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Taking Bubbles Seriously in Contract Law

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INTRODUCTION

The decrease in U.S. house prices – often called the end of the housing “bubble” has brought about a tremendous increase in mortgage foreclosures and defaults. That in turn has spawned a tremendous and ongoing
controversy about what, if anything, the government should do to intervene in this situation. One of the major questions has been under what circumstances the political branches should alter private contracts, such as mortgage loan agreements and the agreements that govern the servicing of securitized mortgage loans.¹ Ad hoc interventions, such as legislative changes to servicing agreements that shield servicers from liability for making loan modifications raise troubling questions of fairness and rent-seeking – as well as legal issues² – justified as such interventions may be in a foreclosure crisis.

But apart from the issue of whether and how the political branches should rewrite contracts in the latest financial upheaval, there is another question raised by what appears to be the second asset bubble deflation in a decade: Is there any significance to the existence and persistence of asset-price bubbles from the perspective of contract law? As the government goes ahead and exercises its general regulatory power to rewrite some private contracts and not others – depending inevitably on political considerations to make the distinction – no one is asking whether these contracts ought to be enforced in the first place under first principles.

¹ See, e.g., Helping Families Save Their Homes Act, Pub. L. No. 111-22, May 20, 2009, § 201 (effectively modifying mortgage pooling and servicing agreements by extinguishing contractual remedies against servicers who make specified types of loan modifications).

To the limited extent asset-price bubbles have been analyzed at all in legal scholarship, the analysis has been mostly from a regulatory perspective: What rules might governments, acting directly through the political process or through administrative agencies, adopt to control asset bubbles, assuming that transactions made during a bubble will be enforced? Scholars have not examined what is arguably the antecedent question, one that lies within the domain of contract law: how asset-price bubbles interact with the fundamental reasons for respecting private transactions. This Article presents the first such examination, taking as its premise that we ought to take bubbles seriously. It argues that bubbles – periods when poor-quality traders drive up prices – are important, destructive, and identifiable by regulators or tribunals on an ex post basis. The Article asks what happens if contract law takes seriously the widely embraced (though disputed) proposition that financial markets are given to bouts of periodic mania that can be identified with confidence only after the fact.

To ask the question in this way is to suggest a possible answer that

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seems obvious, but that apparently has never been seriously explored in a law review: Courts might permit rescission of contracts that are the products of asset bubbles. Two interlocking lines of argument support that position.

First, rescission of bubble transactions should help prevent bubbles. Applying an ex post remedy to financial bubbles avoids a fundamental problem that underlies almost all regulatory suggestions that have been advanced to address the issue: the fact that regulators may not on average have foresight superior to that of market participants.\textsuperscript{4}

Second, contract theory suggests that bubble contracts are not the types of agreements that law should enforce. The rationale underlying the incapacity doctrine supports non-enforcement of bubble contracts, and a disproportionate number of bubble contracts are voidable under current doctrines of mistake and misrepresentation. Rescinding bubble contracts is an appropriate application of existing contract doctrine.

The Article has three parts. The first argues that outbreaks of poor judgment that drive up asset prices very likely do exist and can be identified, even if only after the fact. It also presents an argument that

\textsuperscript{4} Alan Greenspan famously raised this point on December 5, 1996: “But how do we know when irrational exuberance has unduly escalated asset values, which then become subject to unexpected and prolonged contractions as they have in Japan over the past decade? And how do we factor that assessment into monetary policy? We as central bankers need not be concerned if a collapsing financial asset bubble does not threaten to impair the real economy, its production, jobs, and price stability.” 
http://www.federalreserve.gov/BOARDDOCS/SPEECHES/19961205.htm
bubbles are likely to be destructive. This requires some preliminary exposition of how bubbles should be defined and what it means to identify them. The second part describes what it means to unwind bubble contracts, gives examples of how the idea would work in the context of stock-market and real-estate bubbles, and argues that unwinding bubble contracts is likely to be effective in deterring the formation of bubbles. The third part argues that unwinding bubble contracts is consistent with freedom of contract in theory, and represents a reasonable and potentially desirable extension of existing contract doctrine.

I. THE EXISTENCE AND IDENTIFICATION OF BUBBLES

A. Definitions

I start by adopting and defending definitions of key terms. Bubbles are defined in different ways by different authors. The different definitions all capture the same or similar phenomena, but they raise different issues of identifying and proving the existence of asset bubbles. For example, a definition based on fundamental asset values raises the question of how to measure fundamental value in the real world. A definition based on price behavior – such as “any fast rise and sudden crash of prices is a bubble”
raises the question whether it makes sense to treat all such price patterns identically. I propose a definition based on the characteristics of traders and the effect of those characteristics on financial markets.

1. Judgment

The idea of judgment is central both to the definition of a bubble that I adopt and to the contract-law doctrines I discuss. Although common experience teaches us that judgment is important in explaining human action and varies across individuals and across situations, judgment is notoriously difficult to define.\(^5\) In this context, I refer to the reasonableness of the trader’s conception of future outcomes.\(^6\)

The type of poor judgment that is most relevant to this Article is unreasonable optimism – optimism that may or may not be “irrational” in

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\(^6\) Kronman defines judgment, following Arendt, as the “the faculty of moral imagination, the capacity to form an imaginative conception of the moral consequences of a proposed course of action and to anticipate its effect on one’s character.” Kronman, *Paternalism, supra* note 5, at 790. The definition of “judgment” here is similar to Kronman’s in that it focuses on the actor’s ability to imagine the future, which may “require[] disengagement from the immediacy of desire,” but I do not limit judgment to moral imagination or the relevant future consequences to effects “on one’s character.” Compare Peter H. Huang, *Regulating Irrational Exuberance and Anxiety*, in *THE LAW AND ECONOMICS OF IRRATIONAL BEHAVIOR* 501, 505-06 (Francesco Paresi & Vernon Smith eds. 2005) (“[I]rrational exuberance refers to exuberance that is not justified by merely cognitive processing of the available information about securities markets.”).
the economist’s sense, but that is unreasonable. For example, if a person is flipping a coin, and he or she believes that the coin is 80% weighted to heads, there is no way in advance to say that this belief reflects poor judgment. If the coin-flipper maintains this belief after the coin comes up heads 501 times and tails 499 times in a thousand flips, he is probably exercising poor judgment. Poor judgment cannot be proven with absolute certainty, but it can be inferred here.

The concept of judgment is not limited to situations involving an explicit conception of probabilities. It applies to any state in which the actor underweights or disregards bad outcomes. When a person decides not

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8 The precise mental state may be further specified as including failure to “imagine that a chosen option might fail or that an ignored option might succeed” or to “consider counterarguments or opposing viewpoints” or to “give reasons for choices,” Gregory Mitchell, Libertarian Paternalism Is an Oxymoron, 99 NW. U. L. Rev. 1245, 1255-56 (2005), but that is not important for the Article’s purpose. What is important is that the actor forms unreasonable beliefs about the future.

9 The theory of statistical inference provides a way of thinking about this in the context of fixed probability distributions, although this field has its own philosophical controversies. See Morris H. DeGroot & Mark J. Schervish, Probability & Statistics 328 (3d ed, 2002) (describing disagreement over whether an unknown statistical characteristic of a population (“parameter”) properly be conceived of as a random variable).

10 The notion of judgment here is not premised on any particular psychological model, and this Article is not intended as a work of behavioral law and economics. See Christine Jolls et al., A Behavioral Approach to Law and Economics, 51 STAN. L. Rev. 1471, 1475 (1998) (“Behavioral economics … suggests … that behavior is systematic and can be modeled”). Likewise, I eschew the formalistic definitions of, and debates over, rationality and irrationality beloved of some economists. Although much of what is said here could be rephrased in terms of various cognitive biases that cause people to violate various canons of rationality, I intentionally use a way of thinking that is more congenial to traditional contract-law analysis. See discussion infra Part III.
to wear a seat belt while driving, that person is in all likelihood exercising poor judgment, as by believing that “I won’t be in an accident,” even if the person has no conscious concept of the probabilities involved and, if asked, would not say that the probability of being in an accident is 0%.

The qualification “in all likelihood” reflects the possibility that the our seat-belt-free rider may find seatbelts especially uncomfortable, enjoy the risk of injury or death, highly value the relief that comes from taking such a risk without being injured, and so forth. The arguments giving rise to the qualification are analogous to arguments often made about asset bubbles, namely that they cannot be distinguished from changes in the actor’s risk preference or preference for current versus future consumption. 11 In both cases, it is very difficult to establish poor judgment with certainty, but poor judgment nevertheless can exist and the law can take account of this. The law requires seatbelts even though the requirement unambiguously harms some people who are not exercising poor judgment.

Apart from this set of reasons for not wearing seatbelts, arising from the person’s subjective preferences, we can imagine another possibility: The person, who otherwise acts as though she correctly anticipates the probability of an accident, believes that certain anticipated technological developments will have occurred since the last time he or she ventured out

and that the other cars he or she encounters are likely to be installed with automatic accident-aversion systems, so that the probability of an accident will be radically reduced.\textsuperscript{12}

If this turns out not to be the case, can we say \textit{for sure} that the person exercised poor judgment? No. The person may have correctly anticipated the probability that the improvements had materialized and simply have had bad luck that they didn’t. Here, however, it seems more likely than not that the person did exercise poor judgment. This example too corresponds to an argument frequently made about bubbles. The car-safety improvements in this example correspond to the “new-era thinking” that commonly accompanies boom-and-bust price behavior. It is sometimes argued that bubbles cannot be shown to exist because one cannot infer poor judgment with certainty from such new-era thinking. But in both the case of the seatbelt-free driver and that of the optimistic trader, other facts and circumstances permit us to make an informed, if not perfect, inference about whether poor judgment was the likely cause of the observed behavior.\textsuperscript{13}

2. Low-Quality Trader

\textsuperscript{12} See, e.g., \textit{The Connected Car}, \textsc{The Economist}, June 4, 2009, http://www.economist.com/search/displaystory.cfm?story_id=13725743 (“vehicle-to-vehicle” networks may soon alert cars that are out of visual range of sudden braking or airbag deployments to avert accidents).

\textsuperscript{13} See discussion \textit{infra} Parts I.B. I.C.
A low-quality trader is a trader who has poor judgment. The poor judgment may arise from cognitive errors, a lack of information relative to other traders, or from some other source. Poor judgment can be measured relative to a number of different baselines: It might be judgment as poor as that of traders who drive asset prices to irrationally high values in experimental markets, or judgment materially worse than that of the average trader who is not involved in a bubble, or, following the Restatement’s treatment of contractual capacity, judgment so poor that it causes the trader to act unreasonably with respect to the subject matter.

Setting a precise threshold for poor judgment to be satisfied on an individual basis will not matter for the discussion of the existence and identification of bubble, because I argue for the existence, identification, and response to bubbles on an aggregate level, as discussed below.

The “low-quality” trader is similar to the “irrational” or “noise” trader appearing in models of asset bubbles such as those of Andrei Shleifer. Low-quality traders and noise traders are not the same, however, because a noise trader is defined as a trader who lacks knowledge of fundamental

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14 The term “trader” raises a question of scope. I will define a “trader” as anyone participating in a market that is not for goods or services for immediate consumption.
15 Cognitive errors and information asymmetry, along with moral hazard, are the three reasons Frank Partnoy identifies for market crashes. See Partnoy, supra note 3, at 754-62.
16 See discussion infra Part I.B. 1.
17 See Restatement (Second) of Contracts, §§ 14-16; discussion infra Part III.A. 1.
asset values, \textsuperscript{19} and fundamental asset values are not used the analysis of bubbles presented here.

3. High-Quality Trader

A \textit{high-quality trader} is a trader who is not a low-quality trader. The high-quality trader is similar to the informed trader or arbitrageur in some models.\textsuperscript{20} Although informed traders are sometimes assumed to trade according to fundamental value, no such assumption is made here.\textsuperscript{21} A high-quality trader may trade based on assessments of fundamental asset values or according to a momentum strategy.

4. Bubble-Like Price Behavior

\textit{Bubble-like price behavior} has two elements: \textit{boom} and \textit{bust}. A \textit{boom} is an increase in asset prices beyond what would be supported by traditional measures of asset value. For stocks, such traditional measures include

\textsuperscript{19} \textit{See} \textsc{shleifer, supra} note 18, at 2 (2000) (defining “rational” traders as those who “value each security for its fundamental value: the net present value of its future cash flows, discounted using their risk characteristics”); \textit{id.} at 10 (defining “noise” traders as those that are not fully rational); \textit{id.} at 33 (“noise traders form erroneous beliefs about the future distribution of returns on a risky asset”).\textsuperscript{20} \textsc{shleifer, supra} note 18, at 33 (arbitrageurs “exploit noise traders’ misperceptions” and “push prices toward fundamentals, but not all the way”).\textsuperscript{21} \textsc{shleifer, supra} note 18, at 33.
UNWINDING BUBBLE CONTRACTS

dividend-price and price-earnings ratios.\textsuperscript{22} For housing, such traditional measures include the ratio of house prices to rents.\textsuperscript{23} A \textit{bust} is a decrease in asset prices that is large enough that it would be unlikely if prices followed their historical volatility.\textsuperscript{24}

A boom is often treated as a necessary condition for an asset bubble, specified sometimes in terms of an unprecedented, large, rapid, or unsustainable rise in prices rather than, or in addition to, according to the relationship between prices and a traditional measure of value.\textsuperscript{25} Busts are often treated as common but unnecessary elements of bubbles. Although busts (or “crashes”) often follow booms,\textsuperscript{26} an asset bubble may deflate slowly without a dramatic crash.\textsuperscript{27}


\textsuperscript{24} Volatility is a measure of how much returns (or, ignoring interim cash flows such as dividends and coupon payments, prices) change over time. See, e.g., John C. Hull, \textit{Options, Futures & Other Derivatives} 238 (5th ed. 2002). “High market volatility” is often a euphemism for a crash.

\textsuperscript{25} See, e.g., Charles P. Kindleberger & Robert Aliber, \textit{Manias, Panics and Crashes: A History of Financial Crises} 29 (5th ed. 2005) (“[A] bubble is an upward price movement over an extended period of fifteen to forty months that then implodes.”); \textit{id.} at 16 (“Bubbles always implode; by definition a bubble involves a nonsustainable pattern of price changes or cash flows.”); \textit{compare} Markus K. Brunnermeier, \textit{Bubbles}, in \textit{The New Palgrave Dictionary of Economics} 578, 578 (Steven N. Durlauf & Lawrence E. Blume eds. 2008) (Bubbles are typically associated with dramatic asset price increases followed by a collapse. Bubbles arise if the price exceeds the asset’s fundamental value.”).

\textsuperscript{26} Brunnermeier, \textit{supra} note 25, at 578 (noting that at the end of the Internet stock bubble, an index of Internet share prices fell by over 75% between March and December 2000).

\textsuperscript{27} See, e.g., Robert J. Shiller, \textit{That Stock Market Bubble Won’t Burst – But It’s
Because I define asset bubbles in terms of the influence of poor-quality traders on price, neither a boom nor a bust is strictly necessary for a bubble. In practice, boom-and-bust price behavior will be an important piece of evidence supporting the existence of a bubble.28

5. Bubble

a. Definition

A bubble is a situation in which the price of a class of assets (such as stocks or real estate) increases because of the activities of low-quality traders. Bubbles are phenomena that result from outbreaks of poor judgment on the market. Such outbreaks could occur because people who do not know what they are doing are attracted to the market or because some social dynamic causes a decline in existing participants’ judgment. Given the types of evidence that are likely to be available, and the nature of the bubble phenomenon, bubbles are more likely to be identified on an aggregate, market-wide basis than on an individual-by-individual basis. The method for identifying a bubble is not to compare the level of judgment exhibited by each individual trader to a prescribed standard; instead, it is to

Leaking, PITTSBURGH POST-GAZETTE, May 21, 2000 (“Major speculative bubbles … tend to deflate over a period of years.”).

28 See discussion infra Part I.C.
look for episodes that most likely are the result of outbreaks of poor judgment, as suggested by the types of evidence identified in Part I.C, below.

b. Comparison to Alternative Definitions of Bubbles

*Boom-and-bust price behavior:* A bubble might be defined as an instance of boom-and-bust price behavior.²⁹ Boom-and-bust price behavior is not a satisfactory definition for a bubble for the purpose of this paper, because boom-and-bust behavior can be completely consistent with good judgment. Consider a fair lottery in which 1,000 tickets have been sold at a price of $1 for a $1,000 prize to be awarded based on a drawing in two weeks. Now assume that the lottery authority announces unexpectedly (but credibly) that it will increase the prize to $2,000 in a week if a coin flip comes up heads and that it will not sell any more lottery tickets or make any other adjustments to the prize. If the price of lottery tickets immediately rises to $1.50 after this announcement, nothing evidencing poor judgment has happened. The price movement is completely explained by the increase

²⁹ See Randall Kroszner, *Asset Price Bubbles, Information, and Public Policy, in Asset Price Bubbles* 3, 4 (William C. Hunter et al. eds. 2005) (“An asset price that soars and then subsequently crashes is the standard example of what many think of as standard bubble behavior”); Robert J. Shiller, *Diverse Views on Asset Bubbles, in Asset Price Bubbles, id.,* at 35 (“By a bubble, some seem to mean any period when asset prices rise and then fall.”).
in expected value of the prize. Assume the authority then conducts the coin flip, observes tails, and announces that the prize will be $1,000 after all. If the price of tickets then drops to $1.00, again nothing suggests the presence of poor judgment. The drop in price is explained by the decrease in expected value of the prize. Boom-and-bust price behavior has occurred, but there is no evidence of poor judgment.

A similar story can be told about boom-and-bust behavior of asset prices in the real world. For example, it is argued that the rise and fall of the NASDAQ reflect perfectly reasonable but ultimately disappointed hopes that the Internet would revolutionize business to the benefit of existing dot-com firms.\(^\text{30}\) That a good outcome – plausible \textit{ex ante} – didn’t happen to materialize is a reason that prices may crash, but does not have particularly interesting implications for contract law, as a fundamental and well-understood function of contract is to allocate such risks.\(^\text{31}\)

Indeed, it is never possible to rule out such an explanation with total certainty, because the real world features uncertain outcomes (the Internet will change business, but who will profit and how much?) and not known probability distributions (1/1000 probability of winning the prize). Even so,

\(^{30}\text{See, e.g., Douglas Clement, Interview with Eugene Fama, THE REGION (December 2007). http://www.minneapolisfed.org/publications_papers/pub_display.cfm?id=1134; Jean-Claude Trichet, Asset Price Bubbles and Monetary Policy, Mas Lecture, June 8, 2005 (“Well reputed economists claim that even the most famous historical bubbles … can be explained by fundamentally justified expectations”).}\)

\(^{31}\text{MICHAEL J. TREBILCOCK, THE LIMITS OF FREEDOM OF CONTRACT 127-28 (1993).}\)
I argue that it is possible to identify circumstances in which it is far more likely than not that traders with poor judgment are driving up asset prices, and that this has consequences for how we should apply contract doctrines in such circumstances.\textsuperscript{32} Boom-and-bust prices suggest, but do not conclusively prove, the existence of a bubble.

\textit{Departure from fundamental value:} A common definition of a bubble among economists is that bubbles exist when asset prices depart significantly from fundamental values.\textsuperscript{33} The fundamental value of a security is defined in turn as the net present value of future cash flows, discounted for risk.\textsuperscript{34}

Despite the convenience of this definition for economic theory, it has at least two important shortcomings for my purposes. First, attitudes toward risk make it indeterminate. Even if the probability distribution of future returns is known, market value is not necessarily equal to the expected value of the asset computed according to that probability distribution. For example, in the first stage of the lottery-ticket example above, the expected value of the ticket was $1. But potential buyers might prefer $1 in hand to a 0.1\% chance of winning $1,000. Indeed, this attitude – called “risk

\textsuperscript{32} See discussion infra Part I.C.

\textsuperscript{33} See Jean-Claude Trichet, supra note 30, at 3, available at http://www.bis.org/review/r050614d.pdf (“large and increasing deviations of asset prices from their fundamental values”).

\textsuperscript{34} See SHLEIFER, supra note 18, at 2. For assets such as houses that (unlike securities) have significant consumption value apart from their promised future cash flows, the notion of fundamental value is further complicated as this value must be captured.
aversion” – is often considered to be the basic psychological fact about investors. If the buyers are risk averse, then fundamental value could be anywhere between $0 and $1. Conversely, if investors are risk-seeking, then fundamental value could be anywhere from $1 to $1,000. Only if they are risk-neutral would the fundamental value have to be equal to $1. Such varying attitudes toward risk are expressions of preference.

Second, financial assets in the real world are not like lottery tickets or bets on dice. The probabilities of their future cash flows are not known. They are subject not just to risk (“known unknowns”), but to uncertainty (“unknown unknowns”). It simply is not possible to say for certain after the fact that a particular judgment about asset values was flawed ex ante. Although one might say the same for a definition in terms of judgment, the judgment-based approach has the advantage of being more relevant to conventional legal analysis of contracts. Moreover, legal institutions in general are accustomed to dealing with problematic but useful mental constructs such as intent.

Price-to-price feedback/social contagion: Another definition of asset

\textsuperscript{35} See Rubinstein, supra note 7, at 40. Risk aversion is invoked to explain why historically riskier assets, such as stocks, have often exhibited higher average returns than historically less risky assets, such as Treasury bonds. Investors must be paid a higher return to overcome their distaste for risk.

\textsuperscript{36} This distinction is frequently credited to Frank Knight. Frank H. Knight, Risk, Uncertainty & Profit 233 (Augustus M. Kelley 1964) (1921) (using “risk” and “uncertainty” to refer to “measurable” and “unmeasurable” probabilities of future events).

\textsuperscript{37} See, e.g., Fischer Black, Noise. 41 J. Fin. 529, 533 (1986) (“All estimates of value are noisy, so we can never know how far price is away from value”).
bubbles is in terms of price-to-price feedback loops. The idea is that high prices attract buyers who drive up prices and attract more buyers.\footnote{Robert Shiller and Andrei Shleifer are particularly important figures who use this definition. \textit{See, e.g.,} Shiller, \textit{Diverse Views}, supra note 29, at 35 (“The traditional notion of a speculative bubble is … a period when investors are attracted to an investment irrationally because rising prices encourage them to expect, at some level at least, more price increases. A feedback develops – as people become more and more attracted, there are more and more price increases.”); \textit{Shiller, Irrational Exuberance} 2 (2d ed. 2006) (“news of price increases spurs investor enthusiasm, which spreads by psychological contagion from person to person, in the process amplifying stories that might justify the price increases and bringing in a larger class of investors”); \textit{Shleifer, supra} note 18, at 154-55 (“positive feedback trading” describes the behavior of uninformed traders in bubbles).} One specific way in which price-to-price feedback loops might work is “social contagion,” in which price increases feed a popular belief that prices will continue to go up, even when other evidence suggests that they are unsustainably high.\footnote{\textit{See, e.g.,} Robert J. Shiller, \textit{Infectious Exuberance}, \textit{THE ATLANTIC MONTHLY}, July/Aug. 2008.} Although nothing here is inconsistent with the idea that such feedback loops are extremely important in attracting low-quality traders to the market (or of degrading existing traders’ judgment), the definition of a bubble I employ does not exclude other reasons for poor-quality trading.\footnote{For example, there is evidence that individuals buy stocks of companies that are mentioned in news stories. \textit{See} Brad M. Barber & Terrance Odean, \textit{All That Glitters: The Effect of Attention and News on the Buying Behavior of Individual and Institutional Investors} \url{http://papers.ssrn.com/sol3/papers.cfm?abstract_id=460660}, at 15-21 (2006). Although the authors did not test whether news stories that did not mention price caused buying, the result is nevertheless suggestive.}

6. Bubble Contract
A *bubble contract* is a contract that is entered into during a bubble and that has as its subject matter an asset within the class affected by the bubble. An example would be a contract to buy or sell an asset that when prices are affected by the bubble, or a contract to finance the purchase or sale of such an asset.

**B. Existence of Bubbles**

It is a fairly widespread view among economists that bubbles just do not happen, or at least that an event should not be called a bubble except as a "last resort." This Part reviews three different types of evidence suggesting that judgment-driven bubbles exist: In a laboratory setting, experiments directly support the point. In real-world markets, financial economists have amassed empirical evidence that traders who consistently lose money also exert temporary upward pressure on prices. And finally, the fact that market participants have consistently identified and do consistently identify bubbles in their surroundings is itself a potent argument that bubbles exist.

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41 See Peter M. Garber, Famous First Bubbles: The Fundamentals of Early Manias 124 (2000); see also Gerding, supra note 3, at 991-92 (noting the existence of controversies over whether past events were bubbles); Randall Kroszner, supra note 29, at 4 (“Identifying asset price bubbles is quite difficult both *ex ante* and *ex post*.”); Trichet, supra note 30, at 2 (“no consensus about the existence of asset price bubbles in the economics profession”).
1. Evidence from Experimental Economics

As discussed, it is impossible to determine fundamental asset values in real life. That is why this paper does not make use of the concept of fundamental value in defining real-life asset bubbles. No matter how suggestive the evidence, it is always possible to make an argument – perhaps a tenuous one, but an argument nonetheless – that prices were not really different from fundamental value. But economists have set up experiments in which fundamental values are known (or at least bounded) because asset returns follow known probability distributions. Erik Gerding has recently introduced this work to the law-review literature.

In such settings, traders almost invariably bid prices above the upper bound of fundamental value. Such behavior goes beyond raising an inference of poor judgment to raising one of plain irrationality. If an asset will pay $1 with 50% probability and $0 with 50% probability, it is difficult to argue that prices above $1 or below $0 are consistent with fundamental

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42 See, e.g., Martin Dufwenberg et al., Bubbles and Experience: An Experiment, 95 AMER. ECON. REV. 1731, 1731 (2005) (“fundamental values are usually not observable”).

43 The seminal paper in this literature is Vernon L. Smith et al., Bubbles, Crashes, and Endogenous Expectations in Experimental Spot Asset Markets, 56 ECONOMETRICA 1119 (1988).

44 See Gerding, supra note 3.
value.\textsuperscript{45} The experimental evidence strongly suggests that there is something about speculative trading that sets off asset bubbles fueled by poor judgment.

The basic setup of the typical trading experiment is as follows:\textsuperscript{46} Buyers and sellers are given an allocation of cash and of securities. The securities have a fixed probability of paying a dividend of a given amount during each round. These securities thus exhibit risk (because the amount they will pay is random) but not uncertainty (because the probability that they will pay off is known).\textsuperscript{47}

The participants are told the probability of the payment, the amount of the dividend, and the number of rounds in the experiment, and thus have all the information needed to calculate the fundamental values of the securities. Indeed, in some designs the participants are told the expected value of future dividends.\textsuperscript{48}

Traders enter bids (amounts they are willing to pay) and asks (amount they must be paid to sell) over an electronic network. When a bid exceeds

\textsuperscript{45} Although prices above $1 \textit{could} reflect a belief that researchers will burst through the door and change the rules of the experiment, this seems implausible.

\textsuperscript{46} The description is adapted from Gerding, \textit{supra} note 3, at 1014-16.

\textsuperscript{47} Of course, there is a small amount of inevitable uncertainty – the experiment may be terminated prematurely due to an earthquake or fire, or the experimenter might be lying when he or she promises to pay off according to the traders’ performance. Following convention, I treat such uncertainty as negligible.

an ask, a purchase and sale takes place.\footnote{Participants are aware of the bid and ask queues, that is, how much the other players are offering for purchase and sale and at what price.} At the end of the experiment, the participants are paid whatever money they have accumulated through their holding and trading.

Bubbles are ubiquitous in such experiments.\footnote{See Porter & Smith, *Price Bubbles*, supra note 48, at 248-55 (reporting robustness of price bubbles to a wide range of experimental treatments); See Ronald R. King et al., *The Robustness of Bubbles and Crashes in Experimental Stock Markets*, in *NONLINEAR DYNAMICS AND EVOLUTIONARY ECONOMICS* 183, 184-99 (Richard H. Day & Ping Chen eds. 1993) (same).} Asset prices rise far above the expected or average value of the securities.\footnote{Note that under the conventional assumption that financial market participants are risk-averse, see Frank K. Reilly & Keith C. Brown, *Investment Analysis & Portfolio Management* 13 (7th ed. 2003), this actuarially expected value is an upper bound for fundamental value.} Even more strikingly, they rise far above the maximum possible value for the assets. For example, securities that pay off no more than $0.40 per period will change hands at $6.00 or more when there are ten periods left and the securities cannot possibly realize more than $4.00.\footnote{See Charles Noussair & Charles Plott, *Bubbles and Crashes in Experimental Asset Markets: Common Knowledge Failure?*, in *HANDBOOK OF EXPERIMENTAL ECONOMICS RESULTS*, supra note 48, at 260, 263 Fig. 2. Note that this result was observed in a market where there was no opportunity to resell the assets and in which the participants were given a table showing the fundamental value of the asset at each period. *Id.* at 261. Although the authors of the original experimental paper concluded that the hope of realizing capital gains is not the only cause of bubbles, they declined to interpret their results “as suggesting that the conscious pursuit of capital gains does not occur in experiments of this type.” Vivian Lei et al., *Nonspeculative Bubbles in Experimental Asset Markets: Lack of Common Knowledge of Rationality vs. Actual Irrationality*, 69 *ECONOMETRICA* 831, 850 (2001).} Moreover, this happens even when the assets cannot be resold, refuting the idea that all such outbreaks result can be explained by buyers’ “rational” hopes that a “greater fool” will come along to buy the assets at an even higher price.
One of the experimenters summarized the results as follows:

In these asset markets, departures of prices from fundamental values are ... due [in part] ... to the existence of traders who actually do behave irrationally. It certainly does appear that other traders speculate when they realize that some participants are prone to errors. The findings presented here suggest that the appropriate modeling approach to explaining the bubble and crash phenomenon requires the presence of errors of decision making on the part of agents, ...\(^{53}\)

Further details of some of this research are taken up in the next Part, which addresses the identification of bubbles. The key point here is that the experimental evidence strongly suggests the existence of hard-core irrationality in asset trading markets. That in turn suggests, *a fortiori*, the potential for the influence of bad judgment on real asset markets, and it also suggests that there is no principled reason to adopt a judgment-based explanation for phenomena only as a “last resort”\(^{54}\) after explanations based on perfect rationality have failed.

The experimental evidence is subject to varying interpretations. For example, Vernon Smith, who won the Nobel in 2002 for his work in experimental economics, focuses on the fact that the bubbles are reduced or

\(^{53}\) Noussair & Plott, *Bubbles and Crashes*, *supra* note 52, at 262-63. The experiment on which Noussair and Plott were commenting is reported at Vivian Lei et al., *Nonspeculative Bubbles*, *supra* note 52.

eliminated when traders run through the same trading game repeatedly.\textsuperscript{55} Erik Gerding, who has examined anti-bubble regulatory proposals at length in the context of experimental economics, likewise stresses the possibility of learning as an important guide to policy.\textsuperscript{56}

But the same players never repeat the same game in real-life financial markets. Not everyone in the economy invests in any particular financial market, so there is always a potential supply of new participants, and real-life boom-and-bust events frequently feature a large influx of inexperienced traders. Moreover, the existence of uncertainty in real life makes learning more difficult. New-era stories are always available to tempt traders back into irrational behavior.

To be sure, experimental economics can be, and has been, criticized.\textsuperscript{57} The amounts to be gained in the typical experiment are small, so the subjects may not care enough to do well (but even small payoffs have been shown to motivate subjects).\textsuperscript{58} Subjects are often undergraduates, unlikely to be as skilled at decision-making under uncertainty as professional traders (but small businesspeople, corporate executives, and stockbrokers make the


\textsuperscript{56} Gerding, \textit{supra} note 3, at 1023-25.

\textsuperscript{57} See Gerding, \textit{supra} note 3, at 1017-19, for a review of additional reasons that experimental-economics results might not apply to real markets.

\textsuperscript{58} See Gerding, \textit{supra} note 3, at 1013 (citing Colin F. Camerer & Robin M. Hogarth, \textit{The Effects of Financial Incentives in Experiments; A Review and Capital-Labor-Production Framework}, 19 J. RISK & UNCERTAINTY 7 (1999)).
same mistakes as undergraduates, and trade in stocks and houses is not limited to professionals). Subjects may trade just because they are bored and there is nothing else to do in the time they spend as subjects of the experiment (but bubbles are observed even when subjects are allowed to do something else during the experiment).

Despite all these qualifications, experimental results strongly suggest – although they cannot absolutely prove – that poor judgment is often at work affecting prices in trading environments.

2. Evidence from Empirical Finance Research

Although it is impossible to prove with certainty that a real-life market has experienced a bubble, economists have found significant indirect

59 See King et al., supra note 50, at 196-99 (Richard H. Day & Ping Chen eds. 1993); Gunduz Caginalp et al., Overreactions, Momentum, Liquidity, and Price Bubbles in Laboratory and Field Asset Markets, 1 J. PSYCHOL. & FIN. MARKETS 24, 28-29 (2000); Smith et al., Bubbles, Crashes, and Endogenous Expectations, supra note 43, at 1130-31. A number of researchers have investigated the role of experience in reducing experimental bubbles. For example, in one experiment investigators found bubbles when only neophytes traded, but found that the bubbles were reduced when even one third of the traders were “experienced.” Dufwenberg et al., supra note 42, at 1731-32 (2005). In this context, “experienced” means that the traders had participated in the same experiment three times before. Id. at 1732. Although this result is interesting, the authors’ claim that it “cast[s] doubt on the plausibility of the hypothesis that financial market bubbles reflect the choices of inexperienced traders,” id., seems overblown because markets present ever-changing uncertainties rather than deterministic evolution of knowable fundamentals.

60 See Lei et al., Nonspeculative Bubbles, supra note 52, at 851 (adding a service market in which subjects could participate to the asset market in which bubbles were observed reduced volume on the asset market but did not eliminate bubbles). Moreover, the idea that people trade because they are bored or “want to participate in the experiment in some way” supports the idea that high attention to particular assets fuels bubbles.
evidence that the stock market is given to bubbles. For example, the volatility of stock prices has been far greater than one would expect based on a model of the volatility of subsequent dividends.\textsuperscript{61} That suggests that stock prices are driven by sentiment, not just by cool assessments of future dividend flows. If sentiment drives prices, it stands to reason that optimistic sentiment – including unrealistically optimistic sentiment – can drive prices upward.

Stocks that had been extreme losers in a given three-year period dramatically outperformed stocks that were extreme winners, suggesting that winners become overpriced\textsuperscript{62} – evidence that is consistent with investors’ simple extrapolation of recent price trends. Yet stocks that performed well or poorly over a period of six to twelve months tended to continue performing well or poorly in the short term.\textsuperscript{63} Together, these two findings support the idea that short-term price-driven momentum\textsuperscript{64} leads to

\begin{itemize}
\item\textsuperscript{61} Robert J. Shiller, \textit{Do Stock Prices Move Too Much To Be Justified by Subsequent Changes in Dividends?}, 71 AMER. ECON. REV. 421 (1981); see also ROBERT J. SHILLER & GEORGE A. AKERLOF, ANIMAL SPIRITS 132 (2009) (comparing market’s forecasts of dividends to an berserk weather forecaster who predicts temperatures of 150 degrees one day and -100 degrees the next and arguing that the forecast is useless even if the average is correct). This result is noteworthy because the “fundamental value” of a stock is often taken to be the present value of its future dividend stream.
\item\textsuperscript{64} This “momentum” effect has become a central part of many active asset managers’ strategy. Indeed, one study finds that institutional shareholders as a group can be described as momentum traders. Timothy R. Burch & Bhaskaran Swaminathan, \textit{Are Institutions Momentum Traders?} (Nov. 2001), at 2, available at http://www.som.yale.edu/Faculty/zc25/Investments/InstitutionalMomentum.pdf
\end{itemize}
overpricing that is eventually corrected – in other words, to deviations from fundamental value that follow the classic “boom and bust” bubble pattern.

Empirical studies also support the idea that investors with poor judgment flood into markets during events that seem to be bubbles. In the stock market, individual investors buy and sell stocks in a herd. They buy “attention-grabbing” stocks: stocks that have been in the news, that have experienced strong returns, or that have high trading volume. Individual investors’ purchases are correlated over time – they tend to keep buying and selling the same stocks, at least over the short term. And those very stocks do well in the short term and poorly in the longer term. Similarly, Paul Tetlock finds that positive or negative write-ups in a Wall Street Journal column forecast positive or negative short-term stock price movements that are reversed in the long term.

Individual investors’ tendency to lose money by buying attention-grabbing stocks is supported by empirical studies.

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66 Brad M. Barber & Terrance Odean, *All That Glitters*, supra note 40, at 15-21 (2006). Because every transaction must have a buyer and a seller, these findings imply that institutional investors are net sellers under these conditions.

67 See Barber et al., *Systematic Noise, supra* note 65, at 4.

68 See Barber et al., *Do Noise Traders Move Markets?, supra* note 65, at 1.

69 Paul C. Tetlock, *Giving Content to Investor Sentiment: The Role of Media in the Stock Market* 62 J. Fin. 1139 (2007). Tetlock’s result is extremely provocative in that he asserts that a purely quantitative, statistical analysis of the text newspaper column, with the only human input coming in the form of a preexisting assignment of words to certain categories (i.e., strength, weakness, goodness, badness), predicts short-term stock performance. *Id.*
grabbing stocks whose prices then decline is consistent with the theory that poor-judgment traders can push up prices during a speculative bubble, and more specifically that media hype can help propagate the poor judgment that makes the bubble possible.⁷⁰

3. Evidence from Descriptive Observation

Contemporary market observers have been describing the phenomena around them as bubbles driven by irrational or imprudent behavior for centuries. Although it is certainly possible that all such observers were describing phenomena that are in fact nonexistent, that seems less likely than the alternative possibility that bubbles are real. Market participants are in a good position to know the facts about how their markets work – whether irrationality or poor judgment as opposed to legitimate differences of opinions are at play, whether arbitrage constrains the effect of poor-judgment trading, and so forth, so their perceptions should not be dismissed.

*Lombard Street*, a classic study by the British banker and journalist Walter Bagehot of the London money market of the 19th century, describes an asset bubble: “Owners of savings … rush into anything that promises

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⁷⁰ The results cited above are not consistent with the proposition that all stocks’ prices at all times reflect the best available forecast of fundamental value. If that were the case, we would expect any large group’s investment results to approximate the performance of the market as a whole if trading costs are ignored.
speciously, and when they find that these specious investments can be disposed of at a high profit, they rush into them more and more.”

Benjamin Graham and David Dodd, who originated the methodology that underlies equity investing today: “The stock market is not a weighing machine, on which the value of each issue is recorded by an exact and impersonal mechanism. Rather, it is a voting machine, whereon countless individuals register choices which are partly the result of reason and partly the result of emotion.” Once emotions and reason interact in producing stock prices, the possibility of prices resulting for judgment follows.

Graham and Dodd’s most famous disciple, Warren Buffett, described the dot-com bubble in even more pointed terms: “It was as if some virus, racing wildly among investment professionals as well as amateurs, induced hallucinations in which the values of stocks in certain sectors became decoupled from the values of the businesses that underlay them.”

These examples are just a few of the high points. Media coverage of financial markets suggests that it was quite common for market participants

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71 WALTER BAGEHOT, LOMBARD STREET 131 (Arno Press ed. 1979) (1872). In a similar vein, Charles Mackay’s journalistic account of financial manias, which is widely read by financial practitioners, memorably describes the Dutch tulip bulb bubble in terms that do not suggest rationality: “Many individuals suddenly grew rich. A golden bait hung temptingly out before the people, and one after another, they rushed to the tulip marts, like flies around a honey-pot.” CHARLES MACKAY, EXTRAORDINARY POPULAR DELUSIONS AND THE MADNESS OF CROWDS (1841).

72 BENJAMIN GRAHAM & DAVID L. DODD, SECURITY ANALYSIS 23 (1934) (emphasis in original).

in the midst of the recent dot-com,\textsuperscript{74} housing,\textsuperscript{75} and credit market\textsuperscript{76} boom-bust events to believe that they were living through a bubble. For example, Robert Shiller reports that when \textit{Barron’s} asked professional money managers in April 1999 whether the U.S. stock market was “in a speculative bubble,” \textit{72\%} of the respondents said yes.\textsuperscript{77}

Although some economists disdain such contemporaneous observations, describing them as journalistic,\textsuperscript{78} it is noteworthy that reports on financial markets rarely feature actual market participants who flatly reject the concept of sentiment-driven bubbles categorically. Although that certainly could reflect various forms of media bias, that would be a bit surprising given the prominence of the no-bubbles theory among academic economists. The sweep and persistence of market participants’ description

\textsuperscript{74} Kevin Anderson, \textit{Dot.com Gold Rush Ends}, \textbf{BBC NEWS}ONLINE, May 30, 2000 (market analyst describing dot-com bust as “return to rationality”).

\textsuperscript{75} \textit{Housing Bubble Analysis: Interview with Global Economic Trend Analysis (Mish),} available at http://efinancedirectory.com/articles/Housing_Bubble_Analysis:_Interview_with_Global_Economic_Trend_Analysis_(Mish).html, June 8, 2007 (describing U.S. housing market as a bubble caused by poor regulatory policy and “consumer greed.”); Bill Fleckenstein, \textit{It’s RIP for the Housing Boom}, Aug. 29, 2005, available at http://moneycentral.msn.com/content/P123683.asp (hedge fund manager calling a “top” to the housing market “mania” based on a reading that “gullibility, not apprehension, is the order of the day”).

\textsuperscript{76} Mark Gilbert, \textit{Credit Market ‘Bubble’ May Be at Bursting Point}, \textbf{BLOOMBERG.COM}, May 17, 2007 (Barclays market analyst “extremely negative on credit markets, which we see as in a bubble”; Bank of America chairman Ken Lewis states, “We’re close to a time when we’ll look back and say we did some stupid things. We need a little more sanity in a period where everyone feels invincible and thinks this is different.”); JOCHEN FELSENHEIMER & PHILIP GISDAKIS, \textit{CREDIT CRISSES} 235-38 (2008) (two investment-bank credit strategists review theories of irrationality-driven bubbles and concluding that they “have a significant impact on the severity of a credit crisis”).

\textsuperscript{77} SHILLER, \textit{IRRATIONAL EXUBERANCE}, \textit{supra} note 38, at 72.

\textsuperscript{78} Kroszner, \textit{supra} note 29, at 4. (“To be sure, there are economists and many ‘journalists’ who claim they ‘know’ when an asset price bubble is forming.”).
of bubbles as sentiment-driven phenomena suggests that perhaps contemporary observers are onto something when they use titles like *Extraordinary Popular Delusions and the Madness of Crowds*, *Manias, Panics and Crashes*, *Irrational Exuberance*, and *Animal Spirits* for their books.

4. Bubbles and the Efficient Capital Markets Hypothesis

It is often said that bubbles are inconsistent with what is called the efficient capital markets hypothesis (ECMH). As Eugene Fama, a long-time proponent of the ECMH, recently stated:

> The word “bubble” drives me nuts. For example, people say “the Internet bubble.” Well, if you go back to that time, most people were saying that the Internet was going to revolutionize business, so companies that had a leg up on the Internet were going to be very successful.

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79 *Mackay, supra* note 71.
80 *Kindleberger & Aliber, supra* note 25.
82 *Akerlof & Shiller, supra* note 61. The original use of the term in the economic context comes from Keynes: “Most, probably, of our decisions to do something positive, the full consequences of which will be drawn out over many days to come, can only be taken as the result of animal spirits - a spontaneous urge to action rather than inaction, and not as the outcome of a weighted average of quantitative benefits multiplied by quantitative probabilities.” John Maynard Keynes, *The General Theory of Employment, Interest, and Money* 161-62 (1936). Shiller describes the characteristic mentality of “irrational exuberance” elsewhere as less than a mania and “more like the kind of bad judgment we all remember having made at some point in our lives when our enthusiasm got the better of us.” *Shiller, Irrational Exuberance, supra* note 38, at 2.
83 *Clement, supra* note 30.
Because the efficient-markets view has at times enjoyed such thorough acceptance in the economics profession and even the judicial system, it is worth pausing to make two points in this respect. First, the ECMH may be consistent with the existence of bubbles, and second, despite its name, the ECMH is in fact not a testable hypothesis.

The efficient-markets hypothesis states that prices reflect available information. It says that prices we observe are the same as the prices we would observe if everyone were endowed with all the available information. As others have observed, the efficient-markets hypothesis can be seen as a hypothesis about “informational efficiency” – the speed with and degree to which a market incorporates information. Informational efficiency may not imply that asset prices are equal to fundamental values (“fundamental efficiency”) or are otherwise related to future outcomes in

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84 See, e.g., Michael Jensen, Some Anomalous Evidence Regarding Market Efficiency, 6 J. Fin. Econ. 95, 95 (1978) (“There is no other proposition in economics which has more solid empirical evidence supporting it than the Efficient Markets Hypothesis.”). Andrei Shleifer argues that this situation has radically changed. See, e.g., SHLEIFER, supra note 18, at 16-23 (describing empirical challenges to ECMH based on U.S. stock prices).

85 See Basic v. Levinson, 485 U.S. 224, 246 (1988) (empirical studies support proposition that “the market price of shares traded on well-developed markets reflects all publicly available information”). The ECMH arose as a description of U.S. stock markets, largely because of data availability. See Clement, supra note 30.

86 Eugena Fama, supra note 11, at 1575 (1991) (stating that the hypothesis can be stated as holding either that “securities fully reflect all available information” or, less ambitiously, that “prices reflect information to the point where the marginal benefits of acting on information (the profits to be made) do not exceed the marginal costs”).

87 See Ronald J. Gilson & Reinier H. Kraakman, The Mechanisms of Market Efficiency, 70 Va. L. Rev. 549, 558 (1984) (ECMH posits “a hypothetical identity between two equilibria in the same market: the equilibrium that would result if everyone knew the information, and the equilibrium that is actually observed.”).
any rational manner. Following this logic, it appears that a bubble as defined in this Article could occur in an informationally efficient market if investors process the available information with poor judgment.

The distinction between informational and fundamental efficiency has been challenged, but the ECMH is beset by the same problem in either incarnation: It is not testable. As Fama puts it: “[M]arket efficiency per se is not testable. … [B]ecause of the joint-hypothesis problem, precise inferences about the degree of market efficiency are likely to remain impossible.” The “joint-hypothesis” problem to which he refers arises from the fact that the ECMH posits an equality between an observable quantity (market price) and an unobservable quantity (what the price would have been if everyone were fully informed). Thus, any attempt to test the ECMH simultaneously tests one’s theory of prices under full information.

If one were to find results potentially falsifying efficiency, one would not

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88 See e.g., Fischer Black (market could be efficient if prices were always half of fundamental value); Fisher, supra note 3, at 867.
91 Fama, supra note 11, at 1576.
know whether the ECMH, or one’s pricing theory, or both, were wrong.

Another way of putting this is that results that appear inconsistent with
the ECMH can always be explained away by invoking the unobservable.
So the mere existence of a story within which an apparent bubble is shown
to be consistent with the ECMH is not enough to reject the possibility of a bubble.\(^{93}\) It is not enough to argue that a phenomenon can be explained
within a rational framework. One must argue that it is that the phenomenon
is more likely explained by a framework in which outbreaks of poor
judgment do not affect prices than a framework in which such outbreaks do
affect prices. That inquiry is likely to rely on indirect evidence. It may be
difficult for statistical tests based on asset returns to reject the efficient-
market hypothesis in a given situation.\(^{94}\) That puts even greater emphasis
on other sources of information. That topic taken up in the next Part.

\(^{93}\) In a related vein, it is sometimes argued that booms require a plausible story that a
new era exists—an era in which the boom assets will perform incredibly well. Frehen et al.
present such an argument about the famous Dutch tulip bubble. See Rik G.P. Frehen, et al.,
inconsistent with the hypothesis that bubbles are caused by poor judgment. Plausible new-
era stories may—and probably do—simultaneously increase the range of forecasts about
the future that are defensible and also reduce the quality of judgment market traders by
attracting new, low-quality traders and possibly by degrading the quality of existing traders.

\(^{94}\) Indirect evidence may be especially important given that certain common statistical
tests used to detect potential inefficiency may lack the power to detect violations of the
joint hypothesis, except in very long time series. See Lawrence H. Summers, *Does the
Stock Market Rationally Reflect Fundamental Values?*, 41 J. Fin. 591, 596 (1986) (where
market values deviate from fundamental value by a random shock with a persistent
component, set with a magnitude to create a standard deviation of market’s error from
fundamental value of 30%, then 5000 years of data are needed to reject the hypothesis of
market efficiency).
5. Conclusion

Several lines of evidence – experimental economics, empirical studies of real-world financial markets, and the persistent beliefs of market participants and observers – point to the conclusion that low-quality traders can cause financial asset prices to rise and collapse. Although asset bubbles are sometimes said to be inconsistent with the efficient markets hypothesis, it is not altogether clear that this is true. Moreover, anyone who doubts the possibility of asset bubbles on this ground must reckon with the fact that market efficiency, like the existence of asset bubbles, must be proved by indirect evidence such as that cited above. Other rational explanations for markets’ boom-and-bust behavior are likewise unappealing.

C. Identification of Bubbles

It may be difficult to identify bubbles even if we assume they exist. It may even be impossible to decide with certainty that a given episode is a bubble, as opposed to something that just resembles a bubble. But what follows from such observations really is not clear. It is sometimes assumed that a kind of economic presumption of innocence applies, wherein markets
must be treated as rational until conclusively proven to be bubbly. But, really, on what do such arguments rest, other than the preferred assumptions of certain economists? If we were to approach the question as one of pure experimental science, the evidence reviewed above might lead us to believe that there is nothing particularly unusual about bubbles and that there is no reason to insist on particularly high standards for recognizing their existence. Indeed, if we were to rely on the experimental literature, we might dispense with a detailed factual inquiry and simply treat boom-and-bust phenomena as bubbles, accepting the possibility of error.

Wherever we set the standard of proof, we will need some idea of what evidence will count in deciding whether a bubble exists. This Part reviews a number of observable facts that one would expect to see in the presence of a boom and bust driven by the entry of low-quality traders. The criteria are drawn from the same types of sources cited above – experimental economics research, empirical finance research, and market participants.

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95 Some of these criteria may be almost as consistent with nonbubble bubble-like behavior (e.g., rationally elevated but ultimately disappointed expectations) as with true bubbles. For example, we might expect nonbubble bubble-like phenomena to include price booms and busts, increased volume of trading, and even the entry of new market participants. But the problem is not just making fine distinctions, but also gross ones. If the criteria can help narrow the universe to true bubbles and their closest impostors, we have made progress. In any event, some of the criteria – such as large changes in net flows from experienced to inexperienced traders – are less consistent with such an explanation.
1. Market Indicators

a. Boom-and-Bust Price Behavior

Boom-and-bust price behavior is not, strictly speaking, necessary for the existence of an asset bubble. A bubble component to prices could appear and disappear again without ever having a noticeable effect on prices if it were masked by countervailing factors. Moreover, observers of real-life asset bubbles believe that some bubbles may deflate slowly rather than dramatically. Nevertheless, boom-and-bust price behavior is often thought of as the core characteristic of an asset bubble, and the theory of bubbles apparently was developed to explain this empirical regularity of capital markets. It seems highly likely that a bubble is more likely with a boom and bust than without one.

In experiments, where fundamental values are known or bounded, the existence of boom-and-bust (or at least boom) behavior is a necessary and sufficient condition of an asset bubble. An experimental bubble by definition will always exhibit a boom. It need not have a crash because the optimistic traders can hold the asset until the end of the experiment. But in

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96 For example, good-judgment traders could revise their expectations downward as poor-judgment traders become euphoric, and the good-judgment traders could revise their expectations upward as the bubble component disappears.

fact crashes are quite common as optimists dump their inventories when the end of the experiment approaches.  

b. Volume Increase

As with boom-and-bust price behavior, market participants have been treating high volumes of speculative trading as a defining characteristic of asset price bubbles for centuries. Although a trading frenzy is not in theory either necessary or sufficient for an asset bubble, it is certainly what we would expect to see if low-quality traders are drawn into a market and influencing the price.

Certainly, asset bubbles in experimental markets exhibit high-volume trading. As Vernon Smith put it, “An empirical regularity in those markets that experience a price bubble is for the collapse in market prices to occur on a trading volume that is smaller than the average volume in the periods preceding the collapse.”

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98 See, e.g., Porter & Smith, Stock Market Bubbles, supra note 55, at 112-13 Fig. 2, 118 Fig. 4, 119 Fig. 5, 121 Fig. 6, 122 Fig. 7, 123 Fig. 8 (1994) (depicting boom-and-bust pattern in “typical” laboratory experiments under varying conditions).

99 King et al., supra note 50, at 183; id. at 185 Table 13.1 (inexperienced traders produce larger bubbles and higher volume than experienced traders).

100 Smith et al., Bubbles, Crashes, and Endogenous Expectations, supra note 43, at 1131; King et al., supra note 50, at 183 (inexperienced traders “inevitably” produce bubbles; once-experienced traders yield smaller bubbles, and twice-experienced traders yield prices tending to follow intrinsic value).
c. Increased Use of Leverage

Although bubbles are observed in experimental markets where no credit is available at all, permitting participants to buy on margin increases the size of the bubble, at least for inexperienced traders. A related finding is that increasing liquidity (the amount of cash the participants have divided by the supply of financial assets) leads to higher prices and larger inflation beyond fundamental value. Although this finding relates to owning more cash rather than being able to borrow it, it suggests the possibility that being able to command a larger amount of cash to purchase assets increases prices and bubbles.

2. Actor Characteristic Indicators

a. New Participants

The experimental-economics literature suggests that bubbles “tend to occur with experienced traders and not with experienced traders who have

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101 See, e.g., Smith et al., Bubbles, Crashes, and Endogenous Expectations, supra note 43, at 1124 (buying and selling of stocks for cash only activity permitted in seminal bubble-market paper).
102 See King et al., supra note 50, at 188-89; Caginalp et al., Overreactions, Momentum, Liquidity, supra note 59, at 30.
103 Caginalp et al., Overreactions, Momentum, Liquidity, supra note 59, at 42-43.
participated many times in the same type of market."\textsuperscript{104} Although there are reasons to believe that real-world markets are less conducive to learning than experimental markets,\textsuperscript{105} so that the effect of experience would be decreased, the experimental evidence is consistent with real-market evidence in suggesting that waves of new participants are likely to help fuel a bubble. For example an experimental study finds that bubbles are fueled by the cash of momentum traders and that they pop when such traders’ available cash is exhausted.\textsuperscript{106} To the extent that new participants are drawn to an asset market by recent price increases and the attention they generate, this finding suggests that new participants fuel bubbles.

b. Increase in Speculative Motives

\textsuperscript{104} Dufwenberg, supra note __, at 1731 n.2 (collecting references). Dufwenberg and his coauthors find that “even with as small a fraction of experienced traders as one-third, bubbles are eliminated, or at least substantially abated”).

\textsuperscript{105} For an entertaining argument that a (false) analogy between bridge and trading played a role in Bear Stearns’ collapse, see Malcolm Gladwell, Cocksure: Banks, Battles, and the Psychology of Overconfidence, THE NEW YORKER, July 27, 2009. In a recent experiment, researchers were able to restart bubbles among experienced traders by increasing liquidity and the variance of asset returns. See Reshmaan N. Hussan et al., Thar She Blows: Can Bubbles Be Rekindled with Experimental Subjects?, 98 AMER. ECON. REV. 924, 928-29 (2008) (description of “rekindle” treatment); id. at 933-36 (results of “rekindle” treatment). Because traders knew the return variance in the “rekindle” treatment, the bubbles were reignited without the presence of uncertainty. In the real world, where uncertainty is always present, and perceptions of the importance of uncertainty are constantly changing, experience seems likely to be less effective at stopping bubble formation.

Individual investors buy stocks that are heavily covered in the media and then lose money on them. This suggests that individual investors typically have poorer judgment than average, and the implication that poor-judgment traders can be induced to trade by media coverage supports the hypothesis that bubbles can be a form of social contagion. Experiments show that as a bubble inflates, traders who started out as “fundamental investors” switch strategies and become “momentum traders” — that is, speculators — and that this further drives up prices. The relative decline of buy-and-hold stock strategies in late 1990s and the rising interest in using houses as sources of financing and vehicles for speculation in the early 2000s was noted by market participants.

c. Increase in Net Sales from More-Experienced to Less-Experienced Traders

In a poor-judgment-driven bubble, we would expect to see more sophisticated traders selling to less experienced traders, with the latter group attracted to the market potentially by hype or simply by price increases.

Such an expectation is consistent with experimental and empirical

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107 See Barber & Odean, supra note 66, at 15-21.
109 Caginalp et al., Dynamics of Trader Motivation, supra note 106, at 13-14.
findings, as well as market participants’ accounts of bubbles. In experiments where traders have different levels of sophistication (as measured by experience with the specific trading environment of the experiment), the more experienced participants are heavy net sellers to the less experienced ones during the bubble period. Likewise, institutional traders are heavy sellers to money-losing attention-driven individual traders. Meanwhile, market participants frequently note the entry of inexperienced traders as a sign of a bubble.\textsuperscript{110}

3. Irrationality-Inducing Environmental Factors

a. Hype

One experiment found that bubbles came into being even in a market where speculation was not possible, and that the incidence of bubbles was reduced in the no-speculation market when a second market was added to the experimental setup.\textsuperscript{111} The researchers interpreted their results as supporting the hypothesis that the subjects traded in the no-speculation market experiments even when it was plainly not in their best interest to do

\textsuperscript{110} Potentially apocryphal stories about cab drivers giving stock tips in the 1920s are one example of this. Another is the rise of the “house flipper” – the person with no real estate experience who buys and sells houses rapidly in search of speculative profit – in the early 2000s.

\textsuperscript{111} See Lei et al., Nonspeculative Bubbles, supra note 52, at 834-35.
so because trading is was only available activity, and the subjects were predisposed to participate actively in the experiment in some manner.\textsuperscript{112} If these subjects were trading because had no other focus of attention, that is consistent with the hypothesis that increased attention to asset classes can help spark a bubble.

b. New-Era Stories

Observers of apparent bubbles in real life stress the importance of “new-era stories,” narratives that make it plausible to believe that asset returns will be permanently higher,\textsuperscript{113} although experimental evidence suggests that asset bubbles exist even when future cash flows from the assets are certain.\textsuperscript{114} That suggests that plausible (or implausible) stories that assets will do better in the future than they have in the past are not the sole cause of bubbles, at least in an experimental setting. This suggests that new-era stories may be most important as a source of hype and attention – a way of getting new investors to consider and invest in the asset class, rather than as a source of optimistic expectations.

\textsuperscript{112} See Lei et al., \textit{Nonspeculative Bubbles}, supra note 52, at 846-53.

\textsuperscript{113} See, e.g., Shiller, \textit{Irrational Exuberance}, supra note 38, at 106-32; Frehen et al., \textit{supra} note 93, at 15-16 (identifying optimistic expectations about the newly developing Atlantic trade between Europe and North America and about the profitability of then-novel incorporated insurance companies as drivers of the early 18th-century South Sea and Mississippi Company bubbles).

\textsuperscript{114} See Porter & Smith, \textit{Stock Market Bubbles}, supra note 55, at 117-18; Caginalp et al., \textit{Overreactions, Momentum, Liquidity}, supra note 59, at 27.
4. The Role of Arbitrage

A central proposition for those who believe that asset bubbles do not exist, or are unlikely to exist, in reality is that even if many traders are irrational, sophisticated traders will take advantage of that irrationality by entering into profitable trades. This activity could keep prices from departing materially from the levels that would be observed if everyone were rational.

For example, if foolish people who saw ads for dot-com stocks on television have bid up the price for a given stock to $110 when the highest defensible judgment of the stock’s value is $100, then traders with good judgment might sell their inventories of that stock, or sell the stock short to take advantage of the foolish people’s folly. This would push the stock’s price back down toward $100. This activity is called “arbitrage.” If a small number of high-quality arbitrageurs can command enough resources, they can drive the price back down to the appropriate level even though they are vastly outnumbered by low-quality traders.

Arbitrage is in theory a powerful weapon against asset bubbles. Its

effectiveness in practice is an empirical question, to be determined from market to market and from time to time. Many markets simply do not permit easy arbitrage opportunities. For example, it is no small matter for a homeowner to sell his or her house and take up residence in a rental because of a housing bubble.

Even where arbitrage is easy, the arbitrageur must confront the famous saying that “markets can remain irrational longer than you can remain solvent.”\textsuperscript{116} If an arbitrage opportunity presents itself, then that means that the markets have “mispriced” the asset. And if the asset can be mispriced in the first place, that mispricing can in principle get worse before it gets better. If that happens, then the arbitrageur who has borrowed money or stock to take a trading position will have to put up additional funds as the market moves against the position. This can be a very risky game for highly leveraged arbitrageurs such as hedge funds. Economists have created models that formalize this intuition.\textsuperscript{117}

The experimental evidence suggests that introducing short selling does not eliminate bubbles and may exacerbate them, at least with inexperienced

\textsuperscript{116} This remark is often attributed to Keynes, although it is widely believed to be apocryphal.

\textsuperscript{117} See J. Bradford De Long et al., \textit{Noise Trader Risk in Financial Markets}, 98 J. of Pol. Econ. 703, 703 (1990) (describing model in which “[t]he unpredictability of noise traders’ beliefs creates a risk in the price of the asset that deters rational arbitrageurs from aggressively betting against them”).
traders. And even when researchers create a set of informed traders by explaining the setup’s propensity to create bubbles and permitting the insiders to see the bid and offer flow in the market, bubbles still emerged in settings with relatively large numbers of inexperienced traders. The insiders were simply overwhelmed. Futures markets can be used for arbitrage, and introducing a futures market to the experiment dampened but did not eliminate asset bubbles.

The theoretical possibility of arbitrage does not rule out the presence of asset bubbles, but the ease of arbitrage and the activities of arbitrageurs in the market certainly are relevant in determining whether an asset bubble exists.

5. Ex Post and Ex Ante Identification of Bubbles

Assuming asset bubbles exist and can be identified, it may be difficult for regulators or tribunals to detect them as they are going on, rather than

\[\text{\cite{118}}\]

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after the fact.\textsuperscript{122} This is true even if high-quality traders, who often make their livings following the market, are aware of bubbles as they happen. For example, the sharp decline in asset prices that often comes at the end of the bubble may be crucial – though, again, not independently dispositive – evidence that a bubble in fact occurred. This suggests that any proposal for dealing with bubbles might benefit from taking advantage of hindsight, to the extent possible.

Yet existing suggestions for curtailing bubbles, surveyed by Erik Gerding, tend to be static or real-time in nature. Static interventions are in place at all times, not responsive to specific conditions. Because they would be always on, their effects (and side effects) would always be present. Such interventions include efforts to improve information to investors and their information-processing ability, removing barriers to arbitrage, imposing barriers to markets for unsophisticated traders, and devising “circuit breaker” rules that halt trading when large price moves are

\textsuperscript{122} See Michael Mussa, \textit{Asset Prices and Monetary Policy}, in \textit{Asset-Price Bubbles}, supra note 29, 41, 42-43 (“After the fact – after the collapse – a bubble often seems obvious. And ex post evidence is surely relevant and legitimate in assessing whether asset price bubbles and similar anomalies do occur.”); Stephen J. Choi & A.C. Pritchard, \textit{Behavioral Economics and the SEC}, 56 STAN. L. REV. 1, 53 (2003) (“[T]he recent performance of the U.S. stock market supports the possibility of stock bubbles.”); Allan H. Meltzer, \textit{Rational and Nonrational Bubbles}, in \textit{Asset Price Bubbles}, supra note 29, 23, 30 (“[I]nvestors may misread signals and, as a result, misallocate capital. But … these errors are found only ex post and cannot be prevented.”); Trichet, \textit{supra} note 30 at 2, (“After acknowledging the problems to identify a bubble even after the cycle has collapsed, it is not surprising that the challenge to call a boom a bubble is of another order of magnitude if the judgment has to be made in real time.”); Partnoy, \textit{supra} note 3, at 756 (bubbles are “difficult to spot ex ante”).
observed. Real-time interventions require policymakers to identify bubbles as they develop, and thus are vulnerable to the complaint that they require regulators to have superior foresight to markets. The main ideas along this line are tightening credit or increasing interest rates as bubbles start to develop.

None of the proffered approaches exploits the possibility that bubbles may be more easily recognized ex post than ex ante, that the owl of Minerva does spread her wings, but only when dusk falls. If that is true, it argues for a conditional response, one that applies only to phenomena that are asset bubbles, and that therefore operates only when the frenzy is concluded. These are the characteristics of the proposal to rescind bubble contracts.

D. Negative Consequences of Bubbles

Bubbles entail several different types of negative consequences. They reduce capital markets’ effectiveness in directing capital appropriately, at least under the conventional understanding of how capital markets area

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123 See Gerding, supra note 3, at 1007-12.
124 See Gerding, supra note 3, at 1007-12.
125 Compare Cass R. Sunstein, Boundedly Rational Borrowing, 73 U. CHI. L. REV. 249, 249 (2006) (“The evaluation of whether borrowing is optimal might be made ex ante or ex post. Economists and economically oriented lawyers prefer the ex ante perspective. … At least as plausibly, the question of optimal borrowing should be investigated ex post, with close reference to the actual effects of borrowing on people’s lives.”).
126 See G.W.F. HEGEL, PHILOSOPHY OF RIGHT (1820).
supposed to operates. Bubbles increase price volatility, which is itself welfare-reducing under standard economic analyses and is therefore a kind of cost. They increase the incidence of fraud, which is bad even apart from any economic costs. And in the existing institutional structure of advanced countries, bubbles create an apparently irresistible need to bail out financial institutions that fail as a result of the bubble.

1. Malinvestment

   Capital markets are linked to the real economy because they direct investment to real projects. To pick just some of the most obvious examples, bubbly conditions lead to investments of real resources to build railroads, to lay Internet cable, to spend $1.2 million on a Super Bowl ad to promote Pets.com, and to build large real estate developments in American deserts (twice). Although some of these investments may have been justified via the creation of externalities – this argument is particularly

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127 See Marcel Kahan, *Securities Laws and the Social Costs of “Inaccurate” Stock Prices*, 41 DUKE L.J. 977, 1005-17 (1992) (describing conditions under which stock prices that depart from fundamental value will lead to misallocation of capital).


popular in the context of fixed infrastructure investments – the more common view is that bubbles lead to inefficient allocation of real resources through overinvestment in the production of the nonfinancial assets that are the subject of the bubble.

2. Price Volatility

Cyclicality is one of the most fundamental empirical facts about modern economies.\footnote{See, e.g., JAMES D. GWARTNEY ET AL., ECONOMICS: PUBLIC AND PRIVATE CHOICE 182 (10th ed. 2003).} Smoothing economic cycles is one of the basic goals of modern macroeconomic policy,\footnote{See 15 U.S.C. § 1021 (establishing “reasonable price stability” as federal policy goal); id. § 3101(c) (same); MISHKIN, supra note 130, at 393-95 (identifying stability of prices, financial markets, and interest rates as goals of monetary policy); Trichet, supra note 30, at 3.} even though no one thinks that the business cycle is going to be completely eliminated by such policy. Similarly, smoothing the individual’s consumption throughout the life cycle by permitting borrowing in youth, saving in middle age, and drawing down savings when older, is one of the principal justifications offered for financial markets. And of course, the classical theory of risk aversion treats price volatility as undesirable in itself, so a volatile asset will be less desirable than a less volatile one with the same average rate of growth.\footnote{See WILLIAM A. SHARPE ET AL., INVESTMENTS 142 (6th ed. 1999); JOHN D. AYER, GUIDE TO FINANCE FOR LAWYERS 195 (2001).}

Bubble-like behavior – massive price crashes and the unsustainable price
increases that precede them – are inconsistent with both these objectives. All things being equal, reducing the incidence of bubble-like price behavior is desirable.

Even skeptics of securities regulation such as Stephen Choi and A.C. Pritchard acknowledge that “policymakers might improve overall welfare by limiting securities transactions if they were confident they were curtailing primarily speculative trades.”\textsuperscript{134}

3. Fraud

Fraud inevitably increases during a bubble.\textsuperscript{135} This is what one would expect in any situation where poor judgment reigns and people see the prospect of large gains.\textsuperscript{136} Fraud is independently bad, both because it is immoral and because it results in presumably welfare-reducing transactions.

4. Bailouts

When a bubble pops, it may – although it need not – imperil leveraged institutions that “too big to fail.” It appears that this is a recurrent pattern across countries, with the controversial recent U.S. bailouts just the most

\textsuperscript{134} Choi & Pritchard, supra note 122, at 58.
\textsuperscript{135} See discussion infra Part III.C. 2.
\textsuperscript{136} See KINDLEBERGER & ALIBER, supra note 25, at 165-203.
recent example. The costs of rescuing these institutions are inevitably borne by parties other than their nominal stakeholders, so the costs of bubble-induced bailouts – necessary though they may be – count as an externality.

5. Summing Up: The Negative Consequences of Bubbles

To be sure, some bubbles are more consequential than others. Assuming that there were bubbles in both dot-com stocks and in U.S. housing, the effects of the latter seem far more severe than those of the former. There is also a Romantic conception in which bubbles are a positive force for good. Perhaps the capitalist process of creative destruction cannot work unless visionaries can mobilize irrational exuberance to enlist the resources to build railroads, dig canals, lay Internet cable, and so forth. Even the fraud associated with bubbles can be seen as a sort of noble lie in the service of a long-term vision that must elude pettifogging accountants and risk managers. Whatever this view has to commend it, it is such a radical departure from the way conventional financial and legal theory looks at bubbles that its serious consideration lies

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137 Gerding, supra note 3, at 1035 (citing DANIEL GROSS, POP! WHY BUBBLES ARE GREAT FOR THE ECONOMY (2007)).
beyond the scope of this Article.\textsuperscript{138}

Within a more conventional framework, it seems difficult to establish that episodes where poor-judgment traders take control of asset prices have significant benefits. It has been argued that measures to prevent bubbles are bad because they may reduce market liquidity.\textsuperscript{139} “Liquidity,” however, is not an end in itself.\textsuperscript{140} If the extra liquidity during a bubble comes from the entry of buyers whose transactions are inherently suspect, then it is hard to see how it is a good. If the extra liquidity helps perpetuate the bubble, then it is a positive bad, at least to the extent that the other reasons for believing that bubbles are bad hold true.

Another type argument for bubbles – or at least against taking action against them – could be based on freedom of contract. I discuss those arguments in detail in Part III, below. Based on the discussion in this Part, a background assumption for that discussion will be that bubbles in on balance have significant negative effects that are not limited to those who enter into bubble contracts and that are not countered by offsetting

\textsuperscript{138} The obvious rejoinder within the conventional framework to the argument that bubbles are good because they provide funding for infrastructure is that the bubbles encourage wasteful overbuilding, at least in the market’s judgment, which is why the infrastructure builders in these episodes did not have enough revenue to sustain operations and collapsed. Although the canals, railroads, and fiber optics they left behind continued to add value, that doesn’t mean that construction was justified ex ante. It seems likely that bubble proponents are aware of this and are arguing from a different framework.


\textsuperscript{140} Compare Gerding, \textit{supra} note 3, at 1034 (“Many antibubble laws are, in fact, designed to deny liquidity to the markets”).
positives.

II. UNWINDING BUBBLE CONTRACTS AS AN ANTI-BUBBLE STRATEGY

A. What Does It Mean to Unwind Bubble Contracts?

The remainder of this paper explores whether it makes sense to enforce bubble contracts. To focus that discussion, this Part discusses what it could mean not to enforce such contracts. It describes a scenario for unwinding (rescinding) bubble contracts and sketches how that scenario would have unfolded in the context of the dot-com and real-estate bubbles.  

By nonenforcement I mean “rescission.” That is the usual remedy for contracts that are vitiated by incapacity, mistake, or misrepresentation, the three doctrines most relevant to asset bubbles. Moreover, a rule of rescission ought to deter formation of asset bubbles, as described below. Although the idea of rescinding bubble contracts may sound extremely radical and overbroad, I ask the reader to keep an open mind. The idea explored here is no more outlandish than, say, abolishing summary judgment, much less creating a free market in baby sales, or allowing

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141 As discussed, it is not possible to say for sure whether any real-world episode is a bubble, so it is more precise to refer to the dot-com and real-estate episodes as “putative” bubbles. I dispense with the qualification to avoid clumsiness.

adults to sell themselves into slavery. The idea presented is in the nature of a thought experiment, designed to present a clear, polar position for discussion.

1. A Sketch of the Idea

A rescission rule would be applied after a bubble has ended. As discussed, it is easier for regulators to identify bubbles in hindsight, even though the evidence suggests that high-quality traders are aware of them when they are going on. For example, a price crash is itself an important piece of information suggesting – though not conclusively proving – that high prices during the boom resulted from poor judgment rather than reasonable evaluations of future prospects.

Any party to a bubble contract could invoke the rule. Sophisticated parties could invoke it against unsophisticated parties, and vice versa. Banks could invoke it against borrowers, and borrowers could invoke it against banks. The symmetry of the rule helps deter bubble contracts, as both high- and low-quality traders are likely to be motivated by the

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143 Elizabeth M. Landes & Richard A. Posner, The Economics of the Baby Shortage, 7 J. LEGAL STUD. 323, 324, 346 (1978) (reviewing “objections to allowing the price system to equilibrate the adoption market,” concluding “the benefits of free baby selling might well outweigh the costs,” and proposing “a method of practical experimentation with introducing a market in adoptions”).

possibility of speculative gain. Symmetry also avoids the opportunistic post hoc assertion of low quality and the need to inquire into where exactly to draw the line between low and high quality traders on an individual basis.

The rescission rule would apply to any contract entered into during a bubble, executory or fully performed. Rescission, even of fully performed contracts, is the usual response to incapacity, mistake, and misrepresentation. This could lead to “chains” of rescission, as a condo purchased in 2008 is unflipped back to its 2007 owner, who unflips it back to its 2006 owner and so forth. The net effect of the chain of rescission, to first order at least, would be restoration of the prebubble status quo.\(^{145}\)

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2. Rescission and Stock-Market Bubbles

In the context of a stock bubble, rescission entails returning ownership of each share from the owner at the end of the bubble to the previous owner, then to the preceding owner, and so forth. At each stage, the seller refunds the purchase price to the buyer. The net effect of the “chain” of rescission is that each share is held by its pre-bubble owners and there are no net profits from the trading activity during the bubble. In the context of the dot-com bubble, application of this rule presumably would have entailed many

\(^{145}\) In some cases this might not be possible. For example, condominium complexes that were built in response to bubble demand couldn’t be unbuilt. Malinvestment cannot be uninvested, only avoided.
initial public offerings that took place during the bubble.\textsuperscript{146}

In the context of financial bubbles such as stock bubbles, the question arises whether rescission should apply to short sales and transactions in derivatives based on the bubble assets. The bubble itself may not suggest that short sellers (or any other sellers) have poor judgment, but every short sale, like every other sale, has a buyer. Short sales might dampen bubbles because they place downward pressure on prices, but they may also facilitate a bubble market by increasing liquidity; experimental results indicate that short sales may make bubbles worse.\textsuperscript{147} The logic of rescission seems to suggest, at least provisionally, that short sales should be subject to the rule.

As for derivatives, they are linked in an arbitrage relationship to bubble assets and can be used as a vehicle for speculation on the asset bubble, so it seems appropriate to include them in the rule as well.\textsuperscript{148}

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\textsuperscript{147} See discussion supra Part I.C. 4.
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\textsuperscript{148} Note that this proposal does not rest on a conclusion that derivatives inherently exacerbate bubbles. It is just a proposal that they be treated the same as the assets whose cash flows they are designed to mirror. There will be of course be challenges in boundary-drawing (i.e., if there was a housing bubble, should a derivative that is based partially on housing prices and partially on stock prices be included), but they are beyond the scope of this Article.
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3. Rescission and Real-Estate Bubbles

In the context of a real estate bubble, the simplest rule for handling rescission would be to require the buyer to return title to the property to the seller in exchange for a refund of the purchase price. This is the way rescission usually works under existing contract law, and it avoids error in determining the current value of the asset. Such an approach creates practical difficulties, as people who occupy homes they bought during the bubble would no longer own their dwellings unless they were able to reach an agreement with the original seller/post-rescission owner to repurchase the house at a current (and presumably nonbubble) price.

Depending on the difficulty of reaching such agreements, it might be simpler to adopt monetary compensation based on non-bubble prices. If we were to conclude that a housing bubble existed from 2002 through 2006, and a house was worth $500,000 in 2002 immediately before the bubble began and sold for $750,000 in 2006, then the seller would refund the buyer the $250,000, which might approximate the bubble component of the price. The drawback of this approach is that it requires an analysis of whether price changes resulted solely from the bubble or from other factors.

Physical rescission, for all its practical difficulties, does not require this analysis.
Loans to buy bubble assets that are collateralized by bubble assets seem to qualify as bubble contracts. Bubbles seem to characterized and fueled by expansion of lending collateralized by the bubble assets, lending that makes sense only if asset prices continue to go up because repayment depends on the borrower’s ability to liquidate the collateral rather than its ability to repay from other resources. Subprime mortgages are a particularly obvious example of this, but loose margin lending to buy stocks is another. Yet a third, drawn from the famous “tulip bulb” bubble in Holland in 1636-37 – is the sale of tulip bulbs backed by letters of credit due at the time the tulips would be dug up.149

Rescission of such contracts would entail the borrower’s return of the outstanding principal and the lender’s return of interest and fees paid.150 At first blush, rescinding all mortgages extended in real estate markets affected by the housing bubble seems wildly impractical: Borrowers typically will have no way of coming up with the cash to rescind the transaction without selling the house, so rescission would lead to the mother of all waves of forced selling.

But the owner will be entitled to a refund of the bubble increment of the house purchase price, the $250,000 in the example above. The owner ought

150 The lender’s retention of interest at some rate approximating the risk-free rate to account purely for the time value of money is consistent with the goals of this proposal.
to be able to use this sum plus proceeds from a refinancing to pay off the original lender if the lender wants to rescind the mortgage. To the extent that the buyer cannot recover these funds because the seller has dissipated them, then the buyer and lender have together suffered a loss due to the bubble. The principle of rescission would suggest that both are entitled to be put back in the position they occupied before the ill-starred transaction took place. If that is not possible because the seller (the one who benefited from the bubble) cannot refund the price, then some principle of loss sharing will have to be applied to address the fact that the status quo cannot be restored. But if the principle of rescission of bubble contracts is accepted, there is no reason that the loss-sharing rules should be the ones the lender and borrower set forth in the loan agreement.

One obvious argument against the idea of rescinding bubble contracts is that it entails high administrative costs in overseeing the rescission of large numbers of contracts. That objection fits into the structure of analysis of contract doctrine presented below and is taken up there. Here, note simply that the objection should be evaluated with respect to the scope of the problem. The administrative cost of rescinding a home sale contract is not likely to be large relative to the size of the house. Such costs, though high, are likely a secondary issue relative to the other issues presented by asset bubbles.
B. Rescission and Deterring Bubbles

If bubbles are driven largely by the hope of speculative profits, then rescinding bubble contracts should impede bubble formation by removing the incentive to profit. Traders who know or suspect that a bubble is present have no incentive to transact if they cannot make a profit.

Bubbles typically involve a large number of traders who differ in many respects, including level of judgment and motivation for trading. For simplicity, I consider just high-quality and low-quality traders.

High-quality traders are often consciously aware that a bubble may or probably does exist – recall the 72 percent of asset managers who thought the U.S. stock market was in a bubble in April 1999, and the experimental finding that “traders speculate when they realize that other

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152 See Fischer Black, Noise, 41 J. Fin. 529, 530 (1986) (in models that take noise seriously, “The common element … is the emphasis on a diverse array of unrelated causal elements to explain what happens in the world. There is no common single factor that causes prices to stray from theoretical values, nor even a small number of factors.”); Caginalp & Ilieva, Dynamics of Trader Motivations, supra note 106, at 13 (2005) (“Contrary to the efficient market idealization, there are different motivations behind trades, and it would be impossible to predict where these motivations would lead without having a quantitative basis for assessing the impact on traders.”).

153 SHILLER, IRRATIONAL EXUBERANCE, supra note 38, at 72.
traders are prone to errors.” Even these actors, despite acute awareness of the possibility that they are in a bubble, often decide to ride the wave anyway. They purchase assets on a speculative basis for resale in a strategy called “momentum trading.” Indeed, experiments suggest that investors can be converted into momentum traders by the strength of the bubble. Such tactics are likely to be dissuaded by a rule requiring disgorgement of bubble profits.

Even low-quality traders may have their suspicions that a bubble exists but seek speculative gains anyway, with greed overwhelming fear. Someone in the grip of such a mental state may be dissuaded by the rescissory remedy, because it works on the greed side of the ledger. The bubble trader has pushed the negative scenario of market losses out of his or her mind, but the rescission proposal works on market gains. The low-quality trader who suspects a bubble must convince himself or herself not only that he or she will get out of the market before the crash, but also that his or her gains will not be taken away by rescission.

Moreover, if the idea that bubble gains will be taken away through rescission enters the public discourse, that should work against social factors such as hype that may contribute to the spread of unrealistic new-era thinking that propagates bubbles.

154 Noussair & Plott, Bubbles and Crashes, supra note 52, at 262-63
155 Caginalp & Ilieva, Dynamics of Trader Motivations, supra note 106, at 14.
156 See, e.g., Felsenheimer & Gisdakis, supra note 76, at 236.
It might be argued that rescission would encourage speculation by removing the fear of market losses. But if bubbles as defined in this Article exist at all, that means that markets are given to episodes where the greed for market gains overwhelms the fear of market losses. In a bubble, greed is stronger than fear, so it seems hard to argue that removing both forces will do anything other than push prices back down toward nonbubble levels.157

Experimental evidence would be helpful in evaluating the likely usefulness of rescission in controlling bubbles, and it does not appear that researchers have yet conducted any studies along these lines. One experimental-market study did find that a 50 percent capital gains tax failed to prevent bubble formation.158 Of course, this is unsurprising because capital-gains taxes short of 100 percent do not eliminate the profits from successful speculation.159

157 This argument does not exclude the possibility that the insurance against losses provided by the rescission rule would turn nonbubble situations into a bubble. It is difficult to see why this would happen, though, because the rescission rule eliminates the possibility of gain from such activity.
158 Vivian Lei et al., Asset Bubbles and Rationality, supra note 151, at 1-2. The researchers in this particular experiment apparently did not conduct any control experiments without a capital gains tax, so it is not clear whether the tax had reduced the size of the bubble.
159 The rescission remedy suggested here is much more narrowly targeted than a typical capital-gains tax because it would apply only to transactions that occur during a bubble. Capital-gains taxes, at least as currently implemented, apply to all transactions (absent special exemptions) and therefore discourage investment in all capital assets, bubble and nonbubble.
III. Unwinding Bubble Contracts and Freedom of Contract

If we take seriously the idea that bubbles reflect large-scale outbreaks of poor judgment that can be identified on an aggregate level after the fact, that should have implications for the analysis of bubble contracts. The contract doctrines of capacity, mistake, and fraud are relevant to bubble contracts. These doctrines can be understood as sharing a common two-step structure: The first step addresses whether consent to the contract is undermined by circumstances, and the second step addresses what should happen given that the consensual basis for enforcing the contract is vitiated. The second step may embrace a broad range of concerns, but its key feature, common across all three doctrines is that it is extraconsensual, and thus in a sense extracontractual.

Bubbles fit into this two-step structure as follows. The low average judgment we observe in a bubble raises the question of bubble traders’ capacity. Incapacity would not be recognized under existing doctrine, but poor judgment is the condition the doctrine is designed to address. In a bubble, poor judgment manifests itself in a different manner from the incapacity presently recognized. Current doctrine focuses on individuals who have readily recognizable incapacitating features such as minor age,
but in a bubble there is an outbreak that can be recognized on an aggregate level and is likely to be socially mediated. The relatively recent recognition of this phenomenon by the economics profession supports an expansion of Step One of the capacity doctrine to cover it, as expanding understanding of mental illness changed capacity doctrine in the last century.

Bubbles do not change the Step One analysis of mistake and misrepresentation. Both mistake and misrepresentation are likely to be more common in bubbles, as discussed below. Bubbles do affect how all three doctrines should be applied at Step Two: A rule of rescission would help deter bubbles. Case-by-case analysis of the reasonableness of traders’ action is more difficult in a bubble because bubble traders are not normal so that there is no familiar baseline for reasonableness. And the social contagion that often spreads bubble thinking complicates fault-based analysis of Step Two, which is an important part of existing doctrine. The table below summarizes the structure of the argument.
<table>
<thead>
<tr>
<th>Doctrine</th>
<th>Step One</th>
<th>Step Two</th>
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<tbody>
<tr>
<td>Capacity</td>
<td>Low average judgment supports application of incapacity.</td>
<td>Bubble-deterring effects of rescission count because this step is loss allocation, not enforcement of fully consensual agreements.</td>
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<tr>
<td>Mistake/Fraud</td>
<td>More common than in non-bubble conditions.</td>
<td>Case-by-case analysis is more difficult because traders are not “normal”</td>
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<td></td>
<td></td>
<td>Social contagion complicates nonutilitarian (usually fault-based) analysis.</td>
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</tbody>
</table>
The doctrines of capacity, mistake, and misrepresentation/fraud have a two-step structure. The first step in each doctrine can be understood as addressing whether there is some condition that undermines the validity of contract assent. The second can be seen as a way of addressing what happens next: Vitiation of assent does not necessarily lead to excuse. Excuse will advantage one party; enforcement will advantage the other. The second step can be understood as allocating the gain or loss. And, in keeping with the dominant understanding of contracts as primarily consensual undertakings, the second step can be understood as acting “extracontractually” – applying principles of relative fault, the creation of proper incentives, and so forth, that do not depend on the idea of enforcing contracts because they are consensual agreements. It is therefore appropriate to call the second step the “extracontractual loss allocation” step. I will refer to a step as being “satisfied” if the analysis of that step supports rescinding the contract. That is, if a party lacks capacity, then Step One of the capacity test is “satisfied.” If the conditions for rescinding the contract under Step Two are met, then Step Two is “satisfied.”

The discussion below takes up how this two-step structure plays out for each doctrine in the context of a bubble, but the treatment of each doctrine
in the Restatement (Second) of Contracts is sketched here to make the point.

1. Capacity

Capacity defenses can be understood as based on the inability of specified classes of people – children, those affected by mental disabilities, and those who are intoxicated – to exercise good judgment. For adults who are not under guardianship, the trigger for the capacity doctrine is inability “to act in a reasonable manner in relation to the transaction” as a result of mental illness or intoxication.

The Step-One inquiry is whether the promisor falls into a category of people who presumptively have worse-than-average judgment:

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162* RESTATEMENT (SECOND) OF CONTRACTS § 16(b) (1981)  
163* Although a concern with inequality of sophistication, rather than lack of ability to contract, may help explain capacity doctrines, see, e.g., Halbman v. Lenke, 198 N.W.2d 562, 564 (Wis. 1980) (purpose of incapacity doctrine is “the protection of minors from foolishly squandering their wealth through improvident contracts with crafty adults”), lack of judgment appears to be the fundamental basis. See Kronman, *Paternalism, supra* note 5, at 789; Melvin Aron Eisenberg, *The Limits of Cognition and the Limits of Contract*, 47 STAN. L. REV. 211, 212 (1995) (capacity doctrine is “best explained on the basis of the limits of cognition”) (citing RESTATEMENT (SECOND) OF CONTRACTS § 15 cmt. d). Courts apparently will not, for example, enforce contracts between minors of roughly the same age, where (presumptive) lack of judgment is present but inequality of sophistication is absent. See S.B. v. St. James School, 959 So. 2d 72, 96 (Ala. 2006). Likewise, “the incapacity defense is applicable even if the party with capacity neither knew nor had reason to know that the other lacked capacity.”  
164* RESTATEMENT (SECOND) OF CONTRACTS § 15(1)(b), 16(b) (1981).  
165* Although a concern with inequality of sophistication, rather than lack of ability to contract, may help explain capacity doctrines, see, e.g., Halbman v. Lenke, 198 N.W.2d 562, 564 (Wis. 1980) (purpose of incapacity doctrine is “the protection of minors from foolishly squandering their wealth through improvident contracts with crafty adults”), lack
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children,\textsuperscript{166} those affected by mental disabilities,\textsuperscript{167} and those who are intoxicated.\textsuperscript{168} Unless the promisor is a child or an adult under guardianship, Step One is satisfied only if the promisor’s mental illness or intoxication renders him or her unable “to act in a reasonable manner in relation to the transaction.”\textsuperscript{169}

The Step-Two inquiry for capacity depends on the category of incapacitation at issue, and recognizes that automatic excuse is appropriate for some types of incapacity and that a case-by-case rule is appropriate for others.\textsuperscript{170} The different types of inquiry can be arranged on a spectrum from most to least likely to grant excuse, as follows. The polar case of incapacity is a person under guardianship: such a person has no capacity to incur contractual duties and his or her contracts are void.\textsuperscript{171}

If capacity is at issue because one of the parties is a minor, the general

\textsuperscript{166} Restatement (Second) of Contracts § 14 (1981).

\textsuperscript{167} Restatement (Second) of Contracts § 15(1)(b) (1981).

\textsuperscript{168} Restatement (Second) of Contracts § 16(b) (1981).

\textsuperscript{169} Restatement (Second) of Contracts § 15(1)(b), 16(b) (1981).

\textsuperscript{170} See Richard Epstein, Unconscionability: A Critical Reappraisal, 18 J. L. & Econ. 293, 300 (1975) (arguing that capacity rules should “attempt to identify broad classes of individuals who in general are not able to protect their own interests” because a “case-by-case analysis of incompetence is for the most part too costly to administer”). Epstein’s general approach is to minimize the total costs “of enforcing contracts that should not be enforced, and, second, not enforcing those that should be enforced.” Id.

\textsuperscript{171} Restatement (Second) of Contracts § 13 (1981).
rule is that the contract is automatically voidable at the minor’s option, without inquiry into whether the minor knew what he or she was doing. The same analysis applies to those who, because of mental illness or defect, are not able to understand in a reasonable manner the “nature and consequences of the transaction” – that is, to those who cannot understand that they are entering into a contract.

If capacity is at issue because one of the parties is an adult not under guardianship who is intoxicated or who knows that he or she is making a contract but is unable to act reasonably with respect to the transaction because of mental illness, the contract is not voidable unless the counterparty had reason to know of the inability to act reasonably.

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172 RESTATEMENT (SECOND) OF CONTRACTS § 14 (1981) (“Unless a statute provides otherwise, a natural person has the capacity to incur only voidable contractual duties until the beginning of the day before the person’s eighteenth birthday.”). The bright-line rule has been widely criticized by academics. See Juanda Lowder Daniel, Virtually Mature: Examining the Policy of Minors’ Incapacity to Contract Through the Cyberscope, 43 GONZ. L. REV. 239, 267 (2008) (arguing that adolescents should be presumed to be capable of contracting and that a rebuttable presumption of incapacity should apply to younger children); Larry Cunningham, A Question of Capacity: Towards a Comprehensive and Consistent Vision of Children and Their Status Under Law, 10 U.C. DAVIS J. JUV. L. & POL’Y 275, 287-94, 376-77 (2006); Larry A. DiMatteo, Deconstructing the Myth of the “Infancy Law Doctrine”: From Incapacity to Accountability, 21 OHIO N.U. L. REV. 481, 524 (1995) Nevertheless, it apparently remains the law in most jurisdictions, tempered to varying degrees by exceptions for contracts for “necessaries,” see, e.g., State ex rel. Packard v. Perry, 655 S.E.2d 548, 557 n.12 (W. Va. 2007), for situations where the minor affirmatively misrepresents his or her age, see, e.g., Youngblood v. State, 658 S.W.2d 598, 599 (Tex. Crim. App. 1983), and by statutes governing specific situations. See, e.g., CAL. FAM. CODE §§ 6750-51 (contracts for performance services). The minor’s ability to escape contract obligations also is limited by the fact that the minor must restore what he or she received under the contract unless it has been consumed or dissipated. RESTATEMENT (SECOND) OF CONTRACTS §14, cmt. c (1981).

173 RESTATEMENT (SECOND) OF CONTRACTS § 15.

174 RESTATEMENT (SECOND) OF CONTRACTS § 15(1)(b); § 16(a).
2. Mistake

The mistake doctrine (in both its mutual and unilateral incarnations), like the frustration, impossibility and impracticability doctrines, can be thought of as dealing with situations in which there is a gap in the parties’ agreement. In the Restatement and UCC, the test for the existence of such a gap – the test for whether Step One is satisfied – is the failure of a “basic assumption on which the contract was made.”

The Restatement’s Step Two or loss-allocation rules for mistake are among its more controversial, but reviewing them in instructive to illustrate the variety of settings for mistake and related doctrines. They reflect the diversity of factual settings for mistake, the lack of obvious culpability in mistake cases, and concern about the ease with which claims of mistake can

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175 Trebilcock, supra note 31, at 130 (doctrines address themselves to “some subclass of risks that contracting parties simply did not address their minds to at all in the contracting process”); Fried, Contract as Promise 58-64 (1981) (discussion of mistake, frustration, and impossibility in chapter entitled simply “Gaps”); id. at 59-60 (in mistake case, “[t]here just is no agreement as to what is or turns out to be an important aspect of the arrangement” so that “the court is forced to sort out difficulties that result when parties think they have agreed but actually have not”); Melvin A. Eisenberg, Mistake in Contract Law, 91 Cal. L. Rev. 1573, 1627 (2003) (“[T]he principle that a shared mistaken tacit assumption normally provides a basis for relief does not undercut the agreement of the parties. Rather, that principle, if properly applied, carries out the agreement of the parties.”); Randy E. Barnett, A Consent Theory of Contract, 86 Colum. L. Rev. 269, 318 (1986) (mistake doctrine “stem[s] from the inability to fully express in any agreement all possible contingencies that may affect performance”).

176 See Restatement (Second) of Contracts (1981) § 152(1) (mutual mistake); § 153 (unilateral mistake); §261 (impracticability); UCC § 2-615(a) (commercial impracticability); Uniform COMM. CODE § 2-721 (rescission of contract as remedy for fraud)
be made opportunistically.

Under the Restatement, when both parties are mistaken as to the same basic assumption, loss will be allocated to the party adversely affected by the mistake if the risk is so allocated in the agreement, if the party consciously treated limited knowledge as sufficient, or if the court determines that it is reasonable to allocate the risk to that party.\(^\text{177}\) Otherwise, the agreement will be voidable by the adversely affected party.\(^\text{178}\) When only one party is mistaken, that party will not be able to avoid the contract unless enforcement would be unconscionable or the other party had reason to know of the mistake or caused the mistake through its fault.\(^\text{179}\)

3. Misrepresentation

When there is a claim of misrepresentation, the Restatement provides that Step One is satisfied when assent is induced by a fraudulent or material misrepresentation.\(^\text{180}\) The Step Two (loss allocation) rule in this context is that the party seeking to avoid the contract must have been justified in

\(^{177}\) Restatement (Second) of Contracts, § 154 (1981).
\(^{178}\) Restatement (Second) of Contracts, § 152(1) (1981)
\(^{179}\) Restatement (Second) of Contracts, § 153(b) (1981)
\(^{180}\) Restatement (Second) of Contracts § 164(1) (1981)
relying on the other party’s misrepresentation. The Restatement provides that the Step Two test for excuse will “usually” be satisfied in the case of factual misrepresentations, suggesting that contracts procured by misrepresentation typically can be avoided.

B. Bubbles and the Capacity Doctrine – Step One

The capacity doctrine addresses situations where actors’ judgment is poor enough that they should not be allowed to contract. Thus, if bubbles are outbreaks of poor judgment, it makes sense to look at them through the lens of capacity doctrine.

In this connection, it is worthwhile to recall Shiller’s description of the impaired judgment that reigns in a bubble:

\[\text{[E]rrors of human judgment can affect even the smartest people, thanks to overconfidence, lack of attention to details, and excessive trust in the judgments of others, stemming from a failure to understand that others are not making independent judgments but are themselves following still others – the blind leading the blind.}\]

The incapacity that excuses contractual duties generally is limited to

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183 SHILLER, IRRATIONAL EXUBERANCE, supra note 38, at xiii.
discrete areas: infancy, “mental illness or defect,” and intoxication. But surely not all those whose judgment is poor enough that they should be barred from making contracts are children, mentally ill, or intoxicated. Perhaps incapacity is limited to these groups because of a fear that the incapacity rules will swallow the whole of contracts: perhaps the risk of opportunistic invocation of the doctrine to undermine contracts that ought to be enforced requires that incapacity be strictly cabined. The refusal to let anyone outside the specified categories argue incapacity really is a Step Two issue, like the rule that children automatically can escape disadvantageous contracts. The Step Two analysis of bubble contracts is addressed in Part III.E, below.

In any event, the categories in which incapacity can be recognized are not fixed. Since the middle of the 20th century, courts have recognized a major expansion to incapacity doctrine, the motivational theory of incapacity. This development undermines the view that excuse for incapacity must be cabined to a fixed set of categories.

The only articulated test for incompetence in the middle of the 20th century was the “cognitive” test. As one scholar stated the then-existing rule, “[T]he mental disorder, in order to destroy capacity, must impair the capacity of the individual to understand the transaction in question.”

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184 RESTATEMENT (SECOND) OF CONTRACTS, § 15.
185 Milton D. Green, Proof of Mental Incompetency and the Unexpressed Major
the 1960s, however, courts had started to embrace the view that the traditional standard reflected a “primitive” understanding of psychiatry, in that it “fail[ed] to account for one who by reason of mental illness is unable to control his conduct even though his cognitive ability seems unimpaired.”

Courts began to recognize that persons falling into this latter category lacked contractual capacity, and Section 15(1)(b) of the Restatement (Second) of Contracts adopted this “motivational” theory of incapacity as a basis for excuse. The motivational theory gained wide judicial acceptance; a survey published in 1998 found that only one of twenty-two cases citing Section 15(1)(b) rejected the Restatement (Second)’s motivational test.

The motivational theory of incapacity, in its broadest extension, comes quite close on its own to invalidating bubble contracts on the ground of incapacity. For example, a person who contracted to buy land while in the “manic stage” of a “manic-depressive psychosis” was permitted to avoid the contract. Although it has been suggested that only a “medically

*Premise, 53 Yale L.J. 271, 274 (1944) (emphasis added).*

186 Ortelere v. Teachers’ Retirement Board, 250 N.E.2d 460, 464 (N.Y. 1969). Ortelere is often presented as an important turning point in this development; see, e.g., Restatement (Second) of Contracts, § 15, Reporter’s Note cmt. b.

187 Id. at 466.

188 Restatement (Second) of Contracts, § 15(1)(b).


191 Id. at 769.
classified psychosis” can be a basis for avoidance on this ground,¹⁹² that proposition is not universally accepted. At least some courts will entertain arguments for rescission of a contract based on “manic” behavior, even if the behavior does not arise from a clinically classified psychosis.¹⁹³

If an individual person who is in the grip of an irresistible manic impulse – one that does not arise from a recognized psychosis – may invalidate a contract into which he entered, then contracts resulting from an outbreak of poor judgment are vulnerable as well. Recognizing bubble psychology as a state that can give rise to a specialized form of incompetency is consistent with the idea that “[i]t is now recognized that there is a wide variety of types and degrees of mental incompetency,” including not just mental illness but also “congenital deficiencies in intelligence, the mental deterioration of old age, [and] the effects of brain damage.”¹⁹⁴ Under the contemporary theory of volition-based incapacity, traders in a bubble may be affected by “mental illness or defect” within the scope of the doctrine.

Even if the idea that bubble psychology represents a “mental illness or defect” is too much to swallow, however, the rise of the motivational theory

¹⁹⁴ RESTATEMENT (SECOND) OF CONTRACTS § 15 cmt. b.
illuminates a more fundamental general principle: Incapacity doctrine can respond directly to changes in the dominant understanding of the human mind from other disciplines. As demonstrated earlier, the view that bubbles are the result of a socially mediated outbreak of bad judgment reflects the scientific recognition of something that people have known for a long time. Acceptance of this view seems to be on a par with acceptance of the view that people may take action because of irresistible impulses arising from mental illness, despite understanding what they are doing – the change in psychological thinking that led to the last great expansion of incapacity doctrine.

Turning from doctrine to theory, the idea of rescinding bubble contracts on capacity grounds is consistent with two leading normative approaches to thinking about contracts: the utilitarian approach and the nonutilitarian liberal approach.

On a utilitarian view, poor judgment undermines the presumption that each person is the best judge of his or her own future utility, so in a world where poor judgment is widespread enough, enforcement of contracts loses its claim to be utility-maximizing. A key feature of utilitarian, or cost-
benefit, thinking is that it is aggregate in nature, so a sharp decline in
average judgment across traders during a bubble suggests that bubble
contracts should not be enforced, even if, as hypothesized, individual low-
quality traders can’t be identified or if no one trader is of extremely low
quality.

If everyone becomes just a little worse at evaluating the downside of
buying dot-com stocks, that makes the utilitarian case for respecting
such purchases just a little weaker. If everyone gets a lot worse, then the
utilitarian case for respecting contracts is a lot weaker. This aggregating
characteristic is important to application of the excuse doctrines. For
example, even if no single trader in the market is as bereft of judgment as
the average child or intoxicated person, it is still possible for average quality
to be poor enough to deprive the average transaction of the presumption of
ex ante welfare enhancement that normally applies.

Other scholars analyze contract in a framework that is not strictly
utilitarian, recognizing some value to contract enforcement that is
independent of strict utility maximization. Some such liberal thinkers, such

measures to protect against opportunism as the fundamental bases for contract
enforcement. See, e.g., STEVEN SHAPELL, FOUNDATIONS OF THE ECONOMIC ANALYSIS OF
LAW 297-99 (2004); RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 93-94 (6th ed.
2003). For example, a contract to build a house will be enforced to prevent the buyer from
moving in without paying for the house and to relieve the builder from any need to post
guards to prevent this development. The comparison here is between enforcement and
restoration of the status quo, not between enforcement and permitted opportunism.

197 SHILLER, SUBPRIME SOLUTION, supra note 121, at 41 (describing the “social
contagion of boom thinking”).
as Richard Epstein, address contract law from a hybrid utilitarian-libertarian point of view that traces at least back to Mill. Other scholars present Kantian autonomy-based arguments that suggest a categorical imperative of promise-keeping. Charles Fried exemplifies this kind of thinking. Still others focus on the function of contract within theories of entitlement that may trace back to natural rights – an approach that appears indebted to Robert Nozick. Randy Barnett falls into this camp. There is a case for rescinding bubble contracts even under the types of analysis embraced by this camp.

Even as ardent a libertarian as Milton Friedman recognizes that
“paternalistic” intervention is justified in some cases of incompetence. At the same time, scholars with a strong commitment to preserving contract have struggled to define just what limits should be placed on the capacity doctrine. For example, Richard Epstein states that in the case of incapacity, “it becomes difficult to argue that the consent, even if given, is in the best interests of the party who has given it, or that the punctual enforcement of the agreement is likely to advance the public good.”\(^{204}\) He argues that incapacity should apply to classes of people who “in general are not able to protect their own interests in negotiation.”\(^{205}\) Poor judgment resulting from an asset bubble certainly would seem to impair one’s ability to protect one’s own interests in negotiation.

Barnett and Fried recognize the issue without attempting to provide precise limits. Barnett argues that an objective manifestation of consent – the touchstone for contract enforceability in his view – is not “meaningful” when a person lacks capacity.\(^{206}\) Fried notes that “[i]t seems correct to say, as the older cases did, that an insane person should not be taken to have exercised his will in a legally binding way.”\(^{207}\) Although these particular formulations are not specific enough to allow for application, the onset of

\(^{204}\) Epstein, Unconscionability, supra note 170, at 300.

\(^{205}\) Epstein, Unconscionability, supra note 170, at 300.

\(^{206}\) Barnett, Consent Theory, supra note 175, at 318.

\(^{207}\) FRIED, supra note 201, at 63n.
poor enough judgment could meet the standard in all three cases.

Even though we would expect a nonutilitarian liberal to insist on a showing that individual traders showed very poor judgment, it is at least plausible that a large fraction of bubble traders are as bad as children, the intoxicated, and the mentally ill at trading, the subject at hand. This is true even if low-quality traders show much better judgment than the classic subjects of incapacity doctrine in other domains. Both the experimental economics literature and the long tradition of referring to bubbles as a form of collective mental illness reflect this.

No matter where, or how, one sets the threshold, if asset bubbles as defined in this Article exist, then bubble contracts are more vulnerable on capacity grounds than non-bubble contracts. Rescinding bubble contracts is at least arguably consistent with nonutilitarian liberal approaches to contract.

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208 See, e.g., MACKAY, supra note 71.

209 The argument about judgment here has some similarities to Eisenberg’s argument for applying the unconscionability doctrine to cases of “transactional incapacity,” that is, transactions regarding complex subject matter where a person of average intelligence lacks the judgment “to make a deliberative and well-informed judgment concerning the desirability of entering into a complex transaction.” Eisenberg, Bargain Principle, supra note 108, at 763. It differs in some respects, however: First, Eisenberg relies on unfairness as a reason for not enforcing the transaction and therefore restricts the defense to situations where a more-competent party preyed on the other party’s weakness. The proposal here relies explicitly on absence of judgment – bubble contracts would be voidable by better-informed as well as worse-informed parties. Second, Eisenberg focuses on ex ante characteristics of the individual transaction (i.e., education levels of parties, comparison of transaction price to a fair market value that wasascertainable at the time of the deal), not on what market events have revealed about the likely quality of transactions in general.
C. Bubbles and the Mistake and Fraud Doctrines – Step One

The argument that bubble traders presumptively lack capacity to contract requires a step back from existing doctrine, as described above. It appears that no court has addressed a capacity-based argument for invalidating bubble contracts, so we must consider the underlying purpose and theory of the doctrine to evaluate the claim that Step One is satisfied.

The situation with mistake and misrepresentation/fraud doctrines is different. These doctrines are relevant even if bubbles do not cause us to revisit how they are defined at Step One. Instead, the significance of a bubble is that both mistakes and misrepresentations are more common according to their traditional definitions.

1. Bubbles and Mistake

Two distinct types of incorrect factual beliefs appear to be more common during asset bubbles than otherwise.\(^{210}\)

\(^{210}\) Cf. Interview with a Hedge Fund Manager (Jan. 7, 2008) http://nplusonemag.com/interview-hedge-fund-manager (manager stating “a paradigm shift in finance is maybe what we’ve gone through in the sub-prime market and the spillover that’s had in a lot of other markets where … really basic assumptions that people made … were wrong” and giving the safety of AAA-rated debt as an example of such an assumption). The mistake doctrine historically has focused errors of fact. See, e.g., Restatement (Second) of Contracts § 151 (1981) (“A mistake is a belief not in accord with the facts.”); id. cmt. a (“[T]he erroneous belief must relate to facts as they exist at the time of the making of the contract. A party’s prediction or judgment as to events to occur in the
First, there is the belief that asset prices “can never go down,” or at least that they can never go down for an extended period of time. For example, in 1999-2000, over 40% of high-income investors “strongly believed” that the stock market would “surely” be up to then-current levels within two years after a crash, as compared with 21% in 2004. Although open expressions of such a belief are rare, certain transactions, such as subprime mortgages, seems to be based on a mutual belief that assets (houses) certainly will appreciate in the future. It is difficult to know whether the parties to such transactions believe that prices actually can never go down or just that prices will not go down during the period of their transaction, but if euphoria is widespread in market bubbles, we would expect the belief that prices will in fact always go up to be common.

As this is a belief about the future, it arguably does not fit into the mistake doctrine. However, a belief that an asset “will always go up” is a belief about the present characteristics of the asset in question, like a belief

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future, even if erroneous, is not a 'mistake’ as that word is defined here.”). The doctrine may be coming increasingly to embrace errors of judgment, see E. Allan Farnsworth, *Oops! The Waxing of Alleviating Mistakes*, 30 OHIO N.U. L. REV 167, 182 (2004). Evolution in that direction would provide further support for the argument presented here.

211 SHILLER, IRATIONAL EXUBERANCE, supra note 38, at 58; see also SHILLER, SUBPRIME SOLUTION, supra note 121, at 69 (“The recent bubble has greatly encouraged public belief in a long-standing myth – the myth that, because of population growth and economic growth, and with limited land resources available, the price of real estate must inevitably trend strongly upward through time.”).

212 For example, Gary Gorton explains that subprime mortgages are designed to work only if “the probability of a house price increase is perceived to be sufficiently high.” Gary Gorton, *The Subprime Panic* 5 (Sept. 30, 2008), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1276047.
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that a cow is barren,\(^{213}\) or that lumber is not threatened by a currently burning fire\(^{214}\) – the subjects of two famous contracts that were rescinded on the ground of mistake.

If both parties to a transaction share a belief, say, that stocks or real estate can never go down “in the long run” because they “have always gone up over time” their unqualified contract of sale is in principle no different from the unqualified contract of sale of a cow that both parties believe to be barren.\(^{215}\) Although the parties might have different views about the immediate future performance of a particular stock or piece of real estate, or different needs or desires for cash as opposed to investment assets, they might well be in agreement on the ever-appreciating nature of the asset being purchased and sold.

Second, there are factual errors that are likely to underlie certain common judgments. For example, large majorities of homebuyers in the United States in 2003-04 believed that “real estate is the best investment for long-term holders.”\(^{216}\) Taken literally, this is a statement of opinion, or a prediction about the future. But the judgment is highly likely to be supported by beliefs about the past performance of house prices that are

\(^{213}\) Sherwood v. Walker. 66 Mich. 568 (1887).
\(^{215}\) See Sherwood v. Walker, supra note 213.
\(^{216}\) See SHILLER, IRRATIONAL EXUBERANCE, supra note 38, at 58.
incorrect. Such a belief is likely to go hand in hand with a belief that the asset will continue to do well in the future.

More generally, if a party believes that a particular asset is “the best” during a period of generalized market euphoria accompanied by widespread false factual beliefs, it is likely that the person’s belief was formed at least in part on the basis of incorrect factual information – either information that the person heard herself, or information that helped create an optimistic view of stocks that was communicated to our person by someone else, or information that became reflected in the market price.

The distinction between mutual and unilateral mistake is important under current doctrine at Step Two, so some discussion of how these doctrines interact with bubble conditions is warranted. Both mutual and unilateral mistake are likely to be more common in bubble markets. Mutual mistake may seem improbable because every sale must have a buyer and a seller; the buyer wants a low price and the seller wants a high price. This might suggest that in a bubble market only the buyer can be in the grip of

\footnote{SHILLER, SUBPRIME SOLUTION, supra note 121, at 33 Fig. 2.1 (residential housing index in U.S. shows modest long-term growth except for recent boom). Unfortunately, neither Shiller nor other researchers have actually interrogated optimistic buyers about their beliefs about past prices. The author’s casual observation suggests that such beliefs are quite common and that this would be a fruitful area of inquiry.}

\footnote{See SHILLER, IRRATIONAL EXUBERANCE, supra note 38, at 57 (between 61% and 69% of high-income Americans “strongly agreed” that stocks were the best long-term investment in 1996-2001; 42% to 46% strongly agreed in 2002-04).}

\footnote{See discussion supra Part III.A.}
bubble psychology. If the seller were so affected, the argument goes, she would not sell.

That is not correct, however. The seller might want to sell in order to invest in a still more promising stock or a still larger house, to rebalance portfolios, to fund a yacht purchase, or for any number of other reasons. It seems likely that in a bubble market both buyer and seller are more likely than otherwise to hold mistaken assumptions about the value of stocks. A bubble market seems likely to foster “shared mistaken tacit assumptions” – a principal ground suggested by Melvin Eisenberg for the rescission of contracts.

It also seems likely that bubble markets will feature many transactions where one party is under no illusions about the fundamental qualities of the asset in question and the other party has incorporated incorrect assumptions into her thinking. One party has figured out that high prices can’t last

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220 Meltzer, supra note 122, at 28 (“Explaining asset market outcomes as the result of euphoric anticipations creates a problem. Who are the sellers, and what do they think and do? … Perhaps there are degrees of euphoria, so that the less euphoric increasingly sell to the more euphoric. But this would suggest that holdings become more concentrated as the bubble expands. Evidence does not support this implication.”). Note that the last point need not hold if there is a group of nonparticipants who become market participants over the course of the bubble, as in a Ponzi scheme.

221 Under the standard approach to asset allocation, if a particular asset class in the investor’s portfolio performs well, the investor should sell some of its holding of that asset in order to bring its portfolio back into balance. See Richard C. Grinold & Ronald N. Kahn, Active Portfolio Management 389-92 (2d ed. 1999).

222 Asset gains increase wealth, and microeconomic theory suggests that increases in wealth lead to increases in consumption. See David M. Kreps, A Course in Microeconomic Theory 51-62 (1990). If a large proportion of a trader’s wealth is tied up in bubble assets, the trader may have to sell some of those assets to fund an increase in consumption, even if the trader expects further price increases.

223 Eisenberg, Mistake in Contract Law, supra note 175, at 1620-41.
forever but the other party hasn’t. Such cases arguably come within the ambit of avoidable unilateral mistake even under the Restatement: The informed trader, having identified the bubble, has reason to know of the elevated probability that the uninformed trader is mistaken.

Nonutilitarian liberal theorists agree that mistakes as to basic facts undermine the basis for enforcing agreements as contracts because such mistakes are effectively gaps in agreement: Because one or both parties assumed that an important condition did not exist when it actually did, they did not actually reach an agreement on what was to be done in the presence of the condition.

2. Bubbles and Fraud

It is a commonplace that fraud is widespread in market bubbles.224 In the Internet stock market boom, “[p]art of th[e] change in business atmosphere was a decline in ethical standards, a decline in the belief in integrity, honesty, patience, and trust in business.”225

The recent real estate boom, recently described as a “breeding ground

224 See generally KINDLEBERGER & ALIBER, supra note 25, at 165-203 (describing increase of corruption and fraud in market bubbles); id. at 265 (“The supply of corruption increases in a procyclical way much like the supply of credit.”); see also BAGEHOT, supra note 71, at 151.
225 SHILLER, IRRATIONAL EXUBERANCE, supra note 38, at xiv.
for market fraud,”226 likewise produced its share of stories; one particularly notable one is that of Phillip Hill, who stole at least $40 million from real estate lenders and investors through a house-flipping scheme in the Atlanta suburbs, paying dummy borrowers to submit phony loan documentation to support their purchase 50 homes and 250 condominiums from an inflated price from Hill.227

In addition to clear cases of fraud, bubbles may also feature an increase in near-fraudulent activity228 – activity that may not meet the high standards for pleading and proving fraud but that nonetheless fosters false factual beliefs, and is particularly likely to do so in people with poor judgment.

D. Bubbles and Individual Proof at Step One

If bubbles are social outbreaks of poor judgment that can be detected at an aggregate level and not at an individual level, that has implications for the application of Step One of each of the doctrines under consideration. Under current doctrine, the party seeking to avoid the contract must show

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228 KINDLEBERGER & ALIBER, supra note 25, at 165 (“Much of the fraudulent behavior is illegal, but some hovers on the borderline between what is legal and what is not.”).
that that party individually lacked capacity or made a specific mistake or misrepresentation. With respect to capacity, this reflects a judgment a party can effectively consent to contractual obligation unless some individual characteristic raises the probability he or she cannot do so. But in a bubble, a social phenomenon that is detected at an aggregate and not an individual level is what increases the probability that a party cannot effectively consent. This suggests that the corresponding capacity doctrine should be applies at an aggregate and not an individual level: Instead of individual proof that one is a low-trader quality, the party should instead simply have to show the existence of a bubble.

The increased likelihood that bubble contracts result from mistake and misrepresentation supplements the capacity argument. The greater the proportion of contracts that result from mistake and misrepresentation, the less the intrusion on freedom of contract resulting from a rule that bubble contracts will be rescinded.

Figure 1 illustrates how the two sets of doctrines interact. Unshaded areas represent contracts that should be enforced. The leftmost box represents the ordinary, non-bubble world. The black dot represents the relatively small number of contract that are induced by mistake or misrepresentation in this state of the world and that therefore satisfy Step 1 of those doctrines. The box is unshaded, reflecting that there is no bubble
calling into question the judgment of the average person.

The second box represents the situation in a bubble, ignoring the increased incidence of fraud and mistake. The shading reflects the fact that the judgment calls into question the judgment of traders as a group. The third box represents the situation in a bubble, recognizing the increased incidence of mistake and misrepresentation in a bubble. The increased number of black dots represents that increased incidence of mistake and misrepresentation. The fourth box represents a world in which no contracts would be enforced.
The point here is that one might debate the degree to which a bubble leads us to question the average trader’s capacity to contract. One might, that is, debate how dark the shading representing the bubble should be and whether the background shading is more like the white box on the left or the black box on the right. But the higher rates of mistake and misrepresentation in a bubble reduce the error, or the violence to the idea of freedom of contract, inherent in choosing to treat the bubble world as though it were the box on the right.

Relatedly, it is costly to identify individual instances of mistake and misrepresentation: evidence on both sides must be gathered, presented, and weighed. In terms of the Figure, each black dot costs money to identify. The closer we are to the black box, the more difficult it is to justify expending resources on distinguishing whether each asserted black dot is real. Although adjudication costs may not bear directly on idea of freedom of contract, they do bear in a practical sense on the shape of contract as an institution: it is unlikely that that institution of contract would exist in the same form in a world where adjudication and enforcement were impossible.

E. Bubbles and Excuse – Step Two
1. The Setting of Step-Two Analysis

As discussed in Part III.A, above, a common feature of the excuse doctrines is that even if the first step is satisfied, so that the consensual basis of contract is vitiated, that does not end the analysis. Excuse is not automatic. Instead, the doctrines provide for a “Step-Two” analysis to determine whether the contract will be enforced. The capacity doctrine’s inquiry into whether the promisee knew of the promisor’s incapacity, the mistake doctrine’s inquiry into whether the nonmistaken party knew of the other’s mistake, the fraud doctrine’s inquiry into reasonable reliance – each of these is an example of Step-Two analysis.

The key feature of Step Two is that it is extraconsensual, and thus extracontractual, at least according to the usual conception of contracts. It reflects compromise between conflicting values: the Restatement frankly calls its approach a compromise, and scholars describe the step-two

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229 See Restatement (Second) of Contracts § 17(1) (except in specified cases, such as promises supported by detrimental reliance and promises to pay past indebtedness, “the formation of a contract requires a bargain in which there is a manifestation of mutual assent to the exchange”). But see Thomas Wuil Joo, The Discourse of ‘Contract’ and the Law of Marriage, 22 Res. in Law & Econ. (2007) (“Some commentators continue to argue as a normative matter that enforceability should be based primarily on voluntary assent, but many others disagree. Moreover, there is further disagreement over the importance of voluntary assent as a descriptive matter of contract doctrine.”)

230 Restatement (Second) of Contracts § 15 cmt. a (“A contract made by a person who is mentally incompetent requires the reconciliation of two conflicting policies: the protection of justifiable interests and of the security of transactions, and the protection of persons unable to protect themselves against imposition … Each policy has sometimes prevailed to a greater extent than is stated in this Section.”).
analysis in like terms: As Fried wrote of Step Two in the mistake context, "we face the inevitability of using noncontractual principles to resolve failures of agreement."  

Step Two often is reluctant to excuse, but that reflects in large part the fact that satisfaction of Step One is thought to be rare. The Restatement makes this point explicit in the context of mistake: "[B]ecause mistakes are the exception rather than the rule, the trier of the facts should examine the evidence with particular care when a party attempts to avoid liability by proving a mistake."  

But, as argued above, we would expect mistakes and fraud to be far more common in a bubble than in "ordinary" circumstances.

The existing rules for Step Two analysis were developed for non-bubble circumstances. Courts have not considered whether or how they should be applied to the bubble world. We must again look behind doctrine to theory to think about what Step-Two analysis is proper in the context of a bubble. Under either a utilitarian or a nonutilitarian fault-based approach, the case for a bright-line rule of rescinding bubble contracts is strong.

2. Utilitarian

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231 FRIED, supra note 201, at 62
232 RESTATEMENT (SECOND) OF CONTRACTS § 153 cmt. a.
Utilitarian analysis is cost-benefit analysis. In this framework, the question whether to enforce bubble contracts is answered by totaling the costs and benefits of nonenforcement as compared to enforcement.

The first-order costs and benefits of nonenforcement relate to situations where enforcement of the contract turns out to make one party worse off and the other party better off: If enforcement makes parties better off, there is no issue; if enforcement makes both parties worse off, then the contract will simply be canceled to the extent it is executory. In the situation where enforcement advantages one party and not the other, then the cost of nonenforcement arises from nonenforcement of contracts that are welfare-improving on net and the benefit arises from nonenforcement of contracts that are welfare-reducing on net. A general rule that contracts will be enforced can be defended on utilitarian grounds on the basis that parties are usually the best judges of their own utility, so that most contracts will be welfare-improving. As argued above, if we take seriously the notion that poor judgment reigns in a bubble, then this assumption is called into question.

Nonenforcement of bubble contracts also has second-order costs and benefits. The key benefit is we would expect nonenforcement, on net, to deter the formation of asset bubbles in the first place by removing the motive of speculative gain, as argued above. To the extent that bubbles
create negative consequences in the form of economic volatility, malinvestment, and dislocation, deterrence is strong reason not to enforce bubble contracts.

One second-order cost of nonenforcement is the creation of uncertainty in non-bubble contracts. A homeowner who simply wishes to move and who suspects that the housing market may be in a bubble might be deterred from doing so if he or she faces the possibility that the sale of his or her house will be rescinded because the market is in a bubble. If the market is in fact not in a bubble, this effect deters presumptively mutually beneficial transactions and should count as a cost. Of course, this concern diminishes to the extent that bubbles are in fact successfully prevented. Expectations of inflation decrease over periods of low inflation; expectations of bubbles ought to decrease over periods without bubbles. If the idea of rescinding bubble contracts is ultimately effective in preventing bubbles from forming, the concern with creating uncertainty in non-bubble conditions seems likely to be a transitional issue.

Another second-order cost is the loss of hedging opportunities for those who start out exposed to the bubble. For instance, if a long-term investor owned stocks at the beginning of a market bubble and perceived that a bubble was taking place, a rule of nonenforcement would prevent the investor from protect himself or herself effectively by selling stocks or
taking a short position in derivatives market. Thus, incentives to protect oneself during a bubble would be reduced, and any information impounded into the price by such self-protective efforts would be lost. But such trades have to have counterparties. It is sometimes said that every hedge requires a speculator to take the other side of the trade. Prohibiting a party from hedging is preventing another party from speculating. And the proposal to unwind bubble contracts is a proposal to replace the market in a limited circumstance because of an identified market failure, so the contention that the proposal would cause the market to work less well is not really on point. The argument would have to be that taking away the ability to hedge via a nonenforcement rule would produce more bubbles by removing a constraint on bubble creation; in other words, the argument is in effect that rescinding bubble contracts would promote rather than deter bubbles.

3. Fault

Fault is an important part of Step Two analysis in both doctrine and scholarship. Under the Restatement’s approach, a party incapacitated due to mental illness or intoxication can avoid the contract only if the other party “has reason to know” of the incapacity. Relief for unilateral mistake is

\[233\] \text{RESTATEMENT (SECOND) OF CONTRACTS §§ 15(1)(b), 16(b).}
available if the nonmistaken party “had reason to know of the mistake or his fault caused the mistake.”

A misrepresentation leads to avoidability only if it induces “justified” reliance. Relief of any kind based on mistake is barred if the mistaken party’s fault in failing to know or discover the relevant facts “amounts to failure to act in good faith and in accordance with reasonable standards of fair dealing.”

“A contract made by a person who is mentally incompetent requires the reconciliation of two conflicting policies: the protection of justifiable expectations and of the security of transactions, and the protection of persons unable to protect themselves against imposition.”

In the case of mutual mistake, a court will allocate risk to a party where it is reasonable to do so; in determining what is “reasonable,” the court will “consider the purposes of the parties and will have recourse to its own general knowledge of human behavior in bargain transactions.”

Scholars likewise emphasize the importance of fault. As Fried puts it,

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234 Restatement (Second) of Contracts § 153(b).
235 Restatement (Second) of Contracts § 164. The Restatement explains that reliance on factual assertions is usually justified unless the assertion relates to matters of “peripheral importance” or “is one as to which the makers’ assertion would not be expected to be taken seriously.” Id. cmt. d.
236 Restatement (Second) of Contracts § 157. The Restatement acknowledges that the degree of fault at issue “is sometimes described as ‘gross negligence’” but states that that particular term “is not well defined and is avoided.” Id. cmt. a.
237 Restatement (Second) of Contracts § 15 cmt. a (emphasis added).
238 Restatement (Second) of Contracts § 154(c) (emphasis added).
239 Restatement (Second) of Contracts § 154 cmt. d.
240 Barnett, Consent Theory, supra note 175, at 318 (cases in which contracts are rescinded for mistake are those in which a mistake was arguably the basis of contracting and in which the promisee should bear the risk of mistake).
the losing party “may deserve what [he] gets, but not because it is a risk he has agreed to run.”

Although incapacity vitiates contracts as promises, that does not answer the question of loss allocation: “[I]t does not follow [from incapacity] that therefore one who dealt innocently with [an incompetent] person and cannot be restored to his former situation should bear the burden of that disability – remaining unpaid, for instance, for goods the insane person bought and cannot return.”

Instead, a court “can only look to extrinsic standards of fairness for a solution.”

Step Two can therefore be understood as an analysis of relative fault. Having determined that a dispute between the parties cannot be resolved on the basis of agreement (because Step One has been satisfied), the court determines whether the allocation of gain and loss resulting from enforcement or nonenforcement is more reasonable. This inquiry can of course be accommodated within a utilitarian framework: we might simply say that the rule that allocates gain or loss in a manner that maximizes utility is the right one. Indeed, even if we say that agreements should be enforced on grounds other than utility in general, we might resort to utilitarian analysis to perform the extracontractual loss allocation in Step

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241 FRIED, supra note 201, at 62.
242 Id. at 63n.
243 Id. at 63. Fried argues that the court should examine the circumstances to determine whether tort-like principles require compensation of reliance interests and whether restitutionary principles require the return of benefits conferred under the contract, relying finally on a principle of loss sharing when no other principle governs. Id. at 69-71.
Two. In any event, the utilitarian points made above could apply even to a more open-ended analysis of Step Two.

Analyses of fault, of who had reason to know, of what allocation or gain and loss is reasonable, of what justice requires all rest on some baseline assumption about the care we expect people to take and the results of taking that care. If we take seriously the idea that bubbles are different, that they are unusual events marked by widespread, socially mediated outbreaks of poor judgment, that has at least two effects.

The first is that bubbles blur the baseline standard of care. The correct baseline for what a reasonable person would do, or what a person must do to avoid fault should be adjusted to reflect what a person in a bubble must do to be reasonable or avoid fault. This makes case-by-case analysis, including fault-based analysis, less attractive in general, as explained in greater detail below.

The second effect is that if a bubble is marked by social contagion, as it appears that most real-world bubbles are, that ought to reduce the culpability of traders who purchase assets during a bubble. Those traders are in turn the very ones that will want to escape their contracts. The presence of an identifiable social condition that causes many, many people to depart from rationality seems to reduce the “fault” entailed in making a faulty judgment. No one trader is likely to be responsible for the bubble, so
if the bubble reduces the ability to make good decisions, that reduction
should not be ascribed to the fault of the individual trader.

It is no coincidence that the fault of the avoiding party is least important
in capacity doctrine: the law does not make detailed inquiry into the “fault”
of parties who lack capacity. The same applies to bubbles: bubbles are
episodes of reduced judgment. The ordinary analysis of fault should be de-
emphasized accordingly.

4. Case-by-Case Versus Bright-Line Rules

In most situations, application of Step Two of the doctrines I discuss
involves extensive case-by-case factfinding. Capacity requires examination
of whether the party with capacity had “reason to know” of the other party’s
incapacity. Mistake requires the tribunal to determine all facts bearing on
what risk allocation is reasonable under the circumstances and/or what the
nonmistaken party had reason to know. And misrepresentation requires
analysis of justified reliance. Each of these inquiries is open-ended and
fact-specific. Against that background, a proposal to unwind all bubble
contracts may seem radical.

However, existing doctrine does not always require a case-by-case
inquiry to resolve Step Two. For example, the general rule is that a minor’s
contracts are always voidable. This rule can be understood as reflecting a judgment that the probability that a detailed inquiry would lead to the conclusion of nonenforcement is so high that it is not worth conducting such an inquiry: This is the line of argument often used to justify per-se rules in the antitrust context.

Scholars have proposed replacing the excusing doctrines’ case-by-case inquiries with bright-line rules (or nearly bright-line) rules, arguing against case-by-case approaches on the general grounds that courts’ efforts to apply detailed criteria in the litigation context are likely to be fraught with error, that such approaches create uncertainty, and that their results are likely to be indeterminate in any event.\(^\text{244}\) For example, Andrew Kull has suggested that in cases of mistake and frustration, losses should lie where they fall: unperformed duties should be excused, and courts should not try to reverse the effect of performances that have already been rendered.\(^\text{245}\) Michael Trebilcock suggests that except in the case of “the materialization of outlandish risks,” a “very austere rule of literal contract enforcement” should apply; thus he would nearly automatically allocate the loss to the

\(^{244}\) See TREBILCOCK, supra note 31, at 146.

\(^{245}\) See Andrew Kull, Mistake, Frustration, and the Windfall Principle of Contract Remedies, 43 HASTINGS L.J. 1, 6 (1991) (“judicial disposition to let windfalls lie”). Andrew Kull argues that in reality, what courts do in cases of mistake and frustration is to let matters lie where they fall: Courts will not enforce partially executed contracts nor unwind fully executed contracts. Kull defends this state of affairs in part on the ground that “it will ordinarily be a matter of indifference whether the windfall cost or benefit, once realized, falls to A or B.” Id. at 5.
promisor via literal enforcement of unqualified contract terms.\footnote{See TREBILCOCK, supra note 31, at 144-45 ("a very austere rule of literal contract enforcement should in most cases obtain," qualified by an "equal sharing rule" applicable to "exceptional cases of the materialization of outlandish risks."). Barnett’s approach seems similar to this; without expressly stating that mistake and related doctrines should be sharply limited, he notes that the fact that mistake cases typically involve valid consent – the proper touchstone of enforceable contract in his view – “may help explain why courts are quite receptive to arguments by the promise that the promisor assumed the risk of the mistake.” Barnett, Consent Theory, supra note 175, at 318 n.213.} Against the backdrop of Trebilcock’s proposal that courts enforce all contracts affected by mistake except those that lie in an unspecified, extreme category and Kull’s suggestion that courts abstain from getting involved with such contracts at all, the idea of rescinding all bubble contracts (not all contracts) looks much less radical.

There are several reasons for such a bright-line rule – finding Step Two satisfied for all bubble contracts.

First, as explained above, a major purpose of this proposal is to send a clear signal. If traders in a bubble believe that they may be able to keep their gains based on a case-by-case analysis after the fact, the bubble-deterring function of the rule is diminishes.

Second, we might proceed by analogy to the infancy doctrine. The reason for a bright-line rule in the infancy context is that the balance of competing policy concerns necessary at Step Two will in most cases favor permitting the infant to avoid his or her contracts. Similarly, we might conclude that if we conducted as case-by-case inquiry the policy concerns typically would balance in favor of nonenforcement, as we would expect if
we suspected that most efforts to avoid bubble contracts arise from less-sophisticated traders who have lost out to more-sophisticated ones. If the bubble-deterrence point is weighed in the policy analysis at this stage, that would further support rescission.

Third, the case-by-case rules that are typically applied – the inquiries into reasonableness and “reason to know” – all depend on baseline assumptions about reasonable behavior that seem unlikely to make sense in a bubble. Until such time as we have a body of caselaw addressing how the reasonable bubble participant would act, we lack a strong foundation for such detailed case-by-case inquiries. For example, a classic judicial approach to mistake and related doctrines is to try to determine what the parties would have done had they considered the issue. If we take the “would have” to mean what the transactors would have done if they had understood that they were in the midst of a bubble, we might think it unlikely that there would have been a transaction in the first place, which supports the idea that a bright-line rule of rescission makes sense. In any event, we might recognize that the individualized inquiry into what the parties would have done is made more difficult for the trier of fact by the unusual circumstances.

The same applies to the case-by-case rules that have been proposed,

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\(^{247}\) See, e.g., Taylor v. Caldwell, 122 E.R. at 313.
such as the suggestion of Richard Posner and Andrew Rosenfield to allocate the loss in mistake cases to the party best positioned to manage it by avoiding the cost or insuring against it.\footnote{Richard A. Posner & Andrew M. Rosenfield, \textit{Impossibility and Related Doctrines in Contract Law: An Economic Analysis}, 6 J. LEGAL STUD. 83, 90 (1977). Posner and Rosenfield do not direct their argument to the mistake doctrine specifically, but it addresses the same fundamental issue as the impossibility, impracticability, and frustration doctrines they take for their subject. See TREBILCOCK, supra note 31, at 132}

\textit{F. Summing Up: Excuse Doctrines and Asset Bubbles}

Because bubbles exist and are recognized on an aggregate rather than an individual level, they challenge us to rethink how contract excusing doctrines should be applied. This is most obvious in the case of capacity doctrine: Bubbles invite us to refocus from determining whether individuals belong to groups that are likely to have poor judgment to determining whether transactions belong to episodes in which contracting parties are likely to have poor judgment. Thinking about the issue that way suggests that bubble contracts satisfy Step One of the capacity doctrine so that rescinding them does not interfere with freedom of contract. The increased incidence of fraud and mistake in bubbles further reduces the tension between refusing to enforce bubble contracts and the idea of freedom of contract.

If we accept that bubble contracts pass Step One analysis, then we are
left with the extracontractual issue of loss allocation addressed in Step Two. Here, the effect of a rule of rescission in deterring bubbles can be weighed in deciding what rule is appropriate. A utilitarian analysis of whether a bright-line rule of rescission is appropriate at Step Two involves a straightforward weighing of the benefits and costs identified above. Those who, by contrast, are committed to a fault-based analysis to gain and loss allocation at Step Two should consider the fact that if we take bubbles seriously, the world of bubble contracts looks different from the world outside a bubble. That should be taken into account and presumably favors rescission, as it is more difficult to argue that the party seeking rescission knew or should have known what it was getting into when it entered into the contract. In any event, the difference between the bubble and the non-bubble worlds complicates any case-by-case inquiry and favors the use of some bright-line rule instead of the case-by-case analysis endorsed by current doctrine.

**Conclusion**

This Article has argued that bubbles driven by traders with poor judgment exist, can be identified on an aggregate level, and have negative effects on parties that are not involved in the bubble markets. If those
premises are accepted, then failing to respect bubble contracts – rescinding bubble transactions – makes sense. Such a rule should deter the formation of bubbles. Moreover, the rule is not in serious tension with the principle of freedom of contract to the degree one might expect. The poor judgment exhibited during a bubble suggests that incapacity should, and mistake and fraud do, apply to a disproportionate number of bubble contracts. All these doctrines carry with them the remedy of rescission. A rule of rescinding bubble contracts is supported by the reasoning underlying existing contract excuse doctrines and is a reasonable and potentially desirable extension and application of those doctrines.