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I propose here the *psychological attraction* theory of financial regulation—that regulation is the result of psychological biases on the part of political participants—voters, politicians, bureaucrats, and media commentators; and of regulatory ideologies that exploit these biases. Some key elements of the psychological attraction approach are: salience and vividness, omission bias, scapegoating and xenophobia, fairness and reciprocity norms, overconfidence, and mood effects. This approach further emphasizes emergent effects that arise from the interactions of individuals with psychological biases. For example, availability cascades and ideological replicators have powerful effects on regulatory outcomes.

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At a delightful dinner not long ago, a former president of the American Finance Association mentioned to me that as a behavioral financial economist, I should be a keen advocate of regulation to protect investors from themselves. He was quite surprised by my reaction, that the behavioral approach in some ways *strengthens* the case for *laissez-faire*, and raises some new doubts about the value of regulation, because much regulation is driven by psychological bias—on the part of the *proponents*, not necessarily the regulated. As several authors have argued (Caplan 2001, Daniel, Hirshleifer and Teoh 2002), individuals have stronger incentives to overcome their biases when investing their own money than when making political choices that affect other people's money.

My coauthors and I also argued that the modern case for *laissez-faire*, based upon optimality of competitive equilibrium and informational efficiency of capital markets, is unduly brittle, in the sense that any market imperfection seems to provide a case for regulation. In contrast, a behavioral approach suggests that even though markets work imperfectly, the political process usually works even worse.

My main topic today is not normative, though I return to policy issues at the end of this talk. My purpose here is to propose a new *positive* approach to financial and other regulation. The behavioral revolution in finance has mainly taken regulatory structures as given, and the applications to regulation have mainly been along the normative lines suggested by my dinner companion— examining how to protect naïve investors (e.g., Sunstein and Thaler 2003). Meanwhile, positive research on financial regulation, following the public choice research program in economics, has focused on the interactions of *rational* selfish pressure groups and political participants.[1]

[1] Some recent studies include Kroszner and Stratmann (1998), Rajan and Zingales (2003), and Benmelech and Moskowitz (2007).

A great missing chapter in the theory of financial regulation is the study of how irrationality on the part of participants in the *political process* affects regulatory outcomes.[2] Such an analysis recognizes that regulators, politicians and voters are subject to systematic biases. I call this approach the *psychological attraction* approach to regulation (and political economy more generally), because certain beliefs about regulation are especially good at exploiting psychological biases to attract attention and support.[3]

If psychological bias affects behavior in capital markets, *a fortiori* it should affect political behavior. A small step toward a psychological approach is the notion that 'rational ignorance' causes individuals to vote foolishly, or not at all (Downs 1957). However, rational ignorance alone cannot explain systematic *bias*. It cannot explain why voters would continually make the same mistakes, such as approving protectionism and farm subsidies (the foreseeable efforts of pressure groups to manipulate available information notwithstanding).

Nor does rational ignorance explain why some proposed regulations are more tempting than others. In a rational setting, the rhetoric of political discourse doesn't matter. I will argue instead that the form of political discourse is crucial.

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[2] Several books and surveys on financial regulation (e.g., Klapper and Zaidi 2005) do not mention this topic; an extensive survey of the law and economics field has only the barest of mentions of psychology (Mcnollgast 2007). An overview article by a leading behavioral economist, entitled "Understanding Regulation," does not include a psychological approach in its summary of theories of regulation, nor does it mention psychology or behavioral economics (Shleifer 2005, p. 446).

[3] Recent progress is being made; see, e.g., Kuran and Sunstein (1999), Caplan (2001), Murphy and Shleifer (2004), and Jolls, Sunstein, and Thaler (2006, Section III). Caplan (2007) provides evidence for the importance of voter irrationality, and, based on responses to political survey questions, documents a set of voter biases. My purpose here is somewhat more general, since regulation is influenced by the biases of commentators and regulators, not just voters. More importantly, rather than directly proposing forms of political bias, my purpose here is to bring to bear ideas from other fields, such as cognitive and social psychology, upon political decisionmaking.

Economists have long wondered why harmful policies are so enticing. Inattention alone is not the answer; often bad policies are adopted at exactly those times when public discourse focuses sharply on them. To understand the form of regulation, we need to understand what kinds of information are the most salient, and what kinds of arguments are the most alluring. We also need to understand the social process by which naïve feelings and beliefs about public policy spread through the media and from person to person.

I offer today an overview of some social and psychological processes that underlie financial and other forms of regulation:

1. Salience and Vividness Effects
2. Omission Bias
3. Scapegoating and Xenophobia
4. Fairness and Reciprocity Norms
5. Overconfidence
6. Mood Effects and Availability Cascades
7. Ideological Replicators

These items reflect both individual biases and (especially items (6) and (7)) the social processes that amplify them. My purpose is to suggest ways in which bias may affect regulation, rather than to systematically weigh alternative possible explanations. I consider the above seven effects in sequence, and conclude by discussing the implications of the psychological attraction approach for public policy.

1. Salience and Vividness Effects

Politics is the struggle for attention. The power of simplistic sound bites exemplifies the fact that constraints on information processing affect every aspect of public debate. Political competitors craft slogans to make their positions plausible, easily understood, and remembered.

Psychological research has studied what makes stimuli easy to encode and retrieve. Attention is drawn to *salient* stimuli that contrast with other stimuli in the environment, and to *vivid* stimuli, such as stories about personal experiences, and emotionally arousing information (Nisbett and Ross 1980, p. 45).

As a result, regulatory debates are influenced heavily by extreme events, and by heart-rending personal stories. For example, the Enron scandal (together with accounting fraud at WorldCom and other firms) helped set the stage for the Sarbanes-Oxley Act of 2002 (or SOX), a major change to U.S. reporting regulations. An exceptionally vivid aspect of the disaster was the ruin of employees who had large fractions of their retirement assets invested in Enron stock. Managers had led employees to believe that Enron stock was a great investment for retirement, even while selling their own shares. (This was in violation of fairness and reciprocity norms, the topic of Section 4.) Enron provided simple dramatic narratives about heartless exploitation and pride coming before a fall which the media imparted with relish.

Protecting employees who invest in own-company stock was not the primary explicit motivation for SOX.[4] However, together with other high-profile accounting frauds, the emotion-laden publicity from Enron helped establish an anti-business public

[4] Some linkage of the two issues is seen in a January 15, 2002 press release by the U.S. Senate Committee on Banking, Housing, and Urban Affairs indicating that Senator Paul Sarbanes had written two letters to the General Accounting Office, one requesting that the GAO investigate investment by employees of retirement funds in company stock, and the other that the GAO explore the adequacy of financial reporting in the U.S. (U.S. Senate Banking Committee, 2002).

mood (see, e.g., Romano 2005, pp. 1524-6) that created intense pressure for a regulatory response.

The costs of disclosure regulation imposed by SOX upon general shareholders are much less vivid than poignant stories about families ruined by lies and cheating. Indeed, the costs of SOX to general shareholders can be integrated with the overall profit that firms generate, so that general shareholders are still perceived as not incurring losses on their holdings. This integration effect applies to many regulations that quietly impose costs on all shareholders.

More generally, the costs of a regulation, though widely incurred, are often far less salient than the exceptional wrongdoings that incited it. For example, management time and attention are intangible. Furthermore, people underweight the probabilities of event contingencies that are not explicitly available for consideration (Fischoff, Slovic, and Lichtenstein 1978, Tversky and Koehler 1994). So we expect planners to underestimate the costs of unexpected side effects of regulation. For SOX, several observers have argued that the costs in management time and of a shift in focus of boards of directors from business guidance to legal compliance were greater than expected (Committee on Capital Markets Regulation 2007, Perkins 2007).

Loss Salience

Loss aversion is the distaste for losses as measured relative to an arbitrary reference point (Kahneman and Tversky 1979), an aspect of what psychologists call 'negativity bias.' Framing matters—a given consumption level is perceived differently when described as a gain versus a loss. What I call *loss salience* extends this notion to the

social sphere; we care more about the financial losses than the financial gains of others (Wilson, Arvai, and Arkes (2006) provide related experimental evidence).

Loss aversion and loss salience probably derive from more fundamental sources, such as the tendency to make dichotomous evaluations as a cognitive short-cut (Hirshleifer 2001). A propensity to focus on losses relative to a status quo position also has evolutionary value as a way of inducing individuals to monitor and protect property.

The focus of individuals on losses is amplified at the social level to the extent that conversation or media reporting are biased toward transmitting adverse and emotionally charged news. News media tend to report the shocking and horrible ("If it bleeds, it leads"); individuals also pass on stories that elicit disgust more readily than those that do not (Heath, Bell, and Sternberg 2001).

For financial judgments and decisions as well, losses are especially salient. Analysis of risk often takes the form of studying worst-case scenarios rather than measures of risk such as variance that reflect the full probability distribution of outcomes. Risk perceptions focus upon the potential for loss both in the general population (Yates and Stone 1992, Loewenstein et al 2001), and among analysts and investors (Olsen 1997, Koonce, McAnally, and Mercer 2005). Loss salience explains the appeal of the Value at Risk methodology for risk management, which focuses on 'maximum possible loss' as a risk measure.

Media reporting of salient derivatives losses, such as those in the Barings fiasco, creates an association in observers' minds of derivatives with losses. A failure to consider the concept of hedging creates a perception that derivatives are always dangerous. These attentional effects create pressures to regulate derivatives.

2. Omission Bias and Associated Norms

According to Ilana Ritov and Jonathan Baron (1990), *omission bias* is "the tendency to favor omissions (such as letting someone die) over otherwise equivalent commissions (such as killing someone actively)." For example, subjects recommend against vaccination of a child even when the likelihood of death from vaccination is much lower than the reduction in the likelihood of death from disease. Omission bias also explains why students of economics find the concept of opportunity cost surprising.

Corporate hedging is much more likely than a vaccination to cause an adverse 'side effect' (losses). Observers who are subject to omission bias will detest hedging losses, since these could be avoided by not hedging. Ex ante, observers who fear derivatives losses may perceive a risk-reducing hedge as *increasing* risk.

Similarly, omission bias can deter making purchases to diversify into seemingly risky assets, such as the Vietnam stock market, or real estate.[5] Refraining from investing in Vietnam equities before they rise is a mere omission, but buying into Vietnam is a commission, making any resulting loss especially painful.

Regulation by government or other institutions to protect unsophisticated investors from supposedly dangerous securities or asset classes can block risk-reducing diversification. For example, Del Guercio (1996) discusses how U.S. courts usually evaluate whether an asset is a prudent investment in isolation rather than as part of a portfolio. She documents that institutions that are subject to especially stringent

[5] The failure to diversify probably also reflects familiarity bias (Huberman 2001, Cao, Hirshleifer, Han, and Zhang 2007, Massa and Simonov 2006), narrow framing (viewed in isolation, volatile assets seem risky; Barberis and Huang 2006), and limited cognition (not understanding the risk-reducing effects of diversification).

prudential standards tilt their portfolios away from 'low quality' stocks. Prior to the Employee Retirement Income Security Act of 1974 (ERISA), the prudent-man rule for pension funds required a prudent selection of each security in the portfolio considered in isolation; it is only with ERISA that the fiduciary was directed to consider prudence of the investment with regard to its role in the overall portfolio (Cummins and Westerfield 1981). Omission bias also helps explain pension rules in some time periods and countries limiting diversification into major asset classes such as international, rules that limit trading of the stock of privately held firms, and rules that limit participation in hedge funds to 'qualified' investors.

3. Xenophobia and Scapegoating

People tend to prefer members of their own group to outsiders, a phenomenon called in-group bias. An intense form is xenophobia: fear of or hostility toward strangers or foreigners. An evolutionary basis for these psychological propensities is provided by kin selection (Hamilton 1964).

A further deep-rooted source of conflict is self-serving attribution bias; in interactions with others, we think we are in the right and others in the wrong. This bias extends to group-serving interpretations as well (Taylor and Doria 1981), in the extreme causing fanatical antagonism toward other groups (Beck 2000, p. 7). Social processes such as self-censorship in conversation can further exacerbate xenophobia (Kuran 1995).

Xenophobia can help explain regulation of foreign shareholding and control of domestic companies.[6] Regulatory permission for cross-national takeovers are politically

[6] There is evidence that citizens of Europe have less trust for countries with different religions and lower genetic similarity, and that this lower trust leads to less trade (especially in trust-intensive goods), portfolio

delicate, especially when heavily reported in the press. In part for patriotic reasons, many countries have government ownership of airlines or firms in other key industries.

When things go wrong, people eagerly look for someone to blame. Blame is laid upon some visible, disliked, and relatively weak out-group, a phenomenon known as *scapegoating* (Aronson, Wilson, Akert 2006). Regardless of whether there really was villainous behavior, scapegoating creates support for regulation to avert future misconduct. With regard to risks of plunging into own-company stock as in the Enron debacle, teaching or pressuring investors to diversify out of own-company stock is relevant, whereas financial disclosure rules are not. However, placing the burden of change upon potential *victims* feels unjust. It is far more intuitive to act against scoundrels.

Economic and stock market downturns increase pressure for regulation. Examples include the depression era Securities Acts of 1933 and 1934, and the Sarbanes-Oxley legislation that followed the millennial high-tech collapse. The psychological attraction approach offers a simple explanation—the urge to find someone to blame. The possibility that a bubble could be a *spontaneous* result of investor biases and social amplification processes is not vivid, simple, or repeatable. Chance and personal incompetence are also not satisfying as explanations for personal losses. Villainy, especially on the part of a despised group, is more salient and more flattering to our self-esteem. Regardless of whether misconduct had any important macro effect, a cast of villains can be found. Explanations based on villainy (that regulators succumbed to political pressures, that

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investment, and direct investment (Guiso, Sapienza, and Zingales 2006). Morse and Shive (2006) provide evidence that within regions in the U.S., greater patriotism is associated with greater home bias in portfolio holdings.

analysts and investment banks were lying, and so forth) also have the appealing feature that they readily suggest simple cures—through regulation.

Speculators are favorite targets for vilification after market declines. Hard times also trigger vilification of lenders as greedy exploiters, also leading to demands for regulation. For example in his first inaugural address in 1933, Franklin D. Roosevelt attacked "unscrupulous money changers," and called for "…two safeguards against a return of the evils of the old order; there must be a strict supervision of all banking and credits and investments; there must be an end to speculation with other people's money…"

4. Fairness and Reciprocity Norms

Inconsistent norms of behavior coexist within people's minds, supported by strong feelings. Three important norms of behavior are reciprocity, equality, and charity. Reciprocity, or fair exchange, requires no taking without giving. Equality requires equal division of resources. Charity requires acting to relieve distress— distress often being identified with recent losses, rather than absolute wealth levels. These norms have a basis in evolved human psychology, but are also culturally spread and enforced.

The equal division norm is reflected, for example, in progressive income taxes, and, in experiments on resource transfer games, the tendency of individuals to share equally (Camerer and Thaler 1995, Hoffman et al 1998). Although competition for status and dominance was surely an aspect of human evolution, in many hunter-gatherer societies subordinate males collude to restrain potential dominants (Boehm 1999).

Whatever their function, feelings of envy motivate efforts to limit the power and wealth of important individuals.

Envy and the salience of the equality norm are intensified when a group is doing poorly, which helps explain the contempt held for rich CEOs who lay off blue collar workers. Such attitudes explain regulation of managerial compensation in the U.S., such as corporate taxation of executive salaries greater than $1 million, and recent proposals to require an annual shareholder advisory vote for executive compensation plans.

In order to support mutually beneficial exchange,[7] the norm of reciprocity also requires the punishment of violators. A readiness to succumb to uncontrollable rage has strategic value as a means of commitment (Hirshleifer 1987, Frank 1988, Nesse 2001); we don't step on the toes of someone who will wreak terrible vengeance. Insults or damage to a group that an individual deeply identifies with also provoke fierce anger.

The thirst for vengeance against perceived wrongdoers can go too far, imposing heavy social costs. For example, in the U.S. anger by juries against corporate misconduct motivate unpredictable 'jackpot' litigation awards. The prospect of large uncontrollable losses distorts choices and presumably deters innovation.

The scapegoating of speculators and lenders derives in part from reciprocity norms. The idea that *intermediation* adds value is unintuitive. Cognitive effort is needed to recognize that shifting a resource across locations or over time creates a different product. Intermediating merchants are therefore often viewed as parasites, and their price margins as proof of cheating.

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[7] Double-blind experiments on the 'trust game' show that there is much more trust and reciprocation than is predicted by the rational egoistic model, with reciprocation mediated by the release by the brain of the neuroactive hormone oxytocin (Zak, Kurzban, and Matzner 2004). McAdams and Rasmusen (2006) discuss evidence that reciprocity norms (specifically, promise-keeping norms) are very important for market exchange.

Product middlemen (such as traveling merchants) have often been vilified as price gougers; advertising and marketing are also frequently condemned as unproductive. The medieval concept of the just price held that the just price is equal to the cost to the seller (Southern 1968, p. 376), in which case profit is exploitation. Furthermore, buyers are not aware of all the costs incurred by middlemen—direct costs of geographical transport and storage, inventory wastage, and costs of product marketing. As a result, buyers underestimate costs and think they are victims of price-gouging.

The notion that middlemen provide little real value is implicit in the saying "eliminate the middleman." Often through history the elimination has been violent, going at least as far back as the biblical account of Jesus ejecting foreign exchange dealers from the temple. English common and statute law starting in the Middle Ages made commodity speculation a crime (Herbruck 1929), with severe punishments for violators.

The norm of equality creates hostility toward lenders, since it is the rich who have the resources to lend. Self-serving attribution bias also contributes; denigrating the lender helps maintain the self-esteem of impecunious borrowers when repayment is due. The charity norm suggests that high product prices and interest rates are objectionable when the client is poor or recently distressed.

The norm of reciprocity is a crucial part of the case against usury. A zero interest rate seems fair because people neglect the fact that the same amount of money is worth a different amount at different dates. This confusion influenced medieval Christian views

on usury, which reflected Aristotle's position that money is barren (i.e., it does not reproduce like an animal or crop; Southern 1968).[8]

The social benefits to speculative activity are especially subtle and abstract. These include the shifting of resources to protect against shortfalls, providing a means for inventors to reap rewards from their activities (Hirshleifer 1971), and making asset prices more efficient, thereby guiding productive transformations. Popular discussions seldom acknowledge these benefits. Speculators are instead viewed as profiting at the expense of others in a zero sum game.

The apparent costs to society of speculation are much more salient. The correlation of speculative profits from commodities with high prices to consumers encourages an inference that speculation raises prices, causing hardship. Indeed, Adam Smith compared the fear of speculators to the fear of witches. The correlation of speculative activity in securities with market volatility and crashes is often confused with causality. This is especially the case for short sellers, who help prices adjust downward. It's tempting to kill the bearer of ill tidings when the bearer is getting rich from the tidings.

Security regulations in many countries are designed to limit speculation. These include higher taxation of short-term capital gains, securities transaction taxes, and restrictions or bans on short-selling. Biased attitudes toward speculation also tarnish perceptions of derivatives, which are perceived as instruments of manipulative wheeling and dealing. Of course, manipulation often occurs, and has important effects. But the

[8] A further possible source of modern usury legislation and opposition to price gouging is disapproval of interest rates or prices deviate greatly from 'reference prices' to which people have grown accustomed (Jolls, Sunstein, and Thaler 1998, p. 1511-12).

perception that derivatives serve no legitimate purpose makes them unduly attractive targets for regulation.

5. Overconfidence

We are experienced with the everyday problems of personal life. Generally, the more energetically we attack them, the better we do. A natural mistake is to extend the can-do attitude of personal life to the societal level. It is much harder to make good decisions on behalf of millions of interacting strangers with diverse preferences and information. As emphasized by Adam Smith (1776) and Friedrich Hayek (1978), there is a spontaneous order—a web of coadaptations brought about by individual decisions—which is impossible for a central planner to understand in full detail.

Markets represent the accumulation of creative solutions to problems—some carefully designed, others (as with biologically evolved adaptations) the happy outcome of trial and error. The human mind evolved to understand social interaction in terms of individual causes and effects. It was not designed to intuitively grasp the effectiveness of market institutions that developed through a process of long-run and large-population evolutionary development. (I refer to selection on and evolution of business practices, not people.) The entire concept of a spontaneous order in markets was not developed until the 18th century, and evolution by natural selection was not understood until the 19th century.

The failure of socialism demonstrates the futility of trying to direct an economy from the top down. In market economies, individuals can in some cases largely 'undo' a new regulation, incurring some deadweight cost along the way. In other cases intervention leads to unforeseen distortions. More fundamentally, value-increasing

interventions are scarcer at the societal level than at the personal level because it is only at the societal level that market failure is a prerequisite for intervention to be useful.

A lack of understanding of the idea of spontaneous order, combined with general attentional constraints, make regulatory solutions to perceived problems too appealing. The public wants government to do something about problems, which implicitly assumes that a useful intervention exists. Also, the act of proposing a solution is a signal that the proposer thinks the solution has value. Voters who do not analyze proposals deeply react to this signal credulously.

Overconfidence is the belief that one's personal qualities are better than they really are. An overconfident individual also does not fully recognize and adjust for his own limitations. Overconfidence helps explain excessive activism in regulatory strategies, just as it has been found to explain excessively active trading strategies (Odean 1999).

Overconfident policy analysts too readily assume that a perceived social problem has not been addressed by the market, and are too sure of proposed remedies. If the average potential remedy will make things worse, overconfidence leads to the adoption of too many remedies.[9] Even economists who understand the *general* notion of spontaneous order do not always internalize fully, in specific contexts, the richness of adaptation of economic institutions. A possible illustration is the proposal of transactions taxes in asset markets to limit speculation.

[9] Another way of putting this is that there are many ways to regulate, and only one way not to regulate. Suppose that the average contemplated regulation is undesirable, that an individual forms an independent assessment of each contemplated regulation (modeled as independent identically distributed signals), and that he overestimates the accuracy of his assessments. Then by chance a lot of undesirable regulations will seem desirable. A rational individual discounts appropriately for this 'regulator's curse,' as proven in a more general context by Rasmusen (1992), but an overconfident individual does not.

Transactions taxes imposed for this purpose are prevalent internationally, and have been proposed repeatedly in the U.S., both in broad-based forms, and targeted at derivative securities (Hakkio 1994). Proponents have included leading economists such as Keynes and Tobin and, after the 1987 stock market crash, Joseph Stiglitz and Lawrence Summers (Stiglitz 1989, Summers and Summers 1989).

Just as a tariff is like a negative railroad, a transactions tax on stock trading is a destroyer of liquidity—at first glance a bad thing. I focus on arguments for transactions taxes based upon the claim that excessive speculation leads to overreactions, excess volatility, and capital misallocation.[10] My purpose here is not to weigh the pros and cons of transactions taxes, but to illustrate how even sophisticated policymakers can neglect market adaptations.

Proponents of securities transactions taxes have not, to my knowledge, discussed how *markets* might be able to address excessive trading. Exchanges influence the liquidity of securities through a variety of means, such as designating a market maker with an affirmative obligation to maintain liquidity.[11] Firms make choices about their liquidity too. Many firms never go public at all, and many public firms have gone private, thereby creating their own 'transactions taxes.' Some public firms, such as Warren Buffett's Berkshire Hathaway, don't split their stocks, resulting in high stock prices which limit trading. Firms choose which exchange to list on. In some exchanges there is independent negotiation between listed firms and agents about how to create liquidity for their stocks. Firms can also reduce liquidity through nondisclosure, which increases

[10]Proponents have also made investigative externality arguments that do not rely on mispricing.
[11]A possible rationale for having a designated market maker with an affirmative obligation to maintain liquidity is to internalize externalities among marketmakers and other traders, since the adverse selection costs borne by marketmakers are distributive, not social costs (Bessembinder, Hao, and Lemmon 2007).

adverse selection problems in stock trading. Some mutual funds have front- and back-end loads to manage inflows and outflows; and some funds choose a closed-end form that takes flow decisions out of investor hands.

So if excessive trading creates externalities, there are many potential avenues for internalizing them. This does not prove that transactions taxes are a good or bad idea. What these points illustrate is that academics have neglected the *possibility* that some of the potential social costs of irrational speculative trading could be internalized by the market.

Suppressing the opinions of speculators by taxing stock trading is analogous, in an intellectual setting, to suppressing ideas by taxing speech. Irrational investors overreact in their trades, but internet bloggers and college professors also disseminate immoderate opinions. Taxing the internet or universities might shift discourse into more reasonable directions. But for some reason, people are more sympathetic to suppressing opinions that are expressed through trading than those that are expressed through speech. It's hard to see why financial speculation would be more dangerous than intellectual speculation.

Managing Market Fluctuations

We expect public officials and media kibitzers to be overconfident about their ability to helpfully manage market fluctuations. Many think that they can identify useful strategies for managing interest rates or money supply to 'cool overheated stock markets' or 'lift the economy out of recession.' The better-than-average effect (a manifestation of

overconfidence) encourages regulators to think that they are better than investors at identifying the market's value.

The illusion of control, another aspect of overconfidence, tempts observers to think that they know how to avert bubbles and crashes. After adverse outcomes, this leads commentators to condemn as inadequate the existing regulator or regulatory system. Such outcomes incite calls for more active intervention and new regulation.

Another example of high policy analyst confidence in a negative railroad solution is a recommendation made by the Commission on the Regulation of U.S. Capital Markets in the 21st Century. Managers hate to miss earnings forecasts, which usually results in a big drop in stock price. A principal recommendation of the Commission is that public companies stop issuing earnings forecasts (known as 'guidance'), or at most give annual instead of quarterly guidance, and a range forecast instead of a single number. In other words, firms should make corporate disclosure limited, infrequent, and noisy. The counterintuitive nature of this recommendation suggests trying to understand the source of its appeal.

There are indeed agency problems and inefficiencies associated with earnings forecasts and earnings management (DeGeorge, Patel, and Zeckhauser 1999, Richardson, Teoh and Wysocki 2004). However, before seeking a regulatory solution, we need to understand why the market has not already adopted it. Firms are already free to refrain from making forecasts, and investors are free to discount such forecasts.

The fact that the market reacts sharply to missed earnings forecasts suggests that investors view quarterly earnings guidance (as well as earnings realizations) as *highly informative* about long-run prospects. This is what creates incentives to manipulate

earnings to meet forecasts. Such manipulation may add noise, but scrapping the signal is like adding infinite noise.

The argument that investors focus too much on quarterly earnings forecasts or announcements seems to have no empirical support. Earnings surprises are positive predictors of future returns (Bernard and Thomas 1989). This suggests that the market *underreacts* to the information contained in quarterly earnings news.

Of course, it is conceivable that externalities and market inefficiencies make intransparency desirable, and that market forces pressures firms to be too transparent. However, I will later argue that support for policies designed to combat short-termism are primarily driven by a different force: irrational ideology.

6. Mood Effects and Availability Cascades

Psychologists distinguish two cognitive systems for making judgments and decisions: one that is fast, intuitive, affect driven, and automatic, the other slow, controlled, and analytical (Kahneman 2002). Heuristic decisionmaking based on gut feelings works well within some domains, but when misapplied to domains that require careful analysis, can cause big mistakes. Short-term moods affect even judgments and decisions relating to long term prospects. Since mood is contagious (Hatfield, Cacioppo, and Rapson 1994), such errors can aggregate to the societal level.

Even rational inference processes can cause judgments about regulation to become prevalent based upon little information. When commentators assert that a new regulation is needed, it is rational to infer that they have some reason to do so. This inference recruits further support for the measure, potentially creating an information

cascade in which many defer to the conventional position (Bikhchandani, Hirshleifer, and Welch 1992, Banerjee 1992). Instincts for conformity can reinforce this tendency, so that common mistaken judgments solidify to become seemingly uncontestable truths.

Hazards tend to gain widespread public attention in intense bursts. In the availability heuristic of Tversky and Kahneman (1973), individuals judge the frequency or importance of a phenomenon according to their ability to remember examples of it. As a result, as pointed out by Timur Kuran and Cass Sunstein (1999), the more that people talk about a risk or problem, the more important it seems, a self-reinforcing cycle which they call *availability cascades*. News media amplify availability of threats selectively. For example, horrifying risks such as shark attacks seem more common than they really are because they are newsworthy.

In an availability cascade, as media or general public opinion swings toward one position, the presentation of evidence becomes increasingly one-sided in favor of that position. Psychology experiments find that people do not discount adequately for the one-sidedness of evidence, even when the one-sidedness is explicit (Brenner, Koehler, and Tversky 1996). As a result, during an availability cascade that centers upon a perceived threat, the political pressure for government to do something to avert it becomes irresistible. For example, owing to vivid major scandals after the turn of the third millennium, corporate fraud and angry moral judgments expressed against corporate wrongdoers had high availability, creating enormous political pressure for action by the U.S. Congress.

Psychological evidence indicates that negative mood is associated with greater pessimism and critical thinking. This suggests that after bad news we will see a push for

new precautionary regulation. Furthermore, during bad times when firms become distressed and manipulation activities are revealed, public attention focuses more on misconduct. As a result, there is pressure for tightening financial controls, and there is greater litigation against alleged wrongdoers. The benefit to availability entrepreneurs such as public prosecutors from taking action against perceived misconduct or gray area activities increases. As more wrongdoers are sued and imprisoned, news about misconduct becomes even more available in the media. Thus, tightening of the regulatory environment is self-reinforcing.

7. Ideological Replicators

Why is there so much economic and financial regulation, often dysfunctional? For example, socialism once held sway disastrously over much of the planet. Yet anti-market ideology remains popular, and is a wellspring of economic regulation.

To explain these phenomena, I now consider how ideologies—religious, political, and economic—shape financial regulation. Ideologies exist because they are good at catching our cognitive and emotional hooks, which enables them to spread from person to person. In the terminology of Richard Dawkins, ideologies are cultural replicators, or *memes*. In particular, ideologies are assemblies of more basic memes—very simple propositions or ideas that affect our thoughts and actions.

Religious ideology directly affects financial regulation, as with prohibitions on usury, and attitudes toward inequality. Utopian ideologies like communism engage the deep feelings associated with the equality norm to reject private property. Such a rejection was shared by Plato and early Christian thinkers. Ideologies of class conflict

incite envy of the rich, and promote the idea that business activity is evil. One of the world's great charitable institutions, Hollywood, incessantly depicts businessmen as thieves and murderers. A disdain for trade on the part of intellectuals, aristocrats, and the *ancien riche* goes back to ancient times; critics of trade include such thinkers as Aristotle, Confucius, and Thomas Aquinas.

The meme that commerce is a zero-sum game reinforces the socialist meme assembly. Survey evidence shows such beliefs to be common (Rubin 2002). Zero-sum views of trade are more appealing in a stagnating economy, in which people crave explanations and scapegoats for their hardships. Utopian mass movements thrive during times of change and dislocation, when individuals with damaged self-regard seek a cause outside themselves (Hoffer 1963). The psychological attraction approach therefore predicts a shift toward socialism in hard times and toward free liberalism during times of growth and innovation.

The Ideology of Anti-Short-Termism

To see more specifically how a financial ideology can exploit psychological bias to promote its own replication, consider again the allegations that public companies that markets and firms are too focused on the short run. During the 1980s popular discussion held that American business is overly focused on the short-term, and criticized the short-term pressures placed on firms associated with takeovers, leverage, and investors with short time horizons. The alleged bad consequences were uncompetitiveness, underinvestment, and lack of innovation. Japan was cited with fear and envy for its putatively superior corporate model of long-term focus.

In retrospect, this comparison is deeply ironic. But the failure of this worldview to forecast the economic performance of Japan versus the U.S. in the 1990s does not seem to have damaged its credibility much. Its ability to persuade has also survived the opposing evidence provided by the millennial tech boom. I argue that psychological bias makes criticisms of short-termism attractive, and that this has led to the evolution of an ideology of *anti-short-termism*.

Ideologies evolve by adding highly contagious and complementary memes and discarding feeble or incompatible ones. It is much more important that propositions be superficially plausible and *emotionally* strong and compatible than that they be logical. For example, critics of short-termism routinely conflate five distinct propositions: that firms are focused on short-term stock prices, that firms underinvest, that firms don't innovate enough, that firms are overleveraged, and that the stock market is fixated upon short-term information signals (an informational inefficiency).

Actually, since the stock market on average reacts positively to increases in capital expenditures, an attempt by managers to boost short-term stock prices can promote *over*investment (Trueman 1986). Indeed, the attempt to boost short-term stock prices can distort firms' decisions away from routine projects toward innovative ones (Chordia, Hirshleifer, and Lim 2001). As for the proposition that the stock market is obsessed with the short-term, empirically the stock market seems to overvalue growth opportunities—consider, for example, the value effect. Nor is there consistent evidence that the market overreacts to short-term earnings-related news, or that firms are overleveraged.[12]

[12]There is evidence that markets overweight certain kinds of quarterly earnings information—accruals (accounting adjustments), and especially their discretionary components (Sloan 1996, Teoh, Welch, and

Nevertheless, the five concepts of short-termism complement each other to form a more contagious and virulent ideology. Although logically distinct, these memes manipulate our psychological biases in similar ways, by exploiting our high regard for self-discipline and foresight. Labeling all the distinct propositions 'short-termism' recruits our preexisting mental equipment for thinking about morality and sin, folly and wisdom, ant and grasshopper. By expanding the range of circumstances in which the notion of short-termism is called to mind, the joining of these memes makes each more memorable.[13]

Moralistic interpretation dominates public discussion of short-termism.[14] In personal life, heavy borrowing for consumption is improvident; popular discussion mistakenly extends this norm to firms that are borrowing to invest or to shift capital structure.

Moralistic interpretation also *feels* good. It provides a satisfying narrative in which sin and folly are followed by punishment by means of the collapse of improvident firms. Criticizing the defects of others boosts our self-esteem, and helps us gain status by signaling to others the purity of our own moral standards.

Also vital to the success of an ideology are wide applicability and imperviousness to refutation. The ideology of anti-short-termism widens it applicability by absorbing an eclectic set of emotionally-related themes. This menu of themes makes it easy to attribute

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Wong 1998ab). My purpose here is not to deny the possible existence of harmful short-term pressures, but to point out that several data fail to support major elements of the anti-short-termist meme assembly.

[13] There is seldom any attempt to reconcile the different pieces of anti-short-termism ideology coherently. Often the same commentators who scathingly criticize firms and investors for being obsessed with short-term earnings are also contemptuous of investors who, during the late 1990s, placed too *little* weight on the fact that the profits of dot-com firms were negative—a complaint about excessive *long*-termism.

[14] In Berenson (2003), a focus on quarterly earnings announcements, the "cult of the number," is portrayed as the cause of a vast wave of immorality and investment misallocation.

any bad outcome to short-termism. Such attributions are hard to disprove on the casual level at which such issues are typically discussed.

In summary, the ideology of anti-short-termism is popular not because it makes sense, nor even because it benefits interested parties. It is just good at being popular.

Conspiracy Theories

Hazards that are potentially catastrophic but whose workings are unseen or poorly understood are especially disturbing (hence the greater public concern about death by insecticide, genetically modified food, or nuclear energy than by car accident). Such fear of the unknown provides a motivation for finance models built upon 'uncertainty aversion', 'ambiguity aversion', or 'familiarity bias.'

The dread of hidden menace is a natural precursor to conspiracy theories. Conspiracy theories are assemblies of memes that claim that some villainous group has the power and intent to do harm. Conspiracy theories are reinforced by xenophobic instincts, and gain support during hard times and social disruption.

During market crashes, conspiracy theories have included accusations that foreign enemies were engaged in bear raids on U.S. markets (Chancellor 2001). There are also persistent (and often influential) claims that an international cabal of Jewish bankers or speculators control the financial system. Receptiveness to conspiracy theories about the financial system may derive from the fact that it is complicated and poorly understood.

Financial markets and institutions can be intimidating to outsiders for several reasons—their specialized jargon, sensational media descriptions of market fluctuations, and genuine, seemingly uncontrollable risks of market crashes or bank runs. Most

individual investors do not understand how the actions of major players in financial markets affect these risks is not well-understood. Speculators such as hedge fund managers are suspect since they operate in secrecy, and are often foreigners.

The idea that a market crash can result from the interaction of many individuals, no single one of whom is powerful, is unintuitive. Our general disposition to attribute outcomes to deliberate intent serves us well in personal life, but leads to error in analyzing social interaction in markets. We are predisposed toward perceiving market crashes as resulting from intentional manipulation by powerful individuals or groups. Conspiracy theories provide simple, easily understood explanations, and allow the adopter of such theories to feel perceptive and special.

8. Conclusion and Policy Implications

The *psychological attraction* theory of regulation holds that regulation is the result of psychological biases on the part of political participants and regulators, and the evolution of regulatory ideologies that exploit these biases. The main alternative theory, the rational self-interest approach, faces two puzzles which suggest that it also implicitly relies on psychological bias.

First, most people would deny that self-interest is their primary political motivation. Indeed, individuals altruistically donate time and funds to their favored pressure groups.[15] Thus, what is commonly interpreted by political economists as rational self-interested lobbying is actually a more interesting combination of selfish and altruistic motives.

[15] There is also evidence that individuals tend to take political positions based on principle, not pecuniary self interest (Sears and Funk 1991).

The second puzzle is how successful pressure groups manage to fool other voters systematically over long periods of time. To understand how competition between pressure groups works, we need to consider *explicitly* how these groups enlist psychological biases on their sides.

The psychological attraction theory also helps explain why some kinds of regulatory mistakes are not quickly reversed. For example, regulation that deters innovation makes its potential benefits invisible. This helps explain why the citizens of many countries tolerate regulation that deters young firms from going public.

An implication of the psychological attraction approach to regulation is that regulatory responses to perceived problems will often be ineffective. Indeed, we often expect to see friendly fire incidents in which investor-protection regulation hurts the investors it is supposed to help. A rational pressure group theory does not capture such effects, since such an outcome involves political participants being systematically wrong about the true intent and consequences of regulation.

The psychological attraction theory also implies that bad regulatory outcomes can result even when all political participants have unselfish intentions; and that regulations can reinforce individual level biases. Furthermore, since the universe of possible tempting regulations is unlimited, the theory predicts a general tendency for overregulation, and for rules to accrete over time like barnacles, impeding economic progress. The theory also predicts occasional drastic increases in regulation in response to market downturns or disruption.

One specific source of bad regulation is misapplication of the charity norm to market exchange. The charity norm condemns sellers who charge high prices, and lenders

who charge high interest rates, to the poor or recently distressed. This motivates price controls, which block mutually beneficial transactions. For example, usury laws prevent the poor and distressed from obtaining loans (a possible outcome of recent regulatory attention in the U.S. to the subprime mortgage industry), and price gouging regulation creates shortages of essential goods in times of disaster. Of course, the poor and distressed are often defrauded, which is both a violation of the charity norm (and the reciprocity norm) and a hindrance to economic efficiency. However, setting aside fraud prevention, regulation based on the charity norm has an anti-surplus and anti-insurance effects. The charity norm draws attention away from alternative means of assisting the poor and insuring against distress that avoid these drawbacks.

Policy Implications

My purpose today has been to offer a positive theory of regulation. In my remaining time I will discuss policy implications. The psychological attraction approach to regulation implies that meta-policy matters. Building inertia into the political system constrains the effects of psychological biases on future policy decisions. This helps, because irrational pressure for a bad regulation is often transient, as is the case with availability cascades. Systemic inertia can be achieved through constitutional limitations such as separation of powers, irrevocable rights, and supermajority rules; sunset provisions are also useful. These notions are quite consistent with the liberal tradition in political philosophy.

Such proposals are familiar from the rational public choice literature (Buchanan and Tullock 1962). However, a broader line of liberal political thought makes

irrationality an essential part of the case for representative government. For example, *The Federalist Papers* numbers 10 and 63 discuss how to limit the effects of the passions of factions and of the public as a whole.

Ending a talk with a call for further research is an academic cliché. Nevertheless, I want to persuade you that it is vital to explore this uncharted continent of psychological attraction and regulation. As political participants, we cannot start correcting our errors until we recognize them.

John Maynard Keynes famously discussed how "…the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else." There can be no doubt that he was right. In the 18th century, Adam Smith clarified the role of exchange in creating wealth, and shifted political discourse and legislation toward laissez faire. In the 19th and 20th centuries, Karl Marx and others helped build anti-market ideologies of extraordinary contagiousness and virulence, with even more momentous effects. In the 21st century, an understanding of how psychology affects the political process can help immunize us against pernicious ideologies, and increase the role of reason in political and regulatory decisions.

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