you've got to acknowledge that the guy knows something about bubbles — he said, "The nature of a bubble as I would define it makes it impossible to determine when it will deflate."

Fama's fellow Nobelist Bob Shiller, meanwhile, believes that bubbles are "like a mental illness," in that there's a checklist of symptoms. They are, as paraphrased by Kestenbaum:

1. Rapidly increasing prices.
2. People tell each other stories that purport to justify the bubble.
3. People feel envy and regret they haven't participated.

Then Shiller jumped in with a fourth: "The news media are involved. There were no bubbles before there were news media."

But all those things have been true of Google's stock price since the company went public almost a decade ago, as Fama pointed out in the NPR interview. They've also characterized the San Francisco Bay area's real estate market over a far longer period. Yet neither has collapsed. Instead, Google's fast-rising earnings and the Bay area's skyrocketing wealth (and NIMBYish tendencies (http://www.theatlanticcities.com/housing/2013/10/san-francisco-exodus/7205/)) have kept those "stories that purport to justify the bubble" sounding pretty plausible.

This gets at what seem like they ought to be the two crucial elements in any bubble definition:

1. You may not be able to say exactly when it's going to happen, but if you call something a bubble you are implying that you think it will come to a precipitous end.
2. You think this because you believe that the price of an asset has risen well above its fundamental or intrinsic value.

Sure enough, Markus Brunnermaier, one of the chief scientists in what *The Wall Street Journal* once dubbed "Bernanke's Bubble Laboratory (http://online.wsj.com/news/articles/SB121089412378097011) " at Princeton University, defines bubble thusly in the latest edition of the New Palgrave Dictionary of Economics

(http://www.dictionaryofeconomics.com/article?id=pde2008_S000278) (the full text is behind a paywall):

> Bubbles are typically associated with dramatic asset price increases followed by a collapse. Bubbles arise if the price exceeds the asset's fundamental value.

That's pretty good. Concise, yet complete. Shiller's list of symptoms may be helpful in *diagnosing* a bubble, but as a *definition* Brunnermaier's is far better. And its (less concise) third sentence gets at some of the things Shiller is talking about:

> This can occur if investors hold the asset because they believe that they can sell it at a higher price [to] some other investor even though the asset's price exceeds its fundamental value.

So we're done here. Everyone can agree on this definition, right? Actually, not quite. The problem is the phrase "fundamental value."

Writes economist Peter Garber, in the 2000 book *Famous First Bubbles* (http://www.amazon.com/Famous-First-Bubbles-Fundamentals-Manias/dp/0262571536) :

> Fundamentals are a collection of variables that we believe should drive asset prices. In the context of a particular model of asset price determination, if we have a serious misforecast of asset prices we might then say that there is a bubble. This is no more than saying that there is something happening that we can't explain …

The man has a point, but only up to a point. There has been only one widely accepted and durable "model of asset price determination" for stock, bonds, and the like. In the classic 1930 formulation of economist Irving Fisher (http://oll.libertyfund.org/?option=com_staticxt&staticfile=show.php%3Ftitle=1416&chapter=23953&layout=html&Itemid=27) :

> The value of any property, or rights to wealth, is its value *as a source of income* and is found by discounting that expected income.

Estimates of future income are full of uncertainty, and choosing an appropriate discount rate (http://wiki.fool.com/Discount_rate) is often more art than science. Fisher is of course infamous for declaring in 1929 that stock prices were not in a bubble but atop a "permanently high plateau." But his definition does provide a baseline.

During the dot-com era (and long after (http://www.minneapolisfed.org/publications_papers/pub_display.cfm?id=1134)), Fama argued that the high prices of startups like Amazon.com and Pets.com could be justified as rational gambles in the face of great uncertainty. It wasn't crazy to think that a couple of these companies might end up as big and as profitable as Microsoft, and since it was hard to tell which ones it would be, high prices across the board made some sense. Sure enough, Amazon is now almost as big as Microsoft (in terms of revenue), although not yet anywhere near as profitable. And Google, which didn't go public till after the dot-com bust, appears to be on track to pass up Microsoft in both. It already has a higher market capitalization (although of course some think that's a bubble (http://finance.yahoo.com/news/google-bubble-100000026.html)).

But dot-coms weren't the only stocks with prices going through the roof in 1999 and 2000. And a former Fama PhD student, hedge fund (http://www.aqr.com/) manager Cliff Asness, argued at the time that even if his professor was right about the dot-coms, there clearly *was* a bubble in the equity of already established, already profitable tech companies. In an essay (http://papers.ssrn.com/sol3/papers.cfm?abstract_id=240371) that was never formally published but became something of a cult favorite among finance professors and some finance practitioners, Asness looked at Cisco Systems and concluded that even if the most optimistic projections about its future growth came true, it was still priced to disappoint current investors. That is, it was selling at a price that no plausible growth scenario could justify. The *actual* outcome for Cisco turned out to be a 156% increase in net income from fiscal 2000 through fiscal 2013. Its stock price, meanwhile, fell from $80 in March 2000 to $9 in October 2003; it's currently trading in the low 20s.

Asness sure seems to have nailed *that* bubble, huh? He now argues that the price/fundamentals gap has to be similarly extreme to merit use of the word. As he writes in the current issue of the *Financial Analysts Journal* (http://www.cfapubs.org/doi/pdf/10.2469/faj.v70.n1.2) , "to have content, the term bubble should indicate a price that no reasonable future outcome can justify."

So maybe we should tweak the second sentence of Brunnermaier's definition, to something like: *Bubbles arise if the price far exceeds the asset's fundamental value, to the point that no plausible future income scenario can justify the price.* A little clunky, and of course "plausible" is a judgment call. But it does get at the idea that we shouldn't be calling every last rise in P/E ratios (http://www.investopedia.com/terms/p/price-earningsratio.asp) a bubble.

What about "bubbles" that have nothing to do with asset prices? When people claim there's a lawyer bubble (http://www.amazon.com/The-Lawyer-Bubble-Profession-Crisis/dp/0465058779) , an MBA bubble (http://www.theatlantic.com/business/archive/2013/12/is-an-mba-bubble-popping/282541/) , or a higher education bubble (http://www.globalresearch.ca/the-higher-education-bubble-student-debts-and-the-bankers-new-socially-engineered-trap/5363344) , they are talking about things that they think have gotten out of hand and are due for a collapse. That *is* bubble-like, but I still don't think the term is really appropriate for these particular phenomena. My *Webster's New World Dictionary* says bubble is "anything that is ephemeral or insubstantial." But the higher-education boom of the past half-century-plus was built of tangible stuff — degrees enabled their recipients to make lots more money. If this is about to end, it's more because of changes in the economy and in technology (http://blogs.hbr.org/2014/01/the-degree-is-doomed/) than some sort of irrational degree frenzy. It's a sea change, not a bubble. Shiller, meanwhile, thinks the kind of social contagion that characterizes bubbles *can* be found outside of financial markets (http://www.project-syndicate.org/commentary/bubbles-without-markets) (his main example is Mao's Great Leap Forward (http://en.wikipedia.org/wiki/Great_Leap_Forward) in China). But I'm not sure what's really gained by calling such events "bubbles."

Not that it's really up to me, of course. If you've got a better bubble definition, let's hear it.