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Taking Bubbles Seriously in Contract Law

John Patrick Hunt

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INTRODUCTION

The decrease in U.S. housing 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 an 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.  

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interventions, such as legislative changes to servicing agreements that shield servicers from liability for making loan modifications—justified as they may be in a foreclosure crisis—raise troubling questions of fairness and rent-seeking behavior, as well as legal issues.\(^2\)

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 exercises its general regulatory power to rewrite some private contracts and not others—depending inevitably on political considerations to make the distinction—less attention is devoted to whether these contracts ought to be enforced under contract-law principles in the first place.

Asset-price bubbles have been analyzed only to a limited extent in legal scholarship, and the work that has been done mostly takes 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?\(^3\) Scholars have not examined what is arguably the antecedent question of how asset-price bubbles interact with private ordering on a fundamental level. That question lies within the domain of contract law:

This Article presents the first such examination, taking as its premise that we ought to take bubbles seriously. It asks what happens if contract law takes seriously the widely embraced (though disputed) proposition that financial markets are given to bubbles—bouts of mania when poor-quality traders drive up prices—that can be identified with confidence only after the fact. It answers that courts


might order rescission or equitable adjustment of bubble contracts, because the reasons generally given for supporting private ordering do not apply to bubbles.

As between rescission and equitable adjustment, rescission has the advantage of sending a clear signal that should help prevent bubbles. Equitable adjustment is more flexible and avoids potentially high remedy administration costs from rescinding large numbers of bubble contracts.

Applying an ex post remedy to financial bubbles avoids a fundamental problem that underlies 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. This supports either approach.

This Article proceeds in 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 argues that bubbles are likely to be destructive. This assertion requires some preliminary exposition of how bubbles should be defined and what it means to identify them. The second Part argues that the distinctive characteristics of bubbles make them inappropriate for private ordering, drawing on the contract doctrines of incapacity, mistake, and misrepresentation. The third Part discusses the remedies of rescission and equitable adjustment and sketches how they might work in the context of stock-market and real-estate bubbles.

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

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4 Alan Greenspan famously raised this point in 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.” Alan Greenspan, Chairman, Fed. Reserve Bd., The Challenge of Central Banking in a Democratic Society, Remarks at the Annual Dinner and Francis Boyer Lecture of The American Enterprise Institute for Public Policy Research (Dec. 5, 1996), available at http://www.federalreserve.gov/boarddocs/speeches/19961205.htm.
and sudden crash of prices is a bubble”—raises the question of 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. This concept apparently has received less attention than it deserves from legal academia; in this context, I refer to the reasonableness of the trader’s conception of future outcomes.

The type of poor judgment that is most relevant to this Article is unreasonable optimism—not the optimism that an economist would call "irrational," but optimism that is unreasonable. For example, if a person flips a coin, and he or she believes that the coin is eighty percent weighted to heads, there is no way in advance to say that this belief reflects poor judgment. If, after one thousand flips, 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

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6 Kronman defines judgment, following Arendt, as 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.” Id. at 790 (footnote omitted). The definition of “judgment” in this Article is similar to Kronman’s in that it focuses on the actor’s ability to imagine the future, which may “requir[e] 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.” Id. at 789; cf. Peter H. Huang, Regulating Irrational Exuberance and Anxiety in Securities Markets, in THE LAW AND ECONOMICS OF IRRATIONAL BEHAVIOR 501, 505-06 (Francesco Parisi & Vernon L. Smith eds. 2005) (“‘Irrational exuberance’ refers to exuberance that is not justified by merely cognitive processing of the available information about securities markets.”).
8 The precise mental state may be further specified as including failure to “imagine ways that a chosen option might fail or an ignored option might succeed” or to “consider counterarguments and 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.
judgment. Poor judgment cannot be proven with absolute certainty, but it can be inferred.

The concept of judgment is not limited to situations involving an explicit conception of probabilities. It applies to any scenario in which the actor underweights or disregards bad outcomes. When a person decides not to wear a seatbelt while driving, that person is in all likelihood exercising poor judgment 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 zero percent.

The qualification “in all likelihood” reflects the possibility that our seatbelt-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 requiring us to qualify the seatbelt example with “in all likelihood” 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. 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 if the requirement harms some people who are not exercising poor judgment, such as risk-lovers who simply enjoy not wearing seatbelts and do so with full knowledge and appropriate understanding of the possible consequences.

Apart from the reasons for not wearing seatbelts just discussed (those arising from the person’s subjective preferences), we can imagine another possibility. Perhaps the driver, who otherwise acts as though she correctly anticipates the probability of an accident,

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 and Statistics 328 (3d ed. 2002) (describing disagreement over whether an unknown statistical characteristic of a population (“parameter”) can 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, 50 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 by 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.

11 See Eugene F. Fama, Efficient Capital Markets: II, 46 J. Fin. 1575, 1583–84 (1991) (noting the argument by some scholars that “if variation in expected returns is common to different securities, then it is probably a rational result of variation in tastes for current versus future consumption or in the investment opportunities of firms”).
believes that important technological developments will have occurred since the last time she ventured out, and that the other cars she encounters are likely to feature automatic accident-aversion systems that radically reduce the probability of an accident.  

If this turns out not to be the case, can we say for sure that the person exercised poor judgment? No. Our driver might have correctly assessed the probability that the improvements would materialize. It might simply have been bad luck that they did not. But poor judgment seems to be a more likely explanation of the situation. This example corresponds to another 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.

2. Low-Quality Trader

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. The precise baseline is not as important as the concept, but 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 (Second) of Contract’s (“Restatement”) treatment of contractual capacity, judgment so poor that it causes the trader to act unreasonably with respect to the subject matter.

12 See, e.g., The Connected Car, THE ECONOMIST, June 6, 2009, at 18 (“vehicle-to-vehicle” networks may soon alert cars that are out of visual range of sudden braking or airbag deployments to avert accidents).
13 See discussion infra Part I.C–0.
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. Partnoy, supra note 3, at 754–62.
16 See RESTATEMENT (SECOND) OF CONTRACTS §§ 14–16 (1981) (discussing the effects of minority, mental illness or defect, and intoxication on a person’s capacity to contract).
The “low-quality” trader is similar to the “irrational” or “noise trader” that appears in asset-bubble models 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 asset values, and fundamental asset values are not used the analysis of bubbles presented here.

3. High-Quality Trader

A high-quality trader is a trader who is not a low-quality trader, similar to the informed trader or arbitrageur in some models. Although informed traders are sometimes assumed to trade according to fundamental value, no such assumption is made here. A high-quality trader may trade, for example, based on assessments of fundamental asset values or according to a momentum strategy that does not make depend on fundamental asset values.

4. Bubble-Like Price Behavior

Bubble-like price behavior has two elements: boom and bust. A boom is an increase in asset prices beyond what would be supported by traditional measures of asset value. For stocks, such traditional measures include dividend-price and price-earnings ratios. For housing, such traditional measures include the ratio of house prices to rents. A bust is a decrease in asset prices that is so large that it appears unlikely based on prices’ historical volatility.

A boom is often treated as a necessary condition for an asset bubble, specified sometimes in terms of an unprecedented, large, 

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19 See id. at 2 (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”); id. at 10 (defining “noise” traders as those that are not fully rational); id. at 33 (“Noise traders form erroneous beliefs about the future distribution of returns on a risky asset.”).

20 Id. at 33 (explaining that arbitrageurs “exploit noise traders’ misperceptions” and “push prices toward fundamentals, but not all the way”).

21 Id.


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 JOHN C. HULL, OPTIONS, FUTURES AND OTHER DERIVATIVES 238 (5th ed. 2002). “High market volatility” is often a euphemism for a crash.
rapid, or unsustainable rise in prices rather than, or in addition to, according to the relationship between prices and a traditional measure of value. Busted are often treated as common but unnecessary elements of bubbles. Although busts (or “crashes”) often follow booms, an asset bubble may deflate slowly without a dramatic crash.

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.

5. Bubble

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 a 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 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 look for episodes that most likely are the result of outbreaks of poor judgment, as suggested by the types of evidence identified below.

25 See CHARLES P. KINDLEBERGER & ROBERT ALIBER, MANKIS, PANICS, AND CRASHES: A HISTORY OF FINANCIAL CRISIES 29 (5th ed. 2005) (“A bubble is an upward price movement over an extended period of fifteen to forty months that then implodes.”); id. at 1 (“Bubbles always implode; by definition a bubble involves a non-sustainable pattern of price changes or cash flows.”); cf. Markus K. Brunnermeier, Bubbles, in 1 THE NEW PALGRAVE DICTIONARY OF ECONOMICS 578, 578 (Steven N. Durlauf & Lawrence E. Blume ed. 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.”).

26 Brunnermeier, supra note 25, at 578 (noting that at the end of the Internet stock bubble, an index of Internet share prices fell by over seventy-five percent between March and December 2000).

27 Robert J. Shiller, That Stock Market Bubble Won’t Burst — But It’s Leaking, PITTSBURGH POST-GAZETTE, May 21, 2000, at E1 (“Major speculative bubbles . . . tend to deflate over a period of years.”).

28 See discussion infra Part I.C.1.
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. A bubble might be defined as an instance of boom-and-bust price behavior.30 Boom-and-bust price behavior is not a satisfactory definition for a bubble for the purposes of this Article, because boom-and-bust behavior can be completely consistent with good judgment. Consider a fair lottery in which 1000 tickets have been sold at a price of $1 for a $1000 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 $2000 if a coin flip one week from now 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 in expected value of the prize. Assume the authority then conducts the coin flip, observes tails, and announces that the prize will be $1000 after all. If the price of tickets then drops to $1, 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.31 That a good outcome—plausible ex ante—did not 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.32

30 See Randall Kroszner, Asset Price Bubbles, Information, and Public Policy, in ASSET PRICE BUBBLES: THE IMPLICATIONS FOR MONETARY, REGULATORY AND INTERNATIONAL POLICIES 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, supra, at 35 (“By a bubble, some seem to mean any period when asset prices rise and then fall.”).

31 See, e.g., Douglas Clement, Interview with Eugene Fama, THE REGION (Dec. 2007), http://www.minneapolisfed.org/publications_papers/pub_display.cfm?id=1134 (arguing that the “more recent climb and decline of the market in the early 2000s” was not the result of “irrational exuberance”, but rather, “exactly what you’d expect if the market’s efficient”); Jean-Claude Trichet, President, Eur. Cent. Bank, Asset Price Bubbles and Monetary Policy, Speech at the MAS Lecture, Monetary Authority of Singapore, 1 (June 8, 2005), http://www.bis.org/review/r050614d.pdf (“Well reputed economists claim that even the most famous historical bubbles . . . can be explained by fundamentally justified expectations . . . .”).

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 unknown probability distributions (knowledge of a “1/1000 probability of winning the prize” is rare). Even so, I argue that it is possible to identify circumstances in which it is more likely 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. Boom-and-bust prices suggest, but do not conclusively prove, the existence of a bubble.

Departure from fundamental value. A common definition of a bubble among economists is that bubbles exist when asset prices depart significantly from fundamental values. The fundamental value of a security is defined in turn as the net present value of future cash flows, adjusted for risk. Despite the convenience of this definition for economic theory, it has at least two important shortcomings for my purposes. First, attitudes toward risk make the definition 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 $1000. Indeed, this attitude—called “risk aversion”—is often considered 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 $1000. 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.

(1993).

33 See discussion infra Part I.C.
34 See discussion infra Part III.
35 See Trichet, supra note 31, at 2 (explaining that a bubble occurs when there are “large and increasing deviations of asset prices from their fundamental values”).
36 E.g., SHELEFER, 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.
37 See RUBINSTEIN, supra note 7, at 40 (providing formula that demonstrates that a gamble is worth less than its expected value given certain assumed characteristics of the gambler). 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.
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 computation of expected value 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. Others define asset bubbles in terms of price-to-price feedback loops. The idea is that high prices attract buyers who drive up prices and attract more buyers. 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. 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 reasons other than feedback loops for poor-quality trading.
6. Bubble Contract

A bubble contract is a contract entered into during a bubble 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 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 simply do not exist, or at least that an event should not be called a bubble except as a “last resort.”43 This Section 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, market participants have consistently identified and do consistently identify bubbles in their surroundings, a fact that is itself a potent argument that bubbles exist.

1. Evidence from Experimental Economics

As discussed, it is impossible to determine fundamental asset values in real life.44 That is why this Article 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.45 Erik Gerding has recently introduced this work to the law-review literature.46

43 PETER M. GARRER, 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); Kroszner, supra note 30, at 4 (“Identifying asset price bubbles is quite difficult both ex ante and ex post.”); Trichet, supra note 31, at 1 (“There is no consensus about the existence of asset price bubbles in the economics profession.”).

44 See Martin Dufwenberg et al., Bubbles and Experience: An Experiment, 95 AM. ECON. REV. 1731, 1731 (2005) (“[F]undamental values are usually not observable.”).

45 For the seminal paper in this literature see Vernon L. Smith et al., Bubbles, Crashes, and Endogenous Expectations in Experimental Spot Asset Markets, 56 ECONOMETRICA 1119 (1988).

46 See generally Gerding, supra note 3, at 983 (“[E]xperimental asset markets serve as a crucial tool in evaluating the effectiveness of antibubble laws. These virtual markets allow researchers to create known fundamental values for securities and to test whether experimental subjects trade those securities at fundamental value.”).
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 value. 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: Buyers and sellers are given an allocation of cash and 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).

The participants are told the amount and probability of the dividend, as well as the number of rounds in the experiment. They thus have all the information needed to calculate the fundamental values of the securities. Indeed, in some designs the experimenters directly tell the participants the expected value of future dividends.

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 an ask, a purchase and sale takes place. Bubbles are ubiquitous in such experiments. Asset prices rise far above the expected or average value of the securities. Even more strikingly, they rise far above the maximum possible value for

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\[97\] Although prices above $1 could reflect a belief that researchers will burst through the door and change the rules of the experiment, this seems implausible.

\[98\] This description is adapted from Gerding, supra note 3, at 1014–16.

\[99\] Of course, some uncertainty is inevitable—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.

\[100\] E.g., David Porter & Vernon L. Smith, Price Bubbles, in HANDBOOK OF EXPERIMENTAL ECONOMICS RESULTS 247, 247 (Charles R. Plott & Vernon L. Smith eds., 2008).

\[101\] 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.

\[102\] 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) (reporting robustness of price bubbles to a wide range of experimental treatments); Porter & Smith, supra note 98, at 248–55 (same).

\[103\] Note that under the conventional assumption, financial-market participants are deemed to be risk averse. See FRANK K. REILLY & KEITH C. BROWN, INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT 13 (Mike Reynolds et al. eds., 7th ed. 2003). This actuarially expected value is an upper bound for fundamental value.
For example, securities that pay off no more than $0.40 per period will change hands at $6 or more when there are ten periods left and the securities cannot possibly realize more than $4. 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 experimenter 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 in decision making on the part of agents . . . .

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. It also suggests that there is no principled reason to adopt a judgment-based explanation for phenomena only as a “last resort” after explanations based on perfect rationality have failed.

The experimental evidence is subject to varying interpretations. For example, Vernon Smith, who won the Nobel Memorial Prize in Economic Sciences in 2002 for his work in experimental economics, focuses on the fact that the bubbles are reduced or eliminated when traders run through the same trading game

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54 See Charles Noussair & Charles Plott, Bubbles and Crashes in Experimental Asset Markets: Common Knowledge Failure?, in HANDBOOK OF EXPERIMENTAL ECONOMICS RESULTS, supra note 34, at 260, 263 Fig. 2 (illustrating that participants in trading experiments bid prices of risky assets not just above their actuarially expected value, but above their maximum possible value). 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, 857 (2001).

55 Noussair & Plott, supra note 54, at 262–63. The experiment on which Noussair and Plott were commenting is reported at Lei et al., supra note 34a.

repeatedly.\textsuperscript{57} Erik Gerding, who has examined antibubble regulatory proposals at length in the context of experimental economics, likewise stresses the possibility of learning as an important guide to policy.\textsuperscript{58}

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{59} 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{60} 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 same mistakes as undergraduates, and trade in stocks and houses is not limited to professionals).\textsuperscript{61} 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.

\textsuperscript{57} David P. Porter & Vernon L. Smith, Stock Market Bubbles in the Laboratory, 1 APL. MATH. FIN. 111, 112 (1994) (“[T]his [bubble] phenomenon disappears as traders become experienced.”).

\textsuperscript{58} Gerding, supra note 3, at 1023–25.

\textsuperscript{59} For a review of additional reasons that experimental-economics results might not apply to real markets, see id. at 1017–19.


\textsuperscript{61} See 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) (showing that the use of business executives and traders had no significant effect on bubbles in first-time subjects); King et al., supra note 524, at 196–99 (replicating experiments with business subjects); Smith et al., supra note 444, at 1130–31 (noting the use of professional and business people as subjects had no effect). 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; the bubbles were reduced when just one-third of the traders were “experienced.” Dufwenberg et al., supra note 444, at 1731–32. 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.
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 evidence that the stock market is prone 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. 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 had become overpriced—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. Together, these two findings support the idea that short-term price-driven momentum leads to overpricing that is eventually

62 See Lei et al., supra note 52, at 581 (finding that adding a second 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.

63 Robert J. Shiller, Do Stock Prices Move Too Much to Be Justified by Subsequent Changes in Dividends?, 71 Am. Econ. Rev. 421 (1981); see also George A. Akerlof & Robert J. Shiller, Animal Spirits: How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism 132 (2009) (comparing market’s forecasts of dividends to a 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.


66 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, Are Institutions Momentum Traders? 2 (Nov. 2001) (unpublished manuscript), available at http://www.som.yale.edu/Faculty/nc25/Investments/InstitutionalMomentum.pdf.
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 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.


68 Barber & Odean, supra note 42, at 15–21. Because every transaction must have a buyer and a seller, these findings imply that institutional investors are net sellers under these conditions.

69 See Barber et al., Systematic Noise, supra note 67, at 4 (documenting systematic buying and selling of stocks).

70 See Barber et al., Noise Traders, supra note 62, at 1 (finding that stocks heavily bought one year underperform stocks heavily sold the following year).

71 See Paul C. Tetlock, Giving Content to Investor Sentiment: The Role of Media in the Stock Market, 62 J. Fin. 1139 (2007) (analyzing the interactions between the media and the stock market based on the Wall Street Journal column “Abreast of the Market”). 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. at 1140.

72 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.
3. Evidence from Descriptive Observation

For centuries, market observers have been describing the phenomena around them as bubbles driven by irrational or imprudent behavior. 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 nineteenth-century London’s money market, describes one such asset bubble: “[O]wners of savings . . . rush into anything that promises speciously, and when they find that these specious investments can be disposed of at a high profit, they rush into them more and more.”73

Benjamin Graham and David Dodd, who originated the methodology that underlies equity investing today: “[T]he market is not a weighing machine, on which the value of each issue is recorded by an exact and impersonal mechanism . . . . Rather should we say that the market is a voting machine, wherein countless individuals register choices which are the product partly of reason and partly of emotion.”74 Once emotions and reason interact in producing stock prices, it follows that poor judgment may affect prices.

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.”75

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

73 WALTER BAGEHOT, LOMBARD STREET: A DESCRIPTION OF THE MONEY MARKET 131 (Peter B. Kenen et. al. eds., Arno Press ed. 1979) (1873). 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 94 (Templeton Publ’ns 1985) (1841).
74 BENJAMIN GRAHAM & DAVID L. DODD, SECURITY ANALYSIS 23 (1934).
market participants in the midst of the recent dot-com,
and credit market boom-bust events to believe that they were living
through a bubble. For example, Robert Shiller reports that when
Barron’s asked professional money managers in April 1999 whether
the U.S. stock market was “in a speculative bubble,” seventy-two
percent of the respondents said yes.79 Adam Levitin and Susan
Wachter recently described “demand-side explanations”—
explanations that rely on reduced irrationality or judgment—as the
“dominant explanations of the housing bubble to date.”80

Although some economists disdain such contemporaneous
observations, describing them as journalistic, one rarely hears actual
market participants flatly rejecting the possibility of sentiment-driven
bubbles. Although that could reflect media bias, it would be a bit
surprising if the media were shortchanging the no-bubbles theory,
given its prominence among academic economists. The sweep and
persistence of market participants’ description of bubbles as
sentiment-driven phenomena suggests that perhaps contemporary
observers are onto something when they use titles like Extraordinary

76 Kevin Anderson, Dot.com Gold Rush Ends, BBC NEWS ONLINE (May 30, 2000, 5:42
PM), http://news.bbc.co.uk/2/hi/business/766986.stm (describing the dot-com bust as “a return
to rationality”).
77 Bill Fleckenstein, It’s RIP for the Housing Boom, MSN MONEYCENTRAL (Aug. 29,
2005), http://moneycentral.msn.com/content/P123683.asp (calling a “top” to the housing-market
“mania” based on a reading that “gullibility, not apprehension, is the order of the day”);
Housing Bubble Analysis: Interview with Global Economic Trend Analysis (Mish), EFINANCEDIRECTORY
(June 8, 2007), http://efinancedirectory.com/articles/Housing_Bubble_Analysis_Interview_with_Global_Economic_Trend_Analysis_(Mish).html
(interviewing investment-advisor representative Mike Shedlock who described the U.S. housing market as a
bubble caused by poor regulatory policy and “consumer greed”).
78 See Jochen Feichenheimer & Philip Gosdaks, CREDIT CRISSES: FROM TAINTED
LOANS TO A GLOBAL ECONOMIC MELTDOWN 235-38 (2008) (reviewing theories of
irrationality-driven bubbles and concluding that they “have a significant impact on the severity
of a credit crisis”); Mark Gilbert, Credit Market ‘Bubble’ May Be at Bursting Point,
are growing extremely negative on credit markets, which we see as in a bubble,” and Bank of
America chairman Ken Lewis who stated that “[w]e are 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 when everyone feels
invincible and thinks this is different” (internal quotation marks omitted)).
79 SHILLER, supra note 40, at 72.
80 Adam J. Levitin & Susan M. Wachter, Explaining the Housing Bubble 38 (Georgetown
Business, Economics and Regulatory Law Research Paper No. 10-16, Georgetown Public Law
and Legal Theory Research Paper No. 10-60, 2010, University of Pennsylvania Institute for
Wachter and Levitin argue that demand-side explanations are incomplete because they do not
account for the falling price of housing credit, but embrace the possibility that both a demand-
side bubble and supply-side effects help explain the bubble. Id. at 6, 38, 49.
81 See Kroszner, supra note 30, at 4 (“To be sure, there are economists and many
journalists who claim they ‘know’ when an asset price bubble is forming.”).
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 longtime 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 the Internet was going to revolutionize business, so companies that had a leg up on the Internet were going to become very successful.”

Because the ECMH has at times enjoyed thorough acceptance in the economics profession and even the judicial system, it is worth pausing to make two points about it. First, the ECMH may be consistent with the existence of bubbles; and second, despite its name, the ECMH is not a hypothesis, in the sense of a claim that can be directly shown to be false by empirical evidence. The ECMH states that prices reflect available information. It says that the prices we observe are the same as the prices we would observe if everyone were endowed with all the available

82 MACKAY, supra note 7.2.
83 KINDELEBERGER & ALIBER, supra note 25.
84 SHILLER, supra note 32.
85 AXELROD & SHILLER, supra note 632. 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—of 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 best of us.” SHILLER, supra note 40, at 2.
86 Clement, supra note 31.
87 See, e.g., Michael C. Jensen, Some Anomalous Evidence Regarding Market Efficiency, 6 J. Fin. Econ. 95, 95 (1978) (“[I]n contrast, the Efficient Market Hypothesis is a model; it is based on the presumption that the market price of shares reflects all publicly available information.”). Andrei Shleifer, however, argues that this situation has radically changed. See SHLEIFER, supra note 18, at 16–23 (describing empirical challenges to ECMH based on U.S. stock prices).
88 See Basic Inc. v. Levinson, 485 U.S. 224, 246 (1988) (noting that empirical studies support the 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 31.
89 Fama, supra note 11, at 1575 (noting that the hypothesis can be stated as holding either that “security prices 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”).
information. As others have noted, the ECMH can be seen as a hypothesis about “informational efficiency”—the speed with which 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 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 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 the claim that a particular market is efficient, one would not know whether the ECMH, or one’s pricing theory, or both, were wrong.

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90 See Ronald J. Gilson & Reinier H. Kraakman, The Mechanisms of Market Efficiency, 70 Va. L. Rev. 549, 557–58 (1984) (noting that the 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”).

91 See, e.g., Black, supra note 99, at 533 (arguing that the market could be efficient if prices were always half of fundamental value); Fisher, supra note 3, at 867 (“[A] revised market price that rapidly ‘reflects’ new information is not necessarily a price that is ‘right’ in the sense, for example, of estimating discounted future expected cash flows.”).

92 See Allan Timmerman & Clive W.J. Granger, Efficient Market Hypothesis and Forecasting, 20 Int’l J. Forecasting 15, 19 (2004) (stating that the conventional definition of market efficiency “does not rule out the presence of speculative bubbles” without further conditions).


94 Fama, supra note 11, at 1575–76.

Another way of putting this is that results that appear inconsistent with the ECMH can always be explained away by invoking the unobservable. Thus, 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. It is not enough to argue that a phenomenon can be explained within a rational framework. One must argue that the phenomenon is more likely explained by a framework in which outbreaks of poor judgment do not affect prices, rather 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. That puts even greater emphasis on other sources of information. I take up that topic in the next Section.

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 ECMH, it is not 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.

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. Rik G. P. Frehen et al., New Evidence on the First Financial Bubble (Yale Sch. of Mgmt. Int’l Ctr. for Fin. Working Paper Series, Paper No. 09-04, 2009), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1371007. But such an argument is not 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 of market traders by attracting new, low-quality traders and possibly by degrading the quality of existing traders.

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 longtime series. See Lawrence H. Summers, Does the Stock Market Rationally Reflect Fundamental Values?, 41 J. Fin. 591, 596 (1986) (explaining that 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 thirty percent, then 5000 years of data are needed to reject the hypothesis of market efficiency).
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 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 why? 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 but believing that error is minimized by the bubble rather than the non-bubble presumption.

Wherever we set the standard of proof, we will need some idea of what evidence will count in deciding whether a bubble exists. This Section 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.

1. Market Indicators

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 masked by countervailing factors. Moreover, observers of real-life asset bubbles believe that some bubbles may appear and disappear even if the underlying bubble component is not present. Therefore, the criteria reviewed in this Section can help narrow the universe to true bubbles and their closest impostors, even if the bubble component has disappeared.

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98 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.

99 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.
deflate slowly rather than dramatically.\textsuperscript{100} 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 \textit{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 fact, crashes are quite common as optimists dump their inventories when the end of the experiment approaches.\textsuperscript{101}

\textbf{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 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.\textsuperscript{102} 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.”\textsuperscript{103}

\begin{footnotesize}
\begin{enumerate}
\item See Shiller, supra note 27, at E1 (“The bubble metaphor for speculative booms is unfortunate; real-world bubbles made of soap and water burst suddenly and irrevocably, and leave virtually no trace. Major speculative bubbles, on the other hand, tend to deflate over a period of years.”).
\item See, e.g., Porter & Smith, supra note 576, at 112–13 fig.2, 118 fig.4, 119 fig.5, 120 fig.6, 122 fig.7, 123 fig.8 (depicting boom-and-bust pattern in “typical” laboratory experiments under varying conditions).
\item King et al., supra note 524, at 183, 185 tbl.13.1 (finding that inexperienced traders produce larger bubbles and higher volume than experienced traders).
\item Smith et al., supra note 454, at 1131; see also King et al., supra note 524, at 183 (finding that inexperienced traders “inevitably” produce bubbles, “[o]nce-experienced traders yield somewhat smaller price bubbles . . . [and] twice-experienced traders yield prices tending to follow intrinsic value”).
\end{enumerate}
\end{footnotesize}
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.\footnote{See, e.g., Smith et al., supra note 45, at 1124 (buying and selling of stocks for cash only activity permitted in seminal bubble-market paper).}

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.\footnote{See Caginalp et al., supra note 61, at 30 (“Margin buying opportunities cause a significant increase in the amplitude of bubbles for inexperienced traders.”); King et al., supra note 52, at 188–89 (finding that allowing margin buying increases “all measures of the bubble, except duration, for inexperienced traders”).}

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

New Participants

The experimental-economics literature suggests that bubbles “tend to occur with inexperienced traders and not with experienced traders who have participated many times in the same type of market.”\footnote{Dufwenberg et al., supra note 44, at 1731–32 (“Even with as small a fraction of experienced traders as one-third, bubbles are eliminated, or at least substantially abated.”).}

There are reasons to believe that real-world markets are less conducive to learning than experimental markets,\footnote{For an entertaining argument that a (false) analogy between bridge and trading played a role in Bear Stearns’s collapse, see Malcolm Gladwell, Cocksure: Banks, Battles, and the Psychology of Overconfidence, NEW YORKER, July 27, 2009, at 24. 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. Hussam et al., Thar She Blows: Can Bubbles Be Rekindled with Experimental Subjects?, 98 AM. ECON. REV. 924, 928–29 (2008) (describing “rekindle” treatment); id. at 933–36 (reporting the 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.} so that experienced traders are more prone to bubbles in reality than in experiments. Nevertheless, 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, one experimental study found that bubbles are fueled by the cash of momentum traders and that bubbles pop when such traders’ available

\footnote{See Caginalp et al., supra note 61, at 42–43.}
cash is exhausted. 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.

**Increase in Speculative Motives**

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. Market participants noted 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.

**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 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.

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113 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.
3. Irrationality-Inducing Environmental Factors

Hype

If “hype”—media attention, word of mouth, and the like—focuses public attention on particular assets, one might expect that demand, and prices, for those assets would increase.\textsuperscript{114} Experimental evidence supports such a conclusion. 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{115} 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 so because trading was the only available activity, and the subjects were predisposed to participate actively in the experiment in some manner.\textsuperscript{116} If these subjects were trading because they had no other focus of attention, that is consistent with the hypothesis that increased attention to asset classes can help spark a bubble.

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{117} Experimental evidence suggests that asset bubbles exist even when future cash flows from the assets are certain,\textsuperscript{118} suggesting 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. New-era stories may be more important as a source of hype and attention—a way of getting new investors to consider and invest in the asset class—than as a source of optimistic expectations.

\textsuperscript{114} See Jill E. Fisch & Hillary A. Sale, The Securities Analyst as Agent: Rethinking the Regulation of Analysts, 88 IOWA L. REV. 1035, 1078 (2003) (arguing that early 2000s technology bubble was caused in part by “uncountable cases in which analyst hype alone seems to have resulted in significant stock price movements,” even though “investors may be aware that analysts have a variety of incentives to recommend stocks inappropriately”).\textsuperscript{115} Lei et al., supra note 54, at 834–35.\textsuperscript{116} Id. at 846–53.\textsuperscript{117} Id. at 846–53.\textsuperscript{118} See, e.g., SHELLER, supra note 40, at 106–31 (describing patterns of “new era economic thinking” from 1901 through the present day); Frehen et al., supra note 96, 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 eighteenth-century South Sea and Mississippi Company bubbles).\textsuperscript{119} Caginalp et al., supra note 61, at 27; Porter & Smith, supra note 57, at 117–18.
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.\footnote{See Sihleifer, supra note 18, at 24 (“If arbitrage is unlimited, then arbitrageurs accommodate the uninformed shifts in demand as well as make sure that news is incorporated into prices quickly and correctly.”).}

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 activity, sometimes called “arbitrage,” would push the stock’s price back down toward $100.\footnote{The activity described here does not meet another common definition of arbitrage, namely making a truly risk-free profit, as by simultaneously selling gold for $101 per ounce in London and buying it for $99 per ounce in New York. See Salih N. Neftci, Principles of Financial Engineering 30–31 (2004) (“[A]rbitrage-free prices represent the fair market value of the underlying instruments. One should not realize gains without taking some risk and without some initial investment.”).} 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 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.”\footnote{This remark is often attributed to Keynes, although it is apparently apocryphal. See Jason Zweig, Keynes: He Didn’t Say Half of What He Said. Or Did He?, WSJ Blogs, http://blogs.wsj.com/marketbeat/2011/02/11/keynes-he-didnt-say-half-of-what-he-said-or-did-he/.} 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 very risky for highly leveraged arbitrageurs such as hedge funds. Economists have created models that formalize this intuition.\footnote{See J. Bradford De Long et al., *Noise Trader Risk in Financial Markets*, 98 J. POL. ECON. 703, 703 (1990) (describing a 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").}

The experimental evidence suggests that introducing short selling does not eliminate bubbles and may exacerbate them, at least with inexperienced traders.\footnote{Caginalp et al., *supra* note 61, at 30; King et al., *supra* note 52, at 186–88.} 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.\footnote{Caginalp et al., *supra* note 61, at 30.}

Futures markets can be used for arbitrage, and introducing a futures market to the experiment dampened but did not eliminate asset bubbles.\footnote{Id.}

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,\footnote{See SHILLER, *supra* note 40, at 72 ("[T]he very people responsible for oversight were caught up in the same high expectations for future home-price increases that the general public had."); Werner de Bondt, *Bubble Psychology, in Asset Price Bubbles, supra* note 30, at 205, 205 ("[I]t is difficult to identify a stock market boom, ex ante, as ‘a bubble that is about to burst.’").} rather than after the fact.\footnote{See Stephen J. Choi & A.C. Pritchard, *Behavioral Economics and the SEC*, 56 STAN. L. REV. 1, 53 (2004) ("[T]he recent performance of the U.S. stock market supports the possibility of stock bubbles."); Allan H. Metzner, *Rational and Nonrational Bubbles, in Asset Price Bubbles, supra* note 30, at 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."); Michael Mussa, *Asset Prices and Monetary Policy, in Asset Price Bubbles, supra* note 30, at 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."); Partnoy, *supra* note 3, at 756 (noting that bubbles are “difficult to spot ex ante”); Trichet, *supra* note 31, 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 . . .")} This is true even if high-quality
traders, who may 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 either 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 the quality of the information provided 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 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 or modify 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

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is of another order of magnitude if the judgment has to be made in real time . . . ."

Gerding, supra note 3, at 1007–12.

Id.

Cf. Cass R. Sunstein, Boundedly Rational Borrowing, 73 U. Chi. L. Rev. 249, 249–50 (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.”).

capital markets are supposed to operate. Bubbles increase price volatility, which is itself welfare reducing under standard economic analyses and is therefore a kind of cost. They also 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 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. Smoothing economic cycles is one of the basic goals of modern macroeconomic policy, even though no one thinks

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132 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).


135 Frederic S. Mishkin, THE ECONOMICS OF MONEY, BANKING, AND FINANCIAL MARKETS 295 (8th ed. 2007) (describing insolvent S&Ls’ construction of desert shopping centers during 1980s real estate bubble); Christine Haughney, Changing Course to Avert a Glut, N.Y. TIMES, Nov. 19, 2006, at K1 (noting that 83,400 condominium units were under construction or proposed in Las Vegas at the time of writing).

136 See James D. Gwartney et al., ECONOMICS: PRIVATE AND PUBLIC CHOICE 182 (10th ed. 2003) (“Inevitably, growth . . . has [always] been followed by economic slowdown and contraction.”).

137 See 15 U.S.C. § 1021(a) (2006) (establishing “reasonable price stability” as a federal policy goal); id. § 3101(c) (same); Mishkin, supra note 135, at 393–95 (identifying stability of
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. 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 investor welfare by limiting securities transactions if they were confident that they were curtailing primarily speculatively motivated trades.”

3. Fraud

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

4. Bailouts

When a bubble pops, it may—but need not—imperil leveraged institutions that are “too big to fail.” It appears that this is a recurrent pattern across countries, with the controversial recent U.S. bailouts just the most neoteric example. The costs of rescuing these institutions are inevitably borne by parties other than their nominal prices, financial markets, and interest rates as goals of monetary policy); Trichet, supra note 31, at 2–3 (explaining how identifying events that “expose the financial system to a significantly increased level of risk” is important for policy makers).

138 See JOHN D. AYER, GUIDE TO FINANCE FOR LAWYERS 218 (2001) (“[W]e tend to assume that most investors are risk-averse most of the time.”); WILLIAM F. SHARPE ET AL., INVESTMENTS 142 (6th ed. 1999) (“In general, it is assumed that investors are risk-averse . . . [and] will choose the portfolio with the smaller standard deviation.”).

139 Choi & Pritchard, supra note 127, at 58.

140 See discussion infra Part II.C.2.

141 See KINDLEBERGER & ALIBER, supra note 25, at 165–203 (discussing fraud and noting that “[t]he implosion of an asset price bubble always leads to the discovery of fraud and swindles”).
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. 142 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 beyond the scope of this Article. 143

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. 144 “Liquidity,” however, is not an end in itself. 145 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 typical 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, on balance, have significant negative effects that are not

142 Gerding, supra note 3, at 1035 (citing DANIEL GROSS, POP? WHY BUBBLES ARE GREAT FOR THE ECONOMY (2007)).

143 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 does not mean that construction was justified ex ante. It seems likely that bubble proponents are aware of this and are arguing from a different framework.


145 Cf. Gerding, supra note 3, at 1034 (“Many antibubble laws are, in fact, designed to deny liquidity to the market.”).
limited to those who enter into bubble contracts and that are not countered by offsetting positives.

II. BUBBLES AND FREEDOM OF CONTRACT

First, a word on freedom of contract (or “freedom of contract”): Scholars dispute the extent to which the legal institution of contract can meaningfully and accurately be described as based on consensual relationships.146 Scholars who embrace such a description are sometimes called “contractarians.”147

Non-contractarians emphasize a distinction between “contract” conceived as the set of individualistic, voluntary agreements to be bound, and “contract” conceived as the category of obligations that the law will enforce under the heading of “contract.” Non-contractarians argue that not all relationships governed under contract law arise from actual consent or assent to be bound, citing as examples the “objective” theory of contract formation,148 practice of gap-filling in incomplete contracts,149 and the enforceability of adhesion contracts.150 They stress the importance to contract law of social norms that may exist outside the parties’ bargaining.151 Indeed, non-contractarian scholars sometimes suggest that the idea of “consent” is not helpful in defining the legal institution of “contract.” On this view, “consensual” is a conclusion about a relationship, not a characteristic of the relationship that leads to a conclusion.152

147 See Jean Braucher, Contract Versus Contractarianism: The Regulatory Role of Contract Law, 47 Wash. & Lee L. Rev. 697, 697 (1990); Joo, supra note 146, at 780.
148 See Joo, supra note 146, at 790.
150 Id. at 169 Fig. 1.
151 See Braucher, supra note 147, at 699 (“The questions addressed by contract law concern what social norms to use in the enforcement of contracts, not whether social norms will be used at all.”).
152 Braucher, supra note 147, at 699–700 (“Use of the concept of consent seems to be inevitable in explanations and justifications of the law of contract. Consent itself, however, is a conclusion based on a complex set of normative judgments; consent is not a simple description of fact.”) (citation omitted).
In brief, “contractarians” talk about freedom of contract. Non-contractarians, on the other hand, talk about “freedom of contract.”

Within that (oversimplified) framework, this Article focuses on “contractarian” thinking, in both its utilitarian and non-utilitarian varieties. It does so not to take a position on the correct approach to conceptualizing contract law (or “contract law”), but because the proposition that bubble contracts should not be enforced is harder to defend, and perhaps more interesting, in a contractarian framework. One would expect most of the categorical opposition to modifying bubble contracts to come from the contractarian camp.

Large-scale outbreaks of poor judgment that can be identified on an aggregate level after the fact are relevant under a contractarian framework. Such outbreaks reflect widespread poor judgment, factual error, and fraud, and therefore call to mind the contract doctrines of capacity, mistake, and misrepresentation.

These doctrines can be understood as sharing a common two-step structure within a contractarian framework: Step One addresses whether consent to the contract is undermined by circumstances, and Step Two addresses what should happen given that the consensual basis for enforcing the contract is vitiated. Step Two may embrace a broad range of concerns, but its key feature—common across all three doctrines—is that it is extraconsensual. It is thus, to the contractarian, 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. Although incapacity probably would not be recognized under existing doctrine, poor judgment is the condition that the doctrine is designed to address. Existing doctrine focuses on individuals who have readily recognizable incapacitating features, such as minor age. Incapacity in a bubble manifests itself differently: it is recognized on an aggregate level and is likely to be socially mediated. Economics’ expanding understanding of this phenomenon


154 See, e.g., Joo, supra note 149, at 162 (“[T]he [law and economics] position . . . draws rhetorical strength . . . from notions . . . of ‘freedom of contract’ as a categorical good.”); Jean Braucher, Rent-Seeking and Risk-Fixing in the New Statutory Law of Electronic Commerce: Difficulties in Moving Consumer Protection Online, 2001 Wis. L. Rev. 527, 538 (2001) (“Disclosure regulation . . . is preferred to substantive regulation because it interferes less with market processes and ideological commitments to ‘freedom of contract’”).

155 See Joo, supra note 146, at 790–91 (describing libertarian and utilitarian strands of “contractarian” thinking). Recognizing that scholars in the “contractarian” group may resist the label, I dispense with the quotation marks in the text going forward, purely for aesthetic reasons.
support expansion of incapacity doctrine, just as psychology’s expanding understanding of mental illness in the last century led to expansion of the doctrine at that time.\textsuperscript{156}

Bubbles do not necessarily change the Step-One analysis of mistake and misrepresentation. But both mistake and misrepresentation are likely to be more common in bubbles.\textsuperscript{157} Bubbles do affect how all three doctrines should be applied at Step Two: a rule of rescission would help deter bubbles but might have high remedy administration costs relative to an approach stressing equitable adjustment. Case-by-case analysis traders’ reasonableness 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>
</tr>
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<tbody>
<tr>
<td>Capacity</td>
<td>Low average judgment supports expansion of incapacity.</td>
<td>Bubble-deterreing effects of rescission are relevant even under contractarian analysis, as do remedy administration costs; contractarians embrace broad-ranging inquiry at Step Two. Case-by-case analysis is more difficult because traders are not “normal.” Social contagion complicates analysis of “fault.”</td>
</tr>
<tr>
<td>Mistake/</td>
<td>More common than in non-bubble conditions.</td>
<td></td>
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<tr>
<td>Misrepresentation</td>
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The discussion above centers on the existing doctrines of capacity, misrepresentation, and mistake. But the law’s response need not be confined to existing doctrinal categories. Bubbles illustrate a problem for private ordering, one that contract law has not addressed. Accordingly, the law might respond by changing the structure of

\textsuperscript{156} See discussion infra Part II.B.

\textsuperscript{157} See discussion infra Part II.C.
A. The Two-Step Structure of Excusing Doctrines

The doctrines of capacity, mistake, and misrepresentation/fraud have a two-step structure. Step One in each doctrine can be understood as addressing whether there is some condition that undermines the validity of assent. Step Two can be seen as a way of addressing what happens next: vitiation of assent does not necessarily lead to excuse or modification. Excuse or modification will advantage one party; enforcement will advantage the other. Step Two can be understood as allocating the gain or loss, either with a binary “excuse/no excuse” decision or by equitable adjustment, which embraces a more nuanced set of outcomes. And, in keeping with the contractarian understanding of contracts as primarily consensual undertakings, the second step can be understood as acting “extracontractually”—applying, for example, principles of relative fault and the creation of proper incentives. It is therefore appropriate to call Step Two the “extracontractual loss allocation” step. I will refer to a step as being “satisfied” if the analysis of that step supports rescinding or modifying 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 Restatement reflects the two-step structure of the capacity, mistake, and misrepresentation doctrines, as follows.

1. Capacity

Capacity defenses can be understood as based on the inability of specified classes of people—minors, those affected by mental disabilities, and those who are intoxicated—to exercise good judgment. For adults who are not under guardianship, the trigger

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158 See discussion Part II.D.
160 Id. § 15(b).
161 Id. § 16(b).
162 Although a concern with inequality of sophistication, rather than lack of ability to contract, may help explain capacity doctrines, see, e.g., Haltman v. Lemke, 298 N.W.2d 562, 564 (Wis. 1980) (stating that the purpose of the 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 Melvin Aron Eisenberg, The Limits of Cognition and the Limits of Contract, 47 STAN. L. REV. 211, 212 (1995) (stating that the capacity doctrine is “best explained on the basis of the limits of cognition”); Kronman, supra note 5, at 789 (stating that the law affords a child “protection against his own ignorance and
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.163

The Step-One inquiry is whether the promisor falls into a category of people who presumptively have worse-than-average judgment. Unless the promisor is a minor 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.”164

The Step-Two inquiry for capacity under the Restatement 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.165 The different types of inquiry can be arranged on a spectrum from most to least likely to result in discharge of contract duties, 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.166

Next is incapacity based on one of the parties’ status as a minor. The general 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.167 The same analysis applies to those who, because

immaturity—not merely the advantage-taking of others”). 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, e.g., S.B. v. St. James Sch., 959 So. 2d 72, 96 (Ala. 2006) (refusing to recognize the existence of a contract between two minors because they “lacked capacity to enter into a contract”). Likewise, “the incapacity defense is applicable even if the party with capacity neither knew nor had reason to know that the other lacked capacity.” Eisenberg, supra, at 212.

163 RESTATEMENT (SECOND) OF CONTRACTS §§ 15(1)(b), 16(b).
164 Id. §§ 15(1)(b), 16(b).
165 See Richard A. 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.
166 RESTATEMENT (SECOND) OF CONTRACTS § 13.
167 See id. § 14 (“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, e.g., 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) (arguing that courts have underestimated the capacity of children to contract and that expectations of a child’s capabilities should vary by age); 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).
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.168

The type of incapacity least likely to result in discharge arises when 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. In such a case, the contract is not voidable unless the counterparty had reason to know of the inability to act reasonably.169

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.170 In the Restatement and the Uniform Commercial Code, 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, reflecting the overall lack of consensus among courts and scholars about how to deal with this issue.

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. Otherwise, the agreement will be voidable by the adversely affected party. 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.

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. The Step-Two (loss-allocation) rule in this context provides that the party seeking to avoid the contract must have been justified in relying on the other party’s misrepresentation. The Restatement states that the Step-Two test for excuse will “usually” be satisfied in the case of factual misrepresentations, suggesting that contracts procured by or resulting from 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 the capacity doctrine.

171 See RESTATEMENT (SECOND) OF CONTRACTS § 152(1) (mutual mistake); id. § 153 (unilateral mistake); id. § 261 (impracticability); U.C.C. § 2-615(a) (2009) (commercial impracticability); id. § 2-721 (rescission of contract as remedy for fraud).
172 Id. § 152(1).
173 Id. § 153(b).
174 Id. § 164(1).
175 Id.
176 Id. § 164 cmt. d.
In this connection, it is worthwhile to recall Shiller’s description of the impaired judgment that reigns in a bubble:

[E]rrors of human judgment can infect 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. 178

The incapacity that excuses contractual duties generally is limited to discrete areas: minority, 179 “mental illness or defect,” 180 and intoxication. 181 But surely not all those whose judgment is poor enough that they should be barred from making contracts are minors, 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, below.

In any event, the categories in which incapacity can be recognized are not fixed. Since the middle of the twentieth century, courts have recognized a major expansion to incapacity doctrine, the motivational theory of incapacity.

The only articulated test for incompetence in the middle of the twentieth 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.” 182 By 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.” 183

178 SHILLER, supra note 40, at xiii.
179 RESTATEMENT (SECOND) OF CONTRACTS § 14.
180 Id. § 15.
181 Id. § 16.
183 Ortelere v. Teachers’ Ret. Bd., 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 to cmt. b (“It is now recognized that there is a wide
Courts began to recognize that persons falling into this latter category lacked contractual capacity, and section 15(1)(b) of the Restatement 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’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 classified psychosis” can be a basis for avoidance on this ground, 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.

If a 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 fact that “a wide variety of types and degrees of mental incompetency” are now recognized, including not just mental illness but also “congenital deficiencies in intelligence, the mental deterioration of old age, [and] the effects of brain damage.” Under the contemporary theory of volition-based

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184 See, e.g., Ortelere, 250 N.E.2d at 466 (“On this analysis it is not difficult to see that . . . she [acted] solely as a result of serious mental illness, namely, psychosis.”).
185 Restatement (Second) of Contracts § 15(1)(b).
188 Id. at 769.
190 See Blatt v. Manhattan Med. Grp., P.C., 519 N.Y.S.2d 973, 976 (N.Y. App. Div. 1987) (“[I]t may be that an individual who has not demonstrated a clinically classified psychosis may still be able to rescind a contract in some instances.”); accord STA Travel (New York) Ltd. v. Raymond, 603 N.Y.S.2d 8, 9 (N.Y. App. Div. 1993) (holding that a question of fact existed as to whether the defendant had the capacity to contract given “evidence of defendant’s manic depressive condition and suicide attempts”).
192 Id.
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 illustrates a more fundamental general principle: incapacity doctrine can respond directly to changes in other disciplines’ understanding of human behavior. As argued earlier, it seems that economics has now come to recognize 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 contractarian approaches to thinking about contracts: the utilitarian approach and the libertarian approach.

Under ordinary conditions, the utilitarian defense of contract enforcement goes as follows: parties ordinarily are the best judges of their own utility, so that a voluntary exchange presumably is utility-maximizing for each party when it is entered into. Enforcement is needed because changed circumstances may cause an agreement that was initially attractive to become unappealing for one of the parties. Even if such a change in circumstances causes enforcement no longer to maximize utility for the contracting parties, defending the promisee’s ability to rely on the promise and not to face this kind of opportunistic behavior protects mutually beneficial exchange in general. Contract enforcement maximizes utility not because

193 See discussion supra Part I.B.3
194 See, e.g., JEREMY Bentham, THE THEORY OF LEGISLATION 168 (G.K. Ogden ed., Richard Hildreth trans., 2nd ed. 1950) (1789) (“Every alienation imports advantage”) (emphasis omitted). Bentham here means “alienation” to mean the voluntary surrender of property; the passage begins, “It may be that possessing a thing by lawful title, we wish to dispossess ourselves of it, and to abandon its enjoyment to another.” Id. See also JOHN STUART MILL, PRINCIPLES OF POLITICAL ECONOMY 957 (W.J. Ashley ed. 1909) (1848) (“The ground of the practical principle of non-interference [with exchange] must be, that most persons take a juster and more intelligent view of their own interest, and of the means of promoting it, than can either be prescribed to them by a general enactment of the legislature, or pointed out to them in the particular case by a public functionary.”).
195 Bentham, supra note 194, at 168 (“When the question is of an exchange, there are then two alienations, of which each has its separate advantages.”); see also Eisenberg, supra note 162, at 212–13 (1995) (noting that, with respect to incompetent parties, “the premise of the bargain principle, that a contracting party will act with full cognition to rationally maximize his subjective expected utility, is not fulfilled”).
196 Id. at 171 (If exchanges are freely nullified due to one party’s “evil of loss,” “what security of acquisition do I have, if the seller can break the trade, under the pretense of not knowing what he was about.”).
enforcement of each and every contract maximizes the joint utility of the parties to that contract, but because the institution of contract maximizes social utility.  

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 cannot 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 minor 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 “contractarian” thinkers, such as Richard Epstein, address contract law from a hybrid utilitarian-libertarian point of view that traces at least back to John Stuart Mill. Other scholars present Kantian autonomy-based
arguments\textsuperscript{202} that suggest a categorical imperative of promise keeping. Charles Fried exemplifies this kind of thinking.\textsuperscript{203} Still others focus on the function of contract within theories of entitlement that may trace back to natural rights. Randy Barnett falls into this camp.\textsuperscript{204} There is a case for rescinding bubble contracts even under each of these types of analysis.

No one contests the need for some incapacity doctrine. Milton Friedman\textsuperscript{205} recognized that “paternalistic” intervention is justified in some cases of incompetence. 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.”\textsuperscript{206} He argues that incapacity should apply to classes of people who “in general are not able to protect their own interests in negotiation.”\textsuperscript{207} Poor judgment resulting from an asset bubble certainly would seem to impair one’s ability to protect one’s own interests in negotiation.

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. 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

\begin{itemize}
\item with him, or persuading him, or entreating him, but not for compelling him,” immediately precedes a critical qualification: “[T]his doctrine is meant to apply only to human beings in the maturity of their faculties . . . [T]his applies as soon as mankind have attained the capacity of being guided to their own improvement by conviction or persuasion . . .” JOHN STUART MILL, ON LIBERTY 16–17 (Prometheus Books 1986) (1859).
\item Criticisms of the view that unlimited freedom of contract enhances autonomy go back at least to Max Weber. See, e.g., MAX WEBER, MAX WEBER ON LAW IN ECONOMY AND SOCIETY 188–91 (Max Rheinstein ed., Edward Shills & Max Rheinstein trans., 1954) (1925).
\item See FRIED, supra note 170, at 16–17 (“The obligation to keep a promise is grounded not in arguments of utility but in respect for individual autonomy and in trust . . . . An individual is morally bound to keep his promises because he has intentionally invoked a convention whose function it is to give grounds—moral grounds—for another to expect the promised performance. . . . To abuse that confidence now is like (but only like) lying: the abuse of a shared social institution that is intended to invoke the bonds of trust . . . . Since a contract is first of all a promise, the contract must be kept because a promise must be kept.”)
\item Barnett, supra note 170, at 297 (“The rules governing alienation of property rights by transfer perform the same function as rules governing their acquisition and those specifying their proper content: facilitating freedom of human action and interaction.”).
\item MILTON FRIEDMAN, CAPITALISM AND FREEDOM 34 (1962). The immediate context of Friedman’s comment was legislation to protect those who were, at the time, called “mental defectives,” Friedman likewise recognized the importance and difficulty of limiting paternalistic interventions: “There is no formula that can tell us where to stop. We must rely on our fallible judgment . . . .” Id.
\item Epstein, supra note 165, at 300.
\item Id.
\end{itemize}
in his view—is not “meaningful” when a person lacks capacity. Fried notes that “[i]t seems correct to say, as the older cases did, that an insane person should not be taken to have expressed his will in a legally binding way.” Although these particular formulations are not specific enough to allow application and their tone suggests great skepticism about expanding incapacity, the onset of poor-enough judgment could meet the standard in all three cases.

Even if one demands a showing that individual traders exhibited very poor judgment before entertaining an expansion of incapacity, it is at least plausible that a large fraction of bubble traders are as bad as minors, the intoxicated, and the mentally ill at trading. 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 nonbubble contracts. Rescinding or modifying bubble contracts is at least arguably consistent with contractarian approaches.

C. Bubbles and the Mistake and Misrepresentation Doctrines—Step One

Both mistake and misrepresentation are more common in a bubble.

208 Barnett, supra note 170, at 318.
209 Fried, supra note 170, at 63 n.*.
210 See discussion infra Part I.B.1.
211 See, e.g., Mackay, supra note 73 (titling his book on the subject Extraordinary Popular Delusions and the Madness of Crowds).
212 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 given complex transaction.” Eisenberg, supra note 111, 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 was ascertainable at the time of the deal), not on what market events have revealed about the likely quality of transactions in general.
I. Bubbles and Mistake

Two distinct types of incorrect beliefs appear to be more common during asset bubbles than otherwise. 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 forty percent 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 twenty-one percent in 2004. Even if outright statements that prices “can never go down” are rare, certain transactions seem to be based on such a belief. Subprime mortgages, which seem to make sense only if houses are expected to appreciate, fall into this category. Parties to such transactions might believe that prices will not go down during the period of their transaction, rather than that they cannot go down. But if euphoria is widespread in market bubbles, we would expect the belief that prices will always go up to be common.

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 “[r]eal estate is the best investment for long-term holders.” Taken literally, this is simply a statement of opinion, or a prediction about the future. But the judgment is likely to be supported by exaggerated beliefs about the past performance of house prices that are incorrect. More generally,

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213 Cf. Keith Gessen, Interview with a Hedge Fund Manager, N+1, Fall 2008, at 21, 23 (arguing that “a paradigm shift in finance is maybe what we’ve gone through in the subprime market and the spillover that’s had in 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 on errors of fact. See, e.g., RESTATEMENT (SECOND) OF CONTRACTS § 151 (1981) (“A mistake is a belief that is not in accord with the facts.”); id. cmt. a (“[T]he erroneous belief must relate to the 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 future, even if erroneous, is not a ‘mistake’ as that word is defined here.”). Increasingly, however, the doctrine has been expanded to embrace errors of judgment as well as fact. See E. Allan Farnsworth, Oops! The Waxing of Alleviating Mistakes, 30 OHIO N. U. L. REV 167, 182 (2004) (discussing the willingness of U.S. courts to provide relief based on mistakes of judgment). Evolution in that direction would provide further support for the argument presented here.

214 SHILLER, supra note 40, at 58; see also SHILLER, supra note 126, 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.”).

215 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 B. GORTON, SLAPPED BY THE INVISIBLE HAND: THE PANIC OF 2007 80 (2010) (“The subprime mortgage, including the possible second-period refinancing, may be expected to be profitable if the probability of a house price increase . . . is perceived to be sufficiently high.”).

216 See SHILLER, supra note 40, at 58.

217 See SHILLER, supra note 126, at 33 fig.2.1 (demonstrating that real home prices in the
TAKING BUBBLES SERIOUSLY

if a party believes that a particular asset is “the best” 218 during a period of generalized market euphoria accompanied by widespread false factual beliefs, it stands to reason that the person’s belief was formed, at least in part, on the basis of incorrect factual information—either information that the person heard himself or herself, information that helped create an optimistic view of stocks that was communicated to him or her by someone else, or information that became reflected in the market price.

A belief that an asset “will always go up” or that a type of asset “is the best” arguably is not a belief about existing facts. Such a belief can, however, be understood as being about the present characteristics of the assets in question. It is like a belief that a cow is barren, 219 or that lumber is not threatened by a currently burning fire 220—the subjects of two famous contracts that were rescinded on the ground of mistake.

More importantly, modern analyses of mistake and related doctrines tend to deemphasize whether a mistake of presently existing fact occurred. Instead, a finding of “mistake” is a type of finding that the contract cannot appropriately be seen as allocating a particular risk 221—in other words, that a potentially fatal gap in the contract exists.

From this standpoint, subprime mortgage contracts in particular seem vulnerable. The belief that the property securing the mortgage is highly likely to appreciate underlies both the borrower’s and the
lender’s decision to enter the transaction. \(^{222}\) A mistaken belief that houses must appreciate or have appreciated dramatically in the past would contribute to each party’s decision to enter the deal.

Contracts of purchase and sale are less vulnerable: Courts often hold that a contract of sale is the quintessential device for allocating the risk of a change in price. \(^{223}\) The buyer bets that price will rise and the seller bets that price will fall. A related argument is that only buyers, not sellers, are swept up in bubble psychology, so that mutual mistake is impossible: the seller, being a seller, is betting that prices will fall and therefore is not in the bubble’s grip. \(^{224}\)

But the proposition that every contract of sale allocates the risk of all price changes for all reasons sweeps too broadly. The parties might well contract with awareness of some price risk, but with an awareness that is warped by the bubble. For example, both parties might devise worst-case scenarios that involve mild appreciation rather than total collapse. Put differently, the mere existence of a contract of sale does not prove allocation of the risk that a bubble is underway.

Nor does the mere fact of a sale establish that the seller has escaped the bubble’s grip. The seller might want to sell in order to invest in a still more promising stock or a still larger house, to rebalance portfolios, \(^{225}\) to fund a yacht purchase, \(^{226}\) 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 fosters

\(^{222}\) See Gorton, supra note 215, at 80.

\(^{223}\) See N. Ind. Pub. Serv. Co. v. Carbon Cnty. Coal Co., 799 F.2d 265, 275 (7th Cir. 1986) ("The normal risk of a fixed-price contract is that the market price will change.").

\(^{224}\) See Meltzer, supra note 127, 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.

\(^{225}\) 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: A QUANTITATIVE APPROACH FOR PROVIDING SUPERIOR RETURNS AND CONTROLLING RISK 389–92 (2d ed. 2000) (discussing principles of portfolio revision).

\(^{226}\) 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.
“shared mistaken tacit assumptions”—a principal ground suggested by Melvin Eisenberg for the rescission of contracts.227

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,” the resulting contract of sale may be no different from the contract of sale of a cow that both parties believe to be barren228 or the long-term agricultural lease of land that both parties believe to be arable.229 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.

Bubble markets will feature transactions between informed and uninformed traders, transactions where one party has figured out that high prices cannot last forever but the other party has not. Such cases may involve unilateral mistakes giving rise to a power of avoidance even under the Restatement: the informed trader, having identified the bubble, has reason to know of the high probability that the uninformed trader is mistaken.

2. Bubbles and Fraud

Commentators have reported for generations that fraud is widespread in market bubbles.230 In the Internet stock-market boom, we read that “[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.”231

The recent real-estate boom, described as a “breeding ground for market fraud,”232 likewise produced its share of stories. One particularly notable one is that of Phillip Hill, who stole at least $40

227 Eisenberg, supra note 170, at 1620–41.

228 See Sherwood, 33 N.W. at 923–24 (“A barren cow is substantially a different creature than a breeding one.”).

229 See Remner v. Kehl, 722 P.2d 262, 265 (Ariz. 1986) (“The belief of the parties that adequate water supplies existed beneath the property was ‘a basic assumption on which both parties made the contract,’ and their mutual mistake ‘ha[d] such a material effect on the agreed exchange of performances as to upset the very bases of the contract.’ (citations omitted) (quoting RESTATEMENT (SECOND) OF CONTRACTS §152 cmts. a & b (1981))).

230 See KINDLEBERGER & ALIBER, supra note 25, at 165–208 (describing increase of corruption and fraud in market bubbles); id. at 165 (“The supply of corruption increases in a procyclical way much like the supply of credit.”); see also BAGEHOT, supra note 73, at 151 (“The good times too of high prices almost always engender much fraud. . . . [W]hen most people think they are making [much money], there is a happy opportunity for ingenious mendacity.”).

231 SHILLER, supra note 40, at xiv.

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 of fifty homes and 250 condominiums at inflated prices from Hill. 233

In addition to clear cases of fraud, bubbles may also feature an increase in near-fraudulent activity—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 the Possibility of a “Gestalt” Response

Bubbles—mass outbreaks of collective poor judgment—present a problem for private ordering, and the existing contract-law doctrines just discussed capture aspects of the problems that bubbles create. Yet few if any courts embrace the idea that bubble contracts should not be respected simply because they are bubble contracts. Bubble contractors might have poor judgment but not “as poor as” that of children or the mentally ill. They might be very frequently mistaken about background assumptions but those assumptions might not qualify as “basic” under conventional analysis or might be treated as judgments about the future that do not trigger mistake doctrine. They may be more likely to be defrauded, defrauding, or both, but not likely enough to cause us to depart from the normal requirement that each element of misrepresentation be shown on an individual basis.

But recognizing bubbles as a space in which private ordering via contract is inappropriate—because the normal conditions supporting private ordering via contract do not exist—could lead the law to respond in a way that transcends existing doctrinal strictures. The twentieth century offers two examples of contract law’s ability to transcend existing doctrinal constraints to adapt to realities newly recognized by the legal system.


234 See KINDLEBERGER & ALBER, 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.”).
The first is the creation and extension of unconscionability doctrine, which obviated then-existing categories defining the courts’ authority (or lack thereof) to refuse enforcement of contracts. Previously, courts would deny enforcement for unfairness only when acting “in equity.” Under unconscionability doctrine, courts can deny all enforcement, not just enforcement in equity.

It might be argued that unconscionability does not reflect the common-law development of contract because it is statutory in origin: Section 2-302 of the Uniform Commercial Code provides that a court may “refuse to enforce” any contract that was unconscionable when made. Although adoption of Article 2 of the Uniform Commercial Code was an important landmark in the history of the doctrine, the extension of unconscionability beyond the confines of U.C.C. Article 2—which began even before the U.C.C. went into effect—suggests that it was equally a common-law development. So does the widespread adoption of the procedural-substantive framework for unconscionability, which originates with academic commentary and not with the Code.

Moreover, unconscionability can be understood as a response to the phenomenon of form contracting even though the doctrine is described as being a doctrine of general applicability. Form contracts can oppress adhering parties. Eventually, courts came to recognize this and invalidated oppressive terms using the unconscionability doctrine. In so doing, they constricted the sphere of private ordering. The same structure of argument applies to bubble contracts: Bubble contracts help create bubbles. Eventually, courts may come to realize this and invalidate bubble contracts. In so doing, they will constrict the sphere of private ordering.

The recognition of a general duty of good faith and fair dealing is another example of common-law development unconstrained by existing doctrine. As Robert Summers argues, by the mid-20th century, courts had in fact applied a requirement of good faith and fair dealing under a variety of legal theories, including contract, quasi-

237 See Friedrich Kessler, Contracts of Adhesion—Some Thoughts About Freedom of Contract, 43 COLUM. L. REV. 629, 640 (1943) (“Freedom of contract enables enterprisers to legislate by contract, and, what is even more important, to legislate in a substantially authoritarian manner without using the appearance of authoritarian forms”). The “legislation by contract” to which Kessler refers is the use of “[s]tandard contracts ___ by enterprises with strong bargaining power”). Id. at 632.
contract, and tort, but had not expressly articulated a general obligation of good faith. Due in part to the influence of academic commentary, such a requirement appeared in the Restatement in 1981. Although the scope and application of the duty of good faith continues to be a matter of debate, today it is hornbook law that such a general duty exists.

In both cases—unconscionability and good faith—courts transcended existing doctrinal categories to forge general rules at variance with purely private ordering in order to address pressing problems. The examples arguably are different from the case of bubble contracts to the extent that courts were already refusing, say around 1950, to enforce unconscionable contracts and reward bad-faith behavior. The unconscionability doctrine and the general good-faith requirement arguably were just devices that allowed courts to reach just results with less tortured analysis. By contrast, courts actually do seem to enforce bubble contracts now. Nonenforcement, it could be argued, is a substantive shift, not

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239 The Uniform Commercial Code provided that “every contract or duty within this Act imposes an obligation of good faith in its performance and enforcement,” U.C.C. § 1-203 (pre-2001 version), but not all contracts fall within the Uniform Commercial Code. Even for U.C.C. contracts, the formulation of good faith in the original text of Article 2—“honesty in fact,” supplemented by “reasonable commercial standards” of the trade for merchants, generally is not understood as encompassing all areas in which the requirement of good faith has been imposed. See Summers, supra note 238, at 215 (“In sum, the Code’s definitions restrictively distort the doctrine of good faith.”).

240 See Restatement (Second) of Contracts § 205 (1981) (“Every contract imposes upon each party a duty of good faith and fair dealing in its performance and its enforcement.”).


243 Cf. K. N. Llewellyn, Book Review, 52 HARV. L. REV. 700, 703 (1939) (“Covert tools are never reliable tools”). Llewellyn’s observation reminds us that even if unjust results can be avoided in some or most instances indirectly, through creative application of existing doctrine, there is value in addressing problems in the law head-on.

244 A recent line of cases holding buyers to contracts to purchase condominiums near the Gulf of Mexico illustrates the proposition nicely. See Stein v. Paradigm Mirasol, LLC, 586 F.3d 849, 859 (11th Cir. 2009) (reversing district court’s grant of summary judgment for buyer attempting to avoid contract and remanding for entry of judgment for seller); Rodriguez v. BA Eola, LLC, No. 09-14725, 2010 WL 4978260, at *2–3 (11th Cir. Dec. 8, 2010) (reversing...
just a device for cleaning up the doctrine. Even so, a prominent legal historian tells us that there was a time—around 1860—when the law was in fact much more prone to enforcing unconscionable deals and constricting its inquiry into bad-faith conduct than it was in 1950. With respect to bubble contracts, we may be at 1860, not 1950.

district court’s grant of summary judgment for buyer attempting to avoid contract; Boatwright v. Carney Realty, Inc., No. 08-0660-WS-B, 2009 WL 3615048, at *19 (S.D. Ala. Oct. 29, 2009) (“The Boatwrights took a calculated risk when they decided in the summer of 2005 to invest in a preconstruction condominium unit . . . The market for condominiums . . . tanked shortly thereafter. In this lawsuit, plaintiffs strive mightily to blame others for their misfortune . . . No matter how tangled and complex a web plaintiffs have attempted to construct with their extensive recitation of causes of action, they have not presented sufficient facts to ensnare these defendants.”); Home Devco/Tivoli Isles LLC v. Silver, 26 So. 3d 718, 723 (Fla. Dist. Ct. App. 2010) (reversing trial court’s grant of summary judgment to buyer attempting to avoid contract). The Gulf condominium market is often cited as a paradigm example of the real-estate bubble, and the courts in these cases recognized as much. See Stein, 586 F.3d at 852 (“[The] bubble was bigger in Florida than it was in most other states”); Rodriguez, 2010 WL 4978260, at *2 (“The facts of Stein are eerily similar to this appeal,” where buyers “had second thoughts” after “the housing bubble in Florida burst!”); Boatwright, 2009 WL 3615048, at *1 n.2 (noting that the court in Stein “could have been talking about this case” when it was discussing Gulf Coast housing bubble). There is little doubt that these were bubble contracts. In each case, the buyer sought rescission of the contract after the bubble burst. Yet the buyers did not even try to assert any theory tied to the housing bubble in seeking rescission. Instead, the buyers in each case relied on a federal statute, the Interstate Land Sales Full Disclosure Act, 15 U.S.C. § 1701 (2006 & Supp. 2009), which permits buyers to rescind purchase contracts if the seller fails to supply a property report. See Stein, 586 F.3d at 852 (describing the statute as “an increasingly popular means of channeling buyer’s remorse into a legal defense to a breach of contract claim”). The sellers in each case resisted, relying on an exception of the disclosure requirement that applies to contracts that “obligate” the seller to construct condominiums within two years, see 15 U.S.C. § 1702(a)(2), and arguing in each case that the contract obligated the seller to complete the units within two years. The buyers in each case countered with arguments that the contract did not “oblige” the seller to complete construction within two years, either because the provided insufficient remedies to “obligate” the seller under the statute, see Stein, 586 F.3d at 855–56, or—more commonly—because a broadly drafted force majeure clause rendered the two-year deadline illusory, see Stein, 586 F.3d at 857; Rodriguez, 2010 WL 4978260, at *2; Boatwright, 2009 WL 3615048, at *12; Home Devco, 26 So. 3d at 721. Although buyers had some success in obtaining summary judgment on this theory in the federal and state trial courts in Florida, see Rodriguez, 2010 WL 4978260, at *1; Stein v. Paradigm Mirasol, LLC, 551 F. Supp. 2d 1323 (M.D. Fla. 2008); Home Devco, 26 So. 3d at 719; it appears that all lower-court decisions for the buyers have been reversed, see Stein, 586 F.3d at 858; Rodriguez, 2010 WL 4978260, at *3, Home Devco, 26 So. 3d at 723. Courts outside of Florida likewise have found for the sellers. See e.g., Boatwright, 2009 WL 3615048, at *20. Among other things, the cases illustrate that: (1) disputes over bubble contracts are fought out on grounds of tangential relevance to the real issues presented by bubbles; and (2) courts enforce bubble contracts against parties who try to resist them.

245 See MORTON J. HORWITZ, THE TRANSFORMATION OF AMERICAN LAW, 1780–1860 160 (1977) (“Modern contract law is fundamentally a creature of the nineteenth century. It arose in both England and America as a reaction to and criticism of the medieval tradition of substantive justice that, surprisingly, had remained a vital part of eighteenth century legal thought, especially in America. Only in the nineteenth century did judges and jurists finally reject the longstanding belief that the justification of contractual obligation is derived from the inherent justice or fairness of an exchange.”).
E. 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 that he or she individually lacked capacity, made a specific mistake, or received a specific misrepresentation. With respect to capacity, this reflects a judgment that a party can effectively consent to contractual obligations unless some individual characteristic suggests otherwise. 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 applied at an aggregate and not an individual level: instead of individual proof that one is a low-quality trader, the party should instead simply have to show the existence of a bubble. This is true even under an individualistic conception of contract; the social phenomenon increases the probability that an individual will have poor judgment with respect to the contract at issue.

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.

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 Figure 1, 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 the idea of freedom of contract, they do bear in a practical sense on the shape of contract as an institution: it is unlikely that the institution of contract would exist in the same form in a world where adjudication and enforcement were impossible.

F. Bubbles and Excuse—Step Two

1. The Setting of Step-Two Analysis

A common feature of the excusing doctrines discussed above is that satisfaction of Step One does not end the analysis, but instead triggers an analysis under Step Two to determine how the law will respond. Under the Restatement, for example, the response may depend on whether the promisee had reason to know of the promisor’s incapacity, whether the nonmistaken party had reason to know of the other’s mistake, or whether the promisor reasonably relied on the promisee’s misrepresentation. Each of these is an example of Step-Two analysis.

246 See discussion supra Part II.A.1.
The key feature of Step Two is that it is extraconsensual, and thus extracontractual, at least according to the contractarian view.\textsuperscript{247} Various approaches to Step Two have been devised, but as this Part argues, none relies solely on freedom of contract (or “freedom of contract”) as its basis. Instead, Step Two analysis reflects an effort to accommodate diverse concerns, such as fairness, encouragement of care, discouragement of wrongdoing, administrability of the court system, and the public interest broadly construed. The \textit{Restatement} frankly calls its approach a compromise,\textsuperscript{248} and scholars have described Step Two in like terms. This is unsurprising coming from scholars, such as those in law and economics, whose orientation is basically utilitarian. Any number of things can affect aggregate utility (or, in the economists’ phrase, social welfare) and all those things are weighed in a cost-benefit analysis. But contractarian scholars who are not utilitarian also (necessarily) embrace extracontractual considerations at Step Two. As Charles Fried put it, “[We face] the inevitability of using noncontractual principles to resolve failures of agreement.”\textsuperscript{249}

Thus, there is no objection based on “freedom of contract” to a decision not to enforce bubble contracts at Step Two. What then should courts do with bubble contracts? Part III of the Article addresses that question.

2. The Utilitarian Approach to Step Two

Utilitarian analysis, as classically formulated, is a kind of cost-benefit analysis.\textsuperscript{250} In this framework, the question whether to enforce bubble contracts is answered by totaling the costs and benefits of nonenforcement as compared to enforcement (with “cost” and “benefit” broadly construed and not limited to monetary amounts).

\textsuperscript{247} See \textit{Restatement (Second) of Contracts} § 17(1) (providing that 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 Joo, supra note 149, at 162 (“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.”).

\textsuperscript{248} \textit{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 expectations 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.”).

\textsuperscript{249} FRIED, supra note 170, at 61.

\textsuperscript{250} See JOHN STUART MILL, UTILITARIANISM 9–10, 16–17, (1863) (utilitarianism “holds that actions are right in proportion as they tend to promote happiness,” the standard “is not the agent’s own greatest happiness, but the greatest amount of happiness altogether.”).
The claims about “efficiency” of normative economics are typically cast in the same framework: will a policy or rule “make individuals affected by it better off in terms of how they perceive their own welfare”?251

Law-and-economics solutions to specific Step-Two problems have rested on such appeals to utility maximization, or efficiency. That is the basis, for example, for Posner and Rosenfield’s proposal that the costs of contracts that become impossible, impracticable, or frustrated be placed on the “superior risk bearer.”252

In general, the premise for the utilitarian defense of contract enforcement does not hold in a bubble, as argued above.253 “The individual,” who in Mill’s words “is presumed to be the best judge of his own interests”254 under ordinary circumstances should not be so presumed when that individual is trading in an asset bubble.

Utilitarians might defend enforcement of bubble contracts on the ground that nonenforcement undermines the generally beneficial institution of contract. 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 mutually beneficial transactions.

There are at least two counterarguments. First, avoiding the negative effects of bubbles—volatility, malinvestment, dislocation—is a good that can be weighed directly against the bad of undermining security of transactions. Second, the concern with creating uncertainty in nonbubble conditions may be just a transitional issue.255 If a rule of

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251 TREBILCOCK, supra note 32, at 7. A distinction is often made between “Pareto” efficiency (a change is efficient only if it makes some better off while making no one worse off) and “Kaldor-Hicks” efficiency (a change is efficient if those are made better off could in theory compensate those who are made worse off). Id. Kaldor-Hicks more clearly exemplifies pure cost-benefit analysis; law and economics scholars who have addressed the issues discussed in this Article have embraced Kaldor-Hicks efficiency. See Richard A. Posner & Andrew M. Rosenfield, Impossibility and Related Doctrines in Contract Law: An Economic Analysis, 6 J. LEGAL STUD. 83, 89 (1977) (“It is true that each party is interested only in the value of the contract to it. However, the more efficiently the exchange is structured, the larger is the potential profit of the contract for the parties to divide between them.”).


253 See discussion supra Part II.B.

254 MILL, supra note 250, at 957.

255 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 protecting 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 must have counterparties. It is sometimes said that every hedge requires
rescission succeeds in deterring bubble formation, then there will be no bubble contracts to rescind, and less insecurity about whether a given contract will be rescinded. Fears of inflation decrease over periods of low inflation, and fears of bubbles ought to decrease over periods without bubbles.

More generally, freedom-of-contract ideas do not specify any particular outcome at Step Two for the utilitarian. The proper response to bubble contracts is the response that will maximize utility—an inquiry that necessarily involves consideration of a broad range of issues, some of which are taken up in the concluding section of this Article.

3. Nonutilitarian “Contractarian” Approaches to Step Two

Contractarian scholars who are not strict utilitarians have proposed a number of solutions for specific Step-Two problems. For example, Charles Fried argues for “loss sharing” in cases of mistake when “no agreement obtains, no one in the relationship is at fault, and no one has conferred a benefit.” 256 Michael Trebilcock proposes “a very austere rule of literal enforcement” for all but the most exceptional cases of mistake. 257 Andrew Kull would have the law let losses lie where they fall in cases of mistake and frustration. 258

What all these approaches have in common is that they are not grounded specifically in any notion of freedom of contract. These authors all embrace “extracontractual” principles for dealing with 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.

256 Fried, supra note 170, at 71. 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.

257 See Trebilcock, supra note 32, at 144. Although Trebilcock’s analysis proceeds mostly in a law-and-economics vein, his concern with issues other than social welfare as defined in an economic framework account for his placement under the “nonutilitarian” heading. See id. at 9 (“I will be centrally concerned with congruences and conflicts between the normative implications of welfare economics, negative and positive theories of individual liberty and autonomy, and theories of community.”).

Step-Two cases of incapacity and mistake, appealing variously to fairness, inducing appropriate care, practical convenience, clarity of rules, and the public interest generally as underlying principles supporting their preferred approaches.

Kull’s proposal that losses in cases of mistake and frustration generally be permitted to lie where they fall is a partial exception. At one point, Kull suggests that judicial action is justified only respecting matters that the parties’ contracts actually cover. This suggestion is rooted in “the individualistic tradition that sees the distinctive quality of contract obligation in the fact that it is self-imposed.” Kull draws from this tradition a “substantial theoretical argument” in favor of “an absolute requirement that judges cease judging once they reach the boundaries of the parties’ agreement.” He appears, however, to disavow this stance, observing that the individualistic conception of “autonomy and responsibility . . . at many points does not square with modern assumptions” so that in general it is legitimate to consider broader interests at Step Two.

Even if one were to read Kull as contending that judicial gap-filling is inherently illegitimate, one would evaluate this argument in the context of the limited scope of Kull’s article, which deals with contracts that suffer only from mistake or frustration and not from other problems. Neither Kull nor any other contractarian scholar has addressed the social outbreak of poor judgment that a bubble represents.

III. RESOLVING BUBBLE CONTRACTS

As shown above, even contractarian approaches—whether utilitarian or nonutilitarian—sanction an open-ended inquiry into the resolution of Step Two. This Part considers what approach is most appropriate for dealing with bubble contracts. It argues that the special characteristics of bubbles weigh against approaches, such as the Restatement’s, that rely on case-by-case evaluations of whether

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259 See TREBILCOCK, supra note 32, at 144 (in cases of mistake and impracticability, “contract law cannot be a regime that is entirely internal to the parties to the contract”).
260 See FRIED, supra note 170, at 62, 63, 67, Kull, supra note 258, at 54.
261 See FRIED, supra note 170, at 62.
262 Id. at 67.
263 TREBILCOCK, supra note 32, at 144 (evaluating approaches to Step Two in terms of whether they yield “determinate rules with clear implications for particular cases”).
264 See Kull, supra note 258, at 54.
265 Id. at 40.
266 Id.
267 Id.
268 Id. at 54.
parties exercised appropriate care. Instead, a case can be made either for a bright-line rule of rescission for bubble contracts or for a regime of equitable adjustment that focuses on loss sharing, reduction of hardship, and the creation of reasonable results on a prospective basis. The choice between the two rests largely on the tradeoff between the bubble-deterring effects of a bright-line rescission rule and the high remedy administration costs such a rule might entail.

A. The Argument Against Case-by-Case Analysis of Care

The Restatement’s approach to Step Two in many respects relies on a case-by-case analysis of whether parties seeking to escape the contract exercised due care in protecting its own interests. If Party A has reason to know of Party B’s incapacity269 or unilateral mistake,270 Party A will be charged with that knowledge and Party B will be able to escape the contract without a further showing of bad faith or actual knowledge on Party A’s part. If Party B relies honestly but unjustifiably on Party A’s misrepresentation, Party B cannot escape the contract.271 These are all inquiries into whether the parties took reasonable care to protect themselves. Although such concern with parties’ vigilance in looking out for their own interests dates back at least as far as Bentham,272 it is misplaced in the context of bubble contracts.

Bubbles are different; they are unusual events marked by widespread, socially mediated outbreaks of poor judgment. They blur the baseline standard of care. The correct baseline for “reason to know” or “justifiable reliance” should be adjusted to reflect what a person in a bubble must do act reasonably or avoid fault. This makes the application of standards of care to individual cases more difficult and less desirable, all things being equal.

Analyzing reasonable care under Step Two is not just more difficult in a bubble. It is also less valuable, at least to the extent an inquiry into reasonable care is a quasi-fault standard designed to allocate losses based on what the parties deserve. If bubble thinking is marked by social contagion and exposure to the contagion is difficult or impossible to avoid, then “you deserved your fate” seems a little less appropriate a basis for doling out harsh results than it might be in

269 See Restatement (Second) of Contracts §§15(b), 16 (1981).
270 Id. §163(b).
271 Id. §164(1).
272 See Bentham, supra note 194, at 171 (arguing that in cases of mistake as to value, “[w]e must always examine if the ignorance of the seller were not the result of negligence.”).
other situations. Unavoidable exposure to contagion seems to mitigate fault.

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. The result here is analogous to the irrelevance under the Restatement of incapacitated parties’ reasonable care.273 When judgment is presumably poor enough, reasonable care becomes irrelevant.

B. Rescinding Bubble Contracts

One approach to nonenforcement is rescission, the mutual return of benefits received under the contract coupled with termination of existing duties under the contract. Rescission is the usual remedy for contracts that are voidable on the grounds previously discussed: incapacity, mistake, and misrepresentation.274 Moreover, a rule of rescission ought to deter formation of asset bubbles, as described below.

Rescinding bubble contracts may sound extremely radical and overbroad, but the idea is no more outlandish than, say, abolishing summary judgment,275 much less creating a free market in baby sales,276 or allowing adults to sell themselves into slavery.277 Moreover, this is hardly the first time scholars have proposed to dispense with the complexities of Restatement-style analysis and substitute bright-line rules—consider Trebilcock’s “extremely austere rule of literal enforcement”278 and Kull’s proposal to let losses lie where they fall,279 discussed above. Both rescission and the alternative approach of equitable adjustment present advantages and disadvantages.

Under this approach, the rescission rule would be applied after a bubble has ended. As discussed, it is easier for third parties such as

273Restatement (Second) of Contracts §§14-15.
274Id. §§ 376, 384 (mutual return of benefits conferred generally required when contract avoided).
275See John Bronstein, Against Summary Judgment, 75 Geo. Wash. L. Rev. 522, 522 (2007) (arguing that “our civil justice system would be both fairer and more efficient” if summary judgment were abolished).
276See Elisabeth 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,” and concluding that “the benefits of free baby selling might well outweigh the costs,” and proposing “a method of practical experimentation with introducing a market in adoptions”).
278See supra note 287.
279See supra notes 264–75.
regulators or judges to identify bubbles in hindsight, even if high-quality traders are aware of them when they are going on. For example, a price crash itself seems to be a 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.

For the sake of argument, I assume that any party to a bubble contract (practically speaking, any buyer) 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. A universal rule should help deter bubble contracts, as both high- and low-quality traders are likely to be motivated by the possibility of speculative gain. Symmetry also avoids the need for individual inquiry into trader quality, and thus the incentive for opportunistic post hoc assertion of low quality. Finally, a symmetrical rule avoids inquiry into where exactly to draw the line between low- and high-quality traders on an individual basis.

A rescission rule could apply to any contract entered into during a bubble, executory or fully performed. Rescission, even of fully performed contracts, is the mainstream response to incapacity, mistake, and misrepresentation, and, as explained below, bubble contracts are especially good candidates for a universal rule of rescission. 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.

1. Rescission and Stock-Market Bubbles

For 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”

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280 See discussion supra Part I.C.5.
281 See RESTATEMENT (SECOND) OF CONTRACTS §§ 14–16 (1981) (contractual duties undertaken by parties lacking capacity are voidable); id. §§ 152–53 (mistake may render contract avoidable); id. §164 (misrepresentation may render contract voidable); id. §§ 376, 384 (duties of mutual restitution arise when contract is avoided on grounds of incapacity, mistake, or misrepresentation).
282 In some cases this might not be possible. For example, condominium complexes that were built in response to bubble demand could not be unbuilt. Malinvestment cannot always be uninvested, sometimes it can only be avoided. As argued below, a rule of rescission ought to be able to help avoid bubbles in the first place, and thus help avoid the malinvestment that accompanies them.
of rescission is that each share will be returned to its pre-bubble owners so that no one makes a profit from trading activities during the bubble. In the context of the dot-com bubble, this rule presumably would have applied to many initial public offerings that took place during the bubble.283

In the context of financial-asset 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 existence of a bubble does not itself 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.284 Much of the appeal of a bright-line rule of rescission comes from the deterrence expected to flow from its bright-line nature. That seems to suggest, at least provisionally, that short sales should be subject to the rule.

As for derivatives, their value is linked directly 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.285

2. Rescission and Real-Estate Bubbles

For 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 of real estate transactions works under existing contract law,286 and it avoids error in determining the current value of the asset. Such an approach does create practical difficulties. For example, people who occupy homes they bought during the bubble would no longer own their dwellings unless they were able to reach

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284 See discussion supra Part I.C.4.

285 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 (e.g., if there were a housing bubble, whether a derivative that is based partially on housing prices and partially on stock prices should be included), but they are beyond the scope of this Article.

286 See Renner v. Kehl, 722 P.2d 262, 266 (1986) (ordering reconveyance of leases as part of rescission); Sharabianlou v. Karp., 181 Cal. App. 4th 1133, 1145–46 (Cal. Ct. App. 2010) (“Rescission is an appropriate remedy where . . . the contracting parties are mutually mistaken as to the condition of real property,” and in such a case “the buyer must restore possession to the seller.”).
an agreement with the original seller/postrescission 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 prebubble prices. For example, assume that a housing bubble existed from 2002 through 2006, that a house sold for $500,000 in 2002, and that the same house sold for $750,000 in 2006. The situation might be resolved by ordering the seller to refund to the buyer $250,000, assuming that the difference between and bubble and prebubble prices results from the bubble.\textsuperscript{287}

The drawback of this approach is that it requires analysis of whether price changes resulted solely from the bubble. Physical rescission, for all its practical difficulties, does not require this analysis.

Loans to buy bubble assets that are collateralized by bubble assets—for example, purchase mortgages extended during a housing bubble—seem to qualify as bubble contracts. Bubbles are often 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 his or her 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 example of collateralized lending fueling a bubble—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.\textsuperscript{288}

Rescission of bubble mortgages would entail the borrower’s return of the outstanding principal and the lender’s return of interest and fees paid. Even though mortgage rescission is an important existing remedy for truth-in-lending violations,\textsuperscript{289} rescinding all mortgages extended in real-estate markets affected by the housing bubble seems wildly impractical at first blush. After all, 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.

\textsuperscript{287} The treatment and status of this monetary claim in the event the seller seeks bankruptcy protection is an interesting issue that this article defers.


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 might well be able to use this sum plus proceeds from refinancing to pay off the original lender if the lender wants to rescind the mortgage.

If the owner cannot recover these funds because the seller has dissipated them, then the owner and lender have together suffered a loss due to the bubble. If they both are entitled to rescission, they both are entitled to be put back in the position they occupied before the 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 must be applied. And if bubbles are not appropriate for private ordering, 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 rescinding bubble contracts is that it entails high administrative costs in overseeing the rescission of large numbers of contracts. This objection should be evaluated with respect to the scope of the problem. The administrative cost of rescinding a home sale contract seems unlikely to be large relative to the cost of the house, or to be significantly larger than the costs entailed in foreclosure. Rescission costs, though high in absolute terms, may be a secondary issue relative to the other issues presented by asset bubbles.

3. Rescission and Deterring Bubbles

If bubbles are driven largely by the hope of speculative profits, then rescinding bubble contracts should help avoid bubbles by removing traders’ incentives to profit. Traders who know or suspect that a bubble is present have no incentive to transact if they cannot 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 will consider only high-quality and low-quality traders in this analysis.

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290 See Vivian Lei et al., Asset Bubbles and Rationality: Additional Evidence from Capital Gains Tax Experiments 1 (Cal. Inst. of Tech., Division of the Humanities and Social Sciences, Paper No. 1137, 2002), available at http://www.hss.caltech.edu/SSPapers/wp1137.pdf (contrasting “individually rational, bubble creating speculation” with “a type of confusion or mistaken understanding” as explanations for asset bubbles in experimental markets and finding support for the “mistaken understanding” hypothesis from the persistence of bubbles in an experiment in which a fifty-percent capital-gains tax is levied).

291 See Black, supra note 324, at 530 (“The common element [among models that take noise seriously] . . . is the emphasis on a diversified array of unrelated causal elements to explain what happens in the world. There is no single factor that causes stock prices to stray
High-quality traders may be aware that a bubble may or probably does exist—recall the seventy-two 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 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 because greed overwhelms fear. Someone in 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, it should work against social factors such as hype, which may contribute to the spread of unrealistic new-era thinking that propagates bubbles.

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, it 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.

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292 SHILLER, supra note 40, at 72.
293 Noussair & Plott, supra note 54, at 262.
294 Caginalp & Ilieva, supra note 109, at 653–54.
295 See Felsenheimer & Gisidakis, supra note 78, at 236 (listing the “greed and fear phenomenon” as among the explanations for the emergence of bubbles).
296 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 theoretical values, nor even a small number of factors.”); Caginalp & Ilieva, supra note 109, at 652 (“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 of these traders.”).
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 fifty-percent capital-gains tax failed to prevent bubble formation. That is no surprise, though, because capital-gains taxes short of 100% do not eliminate the profits from successful speculation.

C. Equitable Adjustment of Bubble Contracts

A bright-line rule of rescission removes incentives to engage in bubble trading. Rescission, rather than equitable adjustment, also appears to be the leading remedy in the United States for contracts that are invalidated for incapacity, mistake, or fraud. But rescission may be difficult to administer on large scale. Another approach, one with strong scholarly support, offers greater flexibility and probably lower administrative cost than rescission. That approach is equitable adjustment of bubble contracts: judicial modification of bubble contracts to achieve just outcomes based on what is known at the time of adjudication. The U.C.C.’s commentary authorizes this approach for sales contracts that become impracticable, and scholars have endorsed its application more broadly.

With respect to contracts of sale entered into during a bubble, principles of equitable adjustment could lead to loss sharing. The house that was worth $500,000 before and after the bubble and that from such activity.

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297 Lei et al., supra note 290, 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.

298 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.

299 See U.C.C. § 2-615 cmt. 6 (2009) (“In situations in which neither sense nor justice is served by either answer when the issue is posed in flat terms of ‘excuse’ or ‘no excuse,’ adjustment under the various provisions of this Article is necessary, . . . .”); see also RESTATMENT (SECOND) OF CONTRACTS §§ 158(2), 272(2) (authorizing limitation of relief “as justice requires” in cases of mistake and commercial impracticability”).

300 See, e.g., FRIED, supra note 170, at 69–71 (suggesting that the sharing principle should apply to mistake and other “contractual gaps” when both parties are harmed, neither is at fault, and neither benefits); Mark P. Gergen, A Defense of Judicial Reconstruction of Contracts, 71 IOWA L. REV. 45, 45–46 (1985) (arguing that courts do and should modify contracts in order to satisfy the principles of “loss alignment” (a party should not be able to profit from the other party’s unexpected loss) and “unselfish performance” (a party should not be able to enforce terms allowing it to gain from threatening to impose a significant joint loss on the parties)).

changed hands for $1 million at the height of the bubble might lead to a claim for $250,000 on the borrower’s part. Indeed, to the extent that bubbles present unfamiliar territory for applying subtle approaches to adjustment, simple loss sharing of the sort suggested by Fried might be especially attractive.

The attraction of equitable adjustment may be clearest in connection with bubble mortgages. An ongoing battle over mortgage modifications continues to play out in the aftermath of the recent housing bubble, with several government programs aimed at inducing “win-win” modifications falling short of their intended effectiveness.

Against this backdrop, some scholars have argued that Congress should take the lead to abrogate or modify mortgage contracts in the exercise of its power to regulate the macroeconomy. The leading counterargument is that mortgage modification by statute solely on the ground of economic emergency would interfere inappropriately with private contract. Because this Article presents an argument against enforcement of bubble contracts from within the freedom-of-contract tradition, rather than an argument that an emergency overcomes contract values, the argument here should be less open to charges of unrestrained statism.

Of course, what outcome is “just” will inevitably be disputed. For that reason, equitable adjustment as opposed to rescission may be attacked as standardless, even anarchic. This Article does not attempt to resolve that debate. Instead, the aim here is to demonstrate that “freedom of contract” is not in itself a sufficient reason to enforce bubble contracts, and identify potential approaches to dealing with that situation.

302 See supra note 240.
303 See Anna Gelpern & Adam J. Levitin. Rewriting Frankenstein Contracts: Workout Prohibitions in Residential Mortgage-Backed Securities, 82 S. CAL. L. REV. 1075, 1134–35, 1151–52 (2009) (arguing based on the Gold Clause Cases that Congress has “broad power to rewrite [private] contracts where they interfere[] with otherwise lawful federal policies,” that such power is “particularly expansive with respect to the macroeconomy” and suggesting that action in that vein might be justified to overcome contractual barriers to mortgage modification). Indeed, Congress has modified some mortgage contracts, albeit in ways that advantage servicers as against investors, rather than borrowers as against lenders.
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 who are not involved in the bubble markets. If those premises are accepted, then failing to respect bubble contracts—rescinding bubble transactions or equitably adjusting them—makes sense and should pass muster, even according to scholars and courts committed to the individualistic notions of freedom of contract that I have called “contractarian.” Nonenforcement follows from the poor judgment endemic to bubbles as I define them. That poor judgment suggests that private ordering is inappropriate in episodes that are revealed to be bubbles, for the reasons that underlie the incapacity, mistake, and misrepresentation doctrines.

The decision whether to adopt a bright-line rule of rescission versus one of equitable adjustment depends on a judgment about the relative importance of deterring bubbles and retaining flexibility in dealing with them. The former supports a bright-line rule of rescission; the latter supports equitable adjustment.