

ON THE ECONOMIC EFFICIENCY OF ORGANIZATIONS: TOWARD A SOLUTION OF THE EFFICIENT GOVERNMENT ENTERPRISE PARADOX

Robert E. Wright
New York University

The modern widely-held joint-stock corporation appears to epitomize the economically efficient large-scale organization. Some scholars observe, however, that other types of organizations, including government-owned enterprises, have also achieved high degrees of efficiency and that some joint-stock corporations have been inefficient. It is here argued that the economic efficiency of organizations is largely a function of two major variables—market structure and incentives within the organization—and not organizational form or ownership structure per se. Case studies of two business firms: a mutual life insurer and a family-controlled publisher, and two industries: higher education and custom construction, demonstrate the importance of internal incentives and market structures to organizational economic efficiency.

Enron's disgrace¹ has helped to draw into question the popular notion² that widely-held joint-stock corporations, to wit large corporations that sell shares of themselves to a large number of outside investors (a.k.a. "the public"), represent the pinnacle of large-scale organizational economic efficiency.³ At the same time, government-owned and/or run institutions are so often assumed to be highly inefficient that international economic development organizations often make aid contingent on privatization.⁴ Undoubtedly, many government enterprises and large non-joint-stock organizations are as economically inefficient as conservative observers claim.⁵ Recent historical scholarship, however, has excited interest in the root causes of organizational inefficiency by showing that some non-joint-stock organizations, even some owned and run by governments, have achieved high degrees of economic efficiency.⁶ In recent decades, for example in China, township-and-village enterprises (TVEs) performed well economically.⁷ Why is it that

government enterprises sometimes succeed while joint-stock corporations sometimes fail? Historical and theoretical analysis of the key attributes of economically efficient organizations may help to answer that question.

As used here, an economically efficient organization is one that, given the state of the world at a particular time and place, could produce no more outputs from a given quantity and quality of inputs. No organization is perfectly efficient, but some are clearly closer to the frontier of maximum achievable output than are others: organizations that are a considerable but ultimately arbitrary distance from said frontier scholars term “inefficient.”⁸

Economic efficiency should not be confused with profitability. Obviously many joint-stock corporations, most of the ones that exit, have been unprofitable while many government-owned-and-run enterprises have been wildly profitable. Two examples are Colonial Pennsylvania's General Loan Office and the Federal Reserve.⁹ Profitability and economic efficiency are by no means coterminous: organizations can be profitable but highly inefficient; organizations can be only slightly inefficient yet wind up bankrupt.

One key cause of the disparity between profitability and economic efficiency is market structure. Markets can be characterized along a continuum from perfect competition to monopolistic competition, to oligopoly, to duopoly, to monopoly. Organizations that sell into markets closer to the monopoly end of the spectrum earn higher profits, *ceteris paribus*, than organizations that sell into highly competitive markets. Organizations that sell into competitive markets, by contrast, tend to be less profitable but more economically efficient than organizations that sell into more monopolistic markets. That is because, as economists have long understood, highly competitive markets drive less efficient organizations out of business, economic rents toward zero, and profits toward the prevailing risk-adjusted rate. Monopolies, and to a lesser extent duopolies and oligopolies, by contrast, sell fewer units at higher prices, earn oversized profits, and face limited outside pressure to become and remain economically efficient. It was for such that Adam Smith, and other economists have railed against most forms of monopoly.¹⁰

Another less understood¹¹ reason why an organization's economic efficiency and its profitability may diverge is related to its internal structure, particularly the compatibility of its goals and the type of incentives it offers employees, and to a lesser extent, to other stakeholders. Organizations that sell into competitive markets are pressured to discover the most incentive-compatible contracts and are forced to exit if they do not. John Stuart Mill put it like this: “whenever competition is free its results will show whether individual or joint stock agency is best adapted to the particular case, since that which is most efficient and most economical will always in the end succeed in underselling the other.”¹² And Harvey Leibenstein noted: “in situations where competitive pressure is light, many people will trade the disutility of greater effort, of search, and the control of other peoples' activities for the utility of feeling less pressure and of better interpersonal relations.”¹³ So organizations that sell into more monopolistic markets, which is to say the majority of them,¹⁴ may operate for extended periods with internal incentive systems that produce outcomes short of, or even contrary to, their stated goals.

144 Interestingly, this conclusion does not depend on profit or utility maximization, rational actors, or other extreme assumptions posited by some economists, but simply on

a form of evolution by means of natural selection whereby firms (organisms) that are least well-suited to their environments exit (die) the economy (ecosystem). The struggle for existence is greatest in competitive markets, leading to a faster co-evolution of organizations and their environments.¹⁵ The biological analogy, however, is incomplete because though controversial in biology, intelligent design, and sometimes rather *unintelligent* design, has clearly influenced organizations. Market structure is not destiny; humans can and sometimes actually have purposely engineered efficiency-inducing incentive structures into their organizations independent of market structure or competitive pressures.

The key insight is that people usually do precisely what they are incentivized to do. Failure to recognize that an apparently universal human trait has had adverse consequences for some organizations, a point made in business schools through easily understood case stories. In one story, a major ice cream retailer decides to help out its employees by allowing them to consume, free of charge, any mistakes they might make in the course of serving customers. What is meant to be an environmentally-sensitive (no waste) little perk turns into a major problem as employee waistlines bulge and profits and economic efficiency shrink because hungry employees find it easy to make delicious frozen mistakes. (“Oh, you said chocolate. I thought you said [insert employee’s favorite flavor here].”) In another story, a debt collection agency reduces its efficiency and profitability by agreeing to a change in the way that it compensates its collectors. Initially, collectors receive bonuses based on the dollars collected divided by the dollars assigned to be collected. So, for example, a collector who brings in \$250,000 of the \$1 million due on his accounts would receive a bigger bonus than a collector who collects only \$100,000 of the same denominator ($250/1,000 = .25 > 100/1,000 = .10$). Collectors complain, however, that it is not fair to them if one or more of their accounts go bankrupt, rendering collection impossible. The managers of the collection agency agree and begin to deduct the value of bankrupt accounts from the collectors’ denominators. Under the new incentive scheme, a collector who brings in \$100,000 would receive a bigger bonus than his colleague if, say, \$800,000 of his accounts claimed bankruptcy ($100/[1,000-800=200] = .5$ which is greater than $250/1,000 = .25$). Soon, the collectors transform themselves into bankruptcy counselors. The new scheme inadvertently creates a perverse incentive, i.e., one diametrically opposed to the collection agency’s interest, which is to collect as many dollars as possible, not to help debtors file bankruptcy.¹⁶

In a competitive market, pressure from competitors and the incentives of managers would soon rectify such mishaps. But when the incentive structure of management is off-kilter, bigger and deeper problems often appear. When managers are paid with stock options, for instance, they are incentivized to increase stock prices, which they almost invariably do, sometimes by making their companies more efficient but sometimes, as investors in the US stock market in the late 1990s learned, through accounting legerdemain.¹⁷

When the incentive structure of an entire organization is at odds with the organization’s goals, inefficiencies become even more difficult to identify or fix. This is where the often unspoken assumption that the joint-stock corporation is the ideal form of organization in large-scale markets becomes dangerous. While joint-stock corporations

are undoubtedly useful in many economic sectors, some types of economic activity, even large-scale activity, may be more efficiently conducted by other types of organization.

As the case of Guardian Life Insurance Company of America demonstrates, a mutual corporation combined with an independent agency system may be an efficient way of providing whole life insurance.¹⁸ Guardian formed on the eve of the Civil War as a mixed, partly joint-stock and partly mutual New York life insurer under the name Germania. Many of its early customers were indeed German; the company had offices in New York and Berlin and sought to insure Germans resident in North and South America as well as Europe. As the company grew, it expanded its marketing efforts to non-Germans. During World War I, it changed its name to Guardian in response to intense anti-German propaganda. After the war, it withdrew from foreign territories and completely mutualized by buying all of its outstanding stock.

Today, Guardian is still a mutual and has no intention of demutualizing. It faced criticism for its reluctance to join the demutualization wave of the last fifteen years or so because many in the industry assume that the joint-stock form is automatically superior to the mutual. The owners of a mutual company are too numerous, critics contend, and their stakes in the company too small to effectively monitor the company's managers. Without fear of a corporate takeover, the argument goes, the managers of mutuals wax fat and indolent. Mutuals will perhaps grow large, but they will be sleepy and inefficient.

That description certainly fits some mutuals, but not Guardian, which has thrived for decades as a mutual. It offers some of the lowest net cost (premiums minus dividends) whole life insurance available on the back of industry-leading investment returns, and on good mortality and expense experience. What made the managers of this mutual tick? Why did they not conform to the stereotype of the sleepy mutual manager? Guardian, it turns out, does not rely directly on its policyholders to discipline its managers because they are, just as critics of mutuality claim, too numerous, too scattered, and too little interested in governance matters. What keeps Guardian's managers on their toes are the company's general agents, or GAs.

Guardian's GAs are not employees of the company but rather outside firms that contract with Guardian to sell its policies. The bigger, better ones earn far more in commissions than Guardian's executives, even its CEO, make in income. Most of the net worth of the GAs is tied up in Guardian in the form of commissions to be paid in the future if policies do not lapse. If Guardian were to stumble, the GAs would lose profits as new business slowed and lapse rates increased. Unsurprisingly, the GAs behave like large block stockholders, carefully monitoring management's performance. Since they are unlike stockholders and cannot readily "vote with their feet," they are quite vociferous and even managed to form a board of advisors that regularly meets with management to plot company strategy. Also, unlike stockholders, there is no plausible mechanism by which GAs could raid the company's resources, would they want to. Like Guardian's managers and policyholders, the GAs are interested in the company's long-term health, not quarterly or even annual forecasts.

Focus on the long-term gives Guardian a big advantage in its chosen niche, whole life policies, because it almost always does what is best for policyholders. In the hours after the

some talk that life insurers might invoke war clauses or other technicalities to avoid paying claims. Upon hearing such rumors, and well before it knew the extent of its own exposure, which could have been considerable, Guardian responded, unequivocally, that it would pay all legitimate claims arising from the attack. It did, and then some, even helping insurance brokers whose businesses were disrupted by the attacks. The company's already strong reputation strengthened yet further.

To align the incentives of its policyholders, GAs, and managers even more closely, Guardian has created an interesting long-term incentive system for its executives. Bonuses are based on a phantom "stock" that tracks the Economic Value Added (EVA) created each year. Most of the bonus is simply on paper and cannot be accessed until retirement, rendering manipulation of the phantom stock difficult. The deferred nature of the compensation also ensures that the executives strive to create long-term value.¹⁹

Another business in which long-term reputation is more important than short-term revenues is knowledge publishing.²⁰ Knowledge publishers, like John Wiley & Sons, put out serious non-fiction trade books, professional and reference works, scholarly monographs, and academic journals. Reputation is important because one of the economic functions of knowledge publishers is to provide an imprimatur, a sort of Good Housekeeping Seal of approval. Knowledge products often have long shelf lives; customers, including libraries, professors, scientists, and researchers, can generally discern quality from shoddy work. The mutual form is not an option here; a publisher could not easily be owned by book buyers, not even institutional ones.

Traditionally, knowledge publishers maintained their long-term focus by remaining family-owned. Parents did not want to reduce the value of their estates so they worked hard to keep up the long-term reputations of their companies. After World War II, however, many found that they needed to raise outside capital, so initial public offerings of stock became common. Then came wave after wave of consolidation and conglomeration until most of the big knowledge publishers were small cogs in giant joint-stock corporations. Bitter complaints from editors followed. The new managers looked too much at the short-term bottom line, which led to a degeneration of quality and a narrowing of offerings.

Editor Andre Schiffrin responded to the joint-stock corporatization of US publishing by taking refuge in the non-profit form.²¹ Another publisher, Wiley, took a different path. It held an IPO in 1962 in order to fund its acquisition of refugee publishing house InterScience, but control remained firmly in the hands of the Wiley family and its friends. Over the next two decades, though, the family's control of the company declined as it issued additional shares to fund various projects. In 1982, it became the first publisher, and the second modern US corporation, to break the long-standing "one share, one vote" convention²² by establishing two classes of common stock. Class A shareholders elect 30 percent of the board of directors; Class B shareholders elect the other 70 percent. In all other matters, Class B shares command one vote per share and Class A shares 10 percent of one vote.

That capital structure allows Wiley to tap the equity markets by selling Class A shares while simultaneously allowing the Wiley family to maintain control of the company by owning a majority of the Class B shares. The concept, incidentally, has been tested in court 147

and upheld. The company discloses the different voting rights and even overcompensates for it by paying higher dividends on A shares than on B. The effect of this unusual ownership structure is extremely interesting. Basically, Wiley can only be bought out if the Wiley family agrees to sell.

Since the mid-1980s, they have adamantly shunted aside most takeover offers and ultimately found all of them wanting. The family repeatedly made clear that it would not sell if long-term performance exceeds certain minimum levels. That protection allowed Wiley's managers to focus on long-term development rather than on short-term earnings. That, in turn, allowed Wiley to make some key acquisitions—VCH, VNR, Jossey-Bass, and Hungry Minds—that diluted short-term earnings but ultimately were profitable and efficiency-enhancing because they kept the company above minimum-efficient scale. Focus on the long-term also allowed the company to ignore the Internet bubble. Though its stock was flat during the big run-up, it jumped after the bubble burst in March 2000 and again after 9/11 barely affected its revenues. Today, it is highly regarded by analysts, by its peers in the publishing industry, and by authors worldwide as “the place to be.”

Like Guardian, Wiley compensates its executives for maximizing the company's long-term return, not for manipulating quarterly or annual earnings. Bonuses are based on three-year targets and most of the value cannot be tapped until after retirement. Not surprisingly, Wiley, like Guardian, experiences very little turnover at the top. By closely aligning the interests of the family with those of managers and customers, Wiley shows that the joint-stock form can be modified to benefit companies that produce for markets where reputation and longevity are important.

The US higher education and construction industries, by contrast, are examples of what happens when incentive structures and objectives are not carefully matched. Both are lagging sectors where productivity seems stagnant or at least increases much more slowly than in other industries. Costs rise faster than inflation and complaints about low quality are rampant. Both industries are arguably the best in the world, but that does not mean they are efficient, only that foreign consumers suffer even more from the industries' weaknesses. To a large extent, the critique of these two US industries can be applied to the situation in other nations, where additional economic and political problems amplify the core deficiencies in internal incentives.²³

US higher education has been in perpetual crisis for the last several decades. Tuition rates soared in real terms, forcing students to borrow or work instead of study. Standards plummeted while grade “inflation,” actually compression, led to ridiculous outcomes, like three quarters of classes graduating with “honors.” Businesses, meantime, found that they had to engage in unprecedented amounts of corporate training. In recent years, foreign enrollments have slipped, and not solely because of tighter immigration restrictions put in place after the 9/11 attacks.

The problem with US colleges and universities, and this goes for private, public, and joint-stock schools, is that professors are mere employees. The principal-agent problem therefore, looms large and of course gets even worse when guaranteed lifetime employment is thrown on top of it. But even where tenure is not offered, professors often display the tell-tale signs of salaried employment status: lack of initiative, resistance to change, and detailed attention to the minutia of the conditions of work life. Professors are

not about to strain themselves to invent a new form of pedagogy in return for baubles and perhaps a fancy title. Like debt collectors and ice cream shop employees, they do precisely what they are incentivized to do.²⁴

The problem, though, is that startup costs are currently prohibitive. Many barriers to entry must be worked through before a *de novo* school can begin operation. The marketplace itself is also a barrier. Currently, there are no good ways to rank schools' ability to teach undergraduates so assumptions regarding quality are often based on name recognition, which in turn often rests on little more than hoariness or a high-profile sports program. But these are more symptoms than causes. Professor-owned schools would be eager to develop quantitative measurements of student learning such as skills and knowledge at the end of the degree program minus skills and knowledge at the beginning. The best practices could emerge and competition could winnow out the laggards, especially if government subsidies were paid to students instead of to schools.²⁵

In short, higher education has an internal incentive problem that explains most of its difficulties. Similarly, a large portion of another troubled industry, construction, has an incentive problem at its core. Custom construction projects should be structured around equity, not debt, relationships. In other words, contractors and owners should share the risks and rewards of constructing buildings, bridges, airports, dams, and other structures.

Construction activity can be divided into three types: force account, speculative, and custom. Force account construction is the term for construction activities undertaken by an owner-contractor for the owner-contractor. Speculative construction is the term for construction activities undertaken by an owner-contractor for arms-length sale to a new owner. In those two types of construction, the incentives of the owner and the contractor are aligned because they are the same party. Force account construction is very efficient, and speculative somewhat less so because the owner-contractor builds with the intent to sell to a relatively uniformed third party. Nonetheless, a fairly efficient market for new buildings exists in many places in the United States, so the speculative owner-contractor cannot stray far from the prevailing price/quality equilibrium without suffering for it.

Unfortunately, most of the \$1 trillion per year construction industry engages in custom building. Here, the owner and the contractor are different parties with vastly different incentives. Contrary to received wisdom, the bidding process does not ensure efficient outcomes. Contractors regularly “game” bids, bidding strategically based on who they suspect is also bidding the job and how much they think that the owner can pay. Most winning bidders have no intention of receiving only the amount bid. Instead, they intend to pad their bills through “change orders.” Extra charges that emanate from owner-initiated plan changes ought to be paid for by the owner, of course, but most change orders are initiated by contractors who claim that the plans are flawed or concoct other justifications.

Owners often submit to change orders because they do not know any better and, after a job begins, because the contractor is a near monopolist due to the time and expense it would take to engage a new firm. Owners sometimes employ attorneys or construction managers to protect their interests, but such contractors stymied on change orders have other ways to make owners pay, such as by reducing the quality of materials or workmanship. They can easily get away with such behavior because owners and their

agents cannot be everywhere at once and because government inspectors merely ensure that materials and workmanship are up to code, not that those specified in the plans have been used. Contractors also shift resources to more lucrative sites, making the owner who pushes back on change orders pay with delays.

Little wonder that a large percentage of construction projects end up over budget and/or past deadline. The percentage of projects where owners received lower quality materials or workmanship than they contracted for cannot be known with certainty, but undoubtedly it is also high. Once the incentive structure problem is clearly perceived, many of the traditional excuses for the construction industry's lagging productivity—unions, seasonality, cyclicalities, difficulties inherent in customization, general management backwardness—begin to look more like symptoms than root causes. Most construction companies are micro-size; even big ones are not large given the size of the industry. The firms remain small because there are no scale economies in gaming bids, which is where most competition in custom construction occurs. It is not accidental that the largest, most innovative construction firms, from Levitt to Toll Brothers, have been speculative builders, not custom contractors.

It is not realistic to expect that all construction activity could be of the more efficient speculative or force varieties. But construction contracts that are immutable, not subject to change orders, would better align the interests of contractors and owners by essentially making them equity partners in specific construction projects. Firms that offered both detailed planning, architectural and construction services could, for a fee, work with owners to create plans detailed and accurate enough not to be subject to change order gaming. Owners could then hire the contractor for actual construction or bid out those plans, perhaps paying an additional fee for a guarantee of the accuracy and completeness of the plans.

Contractors dislike the suggestion that they be debarred from issuing change orders, other than those initiated by owners, because they do not want to assume the risk of, say, hidden subterranean obstructions like boulders. There are many uncertainties in life, some of which can be reduced. Perhaps contractors ought to invest in subterranean rock finding technology. Or maybe they should simply assume the average number of boulders and charge accordingly. Some jobs will be less profitable than expected but others more so. Owners really cannot be expected to bear such idiosyncratic risks because information in construction is highly asymmetric. It is easy for contractors to get away with a lie. Moreover, just as students rarely tell professors that a material scoring mistake was made in their favor, so too have contractors rarely given owners rebates when projects went better than expected.

Once contractors, rather than owners, have to pay for mistakes, competition will shift from gaming bids to making accurate ones. Once that occurs, scale economies will be significant and the time of tiny, highly-inefficient contractors will soon end. Solutions to labor unions (if they are indeed a problem at all), seasonality, cyclicalities, and so forth will also eventually emerge. Custom construction will never be easy, but its productivity can be greatly increased by paying closer attention to incentives.

150 Figure 1 illustrates this article's main argument. Organizations with high levels of internal incentive compatibility that sell into competitive markets, like Guardian and

Wiley, will be efficient (upper left quadrant). Monopolies with low levels of incentive compatibility, by contrast, are doomed to inefficiency (lower right quadrant). While it is true that most government-owned-and-run organizations fall into the lower right quadrant and many joint-stock corporations into the upper left, the model presented here generates testable hypotheses about observed exceptions. For example, it predicts that China's TVEs and other efficient government enterprises will have good internal incentive compatibility and sell into relatively competitive markets. It also predicts that inefficient joint-stock corporations, like Enron, sell into more monopolistic markets and have incompatible internal incentive structures.

Figure 1: The Economic Efficiency of Organizations.

		Market Structure	
		Competition	Monopoly
Incentive Compatibility	High	Efficient	Varies
	Low	Varies	Inefficient

The remaining two quadrants are indeterminate, varying according to particular circumstances. They explain the existence of some monopolistic but efficient organizations as well as some relatively inefficient organizations that sell into more competitive markets. Inefficient institutions that supply higher education, a fairly competitive market, likely suffer from poor internal incentives (lower left quadrant). Inefficient custom construction firms, by contrast, likely arise from the quasi-monopolistic nature of the market they sell into (upper right quadrant). Clearly, additional research on the nature of the organizations in those two quadrants is warranted.

If the analysis presented here is correct, then the economic efficiency of organizations is not so much a function of the nature of their owners and operators, as it is of the market structures in which they are embedded and of their internal incentive structures. The view that private companies in large-scale markets, especially widely-held joint-stock corporations, are naturally more efficient than mutual corporations, family-controlled

companies, or government-owned and operated organizations is untenable. Adam Smith and John Stuart Mill were essentially correct in their argument that certain types of organizations (ones with low agency costs or routine procedures, like banks and insurers) would be best served by the joint-stock corporate form, but that others (with high agency costs or much discretion, like trading companies) would not, especially if they failed to align the incentives of employees, management, and stockholders. Mill, in particular, realized that incentive alignment was achievable across a wide variety of organizational forms because “there is a long series of intermediate positions, between working wholly on one’s own account, and working by the day, week, or year for an invariable payment.” Finding the right type of compensation contract, Mill realized, could “be a very material stimulus to zeal and carefulness” regardless of organizational form.²⁶ What matters most, then, are the incentives of the people doing the work, including management. If they are carefully aligned with the organization’s goals, whether through competition, luck, or analysis, efficiency will result, even if it is a government enterprise. If they are not, then the organization will be economically inefficient.

NOTES

1. Descriptions of the Enron fiasco include Kurt Eichenwald, *Conspiracy of Fools: A True Story* (New York: Broadway, 2005) and Bethany McLean and Peter Elkind, *Smartest Guys in the Room: The Amazing Rise and Scandalous Fall of Enron* (New York: Portfolio, 2003). A good description of its poor internal incentive system is Bennett Stewart, “The Real Reasons Enron Failed—Lessons for Directors,” *Directorship* 32 (March 2006): 26ff.
2. For a description of the mythology surrounding the joint-stock corporation, see John Kenneth Galbraith, *The Age of Uncertainty* (Boston: Houghton Mifflin Co., 1977), 257-79. Like most myths, the myth of the joint-stock corporation was never completely uncontested. But its major critics, mostly sociologists, historians, and political scientists intrigued with keiretsu and other “networks,” suffered a major blow recently with the publication of *The Fable of the Keiretsu*, which showed that keiretsu were more the figment of leftward-leaning scholars’ imagination than economic fact. See also Paul DiMaggio, ed., *The Twenty-First-Century Firm: Changing Economic Organization in International Perspective* (Princeton: Princeton University Press, 2001); Yoshiro Miwa and J. Mark Ramseyer, *The Fable of the Keiretsu: Urban Legends of the Japanese Economy* (Chicago: University of Chicago Press, 2006). Agency theorists are also critical of joint-stock corporations but most imply that agency issues can be overcome through proper corporate governance and incentive alignment. For an overview, see Andrei Shleifer and Robert Vishny, “A Survey of Corporate Governance,” *Journal of Finance* 52 (June 1997): 737-83.
3. One of many descriptions of the advantages of the joint-stock corporation can be found in Harold Demsetz, “Business Governance and the Institutions of Capitalism,” in Max Miller, ed., *Worlds of Capitalism: Institutions, Governance and Economic Change in the Era of Globalization* (New York: Routledge, 2005): 57-70.

4. William Easterly, *The White Man's Burden: Why the West's Efforts to Aid the Rest Have Done So Much Ill and So Little Good* (New York: Penguin Press, 2006), 61-64, 99, 145.
5. See, for example, Murray Rothbard, *Man, Economy, and State, with Power and Market* (Auburn: Ludwig von Mises Institute, 2004), 1260-72.
6. Jan-Otmar Hesse and Ralf Banken, "Entrepreneurial Behavior Within State Industries: The Case of German State Enterprises at the End of the Nineteenth Century" and Gail Triner, "State-Owned Enterprise, Industrialization, and Subsoil Property Rights: Brazil in the 1930s and 1940s," Business History Conference, Toronto, Ont., June 10, 2006.
7. Minxin Pei, *China's Trapped Transition: The Limits of Developmental Autocracy* (Cambridge: Harvard University Press, 2006), 26; Dani Rodrik, "Growth Strategies," in Philippe Aghion and Steven Durlauf, eds., *Handbook of Economic Growth: Volume 1A* (New York: Elsevier North-Holland, 2005), 965-1014.
8. Such terminology is common in economics. See, for example, David Reifschneider and Rodney Stevenson, "Systematic Departures from the Frontier: A Framework for the Analysis of Firm Inefficiency," *International Economic Review* 32 (August 1991): 715-23. For the importance of different types of (in)efficiency, see Harvey Leibenstein, "Allocative Efficiency vs. 'X-Efficiency,'" *American Economic Review* 56 (June 1966): 392-415.
9. On the GLO, see Mary Schweitzer, *Custom and Contract: Household, Government, and the Economy in Colonial Pennsylvania* (New York: Columbia University Press, 1987). On the Fed, see Allan Meltzer, *A History of the Federal Reserve*, Volume 1: 1913-1951 (Chicago: University of Chicago Press, 2003) or R. W. Hafer, "Seigniorage," in *The Federal Reserve System: An Encyclopedia* (Westport, Conn.: Greenwood Press, 2005), 352-53.
10. Smith and most others make exceptions for limited duration monopolies like copyrights and patents. For modern textbook treatments of market structure and efficiency, see Robert Pindyck and Daniel Rubinfeld, *Microeconomics* 3rd ed. (Englewood Cliffs, N.J.: Prentice Hall, 1995), 276-452 and F. M. Scherer, *Industry Structure, Strategy, and Public Policy* (New York: HarperCollins, 1996), 7-15. For Smith's views on monopoly, see Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (New York: Modern Library, 1937), 61, 147, 595-96, 612, 712.
11. For example, internal incentives form no part of the "Structure-Conduct-Performance" or S-C-P paradigm, which presents firm "conduct" as a function of market structure and public policy. See Scherer, *Industry*, 1-4.
12. John Stuart Mill, *Principles of Political Economy, With Some of Their Applications to Social Philosophy* 2 vols. (London: Parker, 1848), Book 1, Chap. 9. <http://socserv2.socsci.mcmaster.ca/~econ/ugcm/3ll3/mill/index.html>
13. Leibenstein, "Efficiency": 413.
14. Scherer, *Industry*, 4-7.
15. Armen Alchian, "Uncertainty, Evolution, and Economic Theory," *Journal of Political Economy* 58 (June 1950): 211-21.
16. These stories and similar ones abound in business schools. I was unable to document their exact origins, probably, I am told, because they arose from unpublished consulting cases, but companies that made such mistakes do not want them

- publicized. The public record contains some general corroborating evidence. See, for example, Kate Griffin, "Why Collectors Aren't Smiling," *Credit Card Management* 9 (December 1996): 70ff; Diane Bonner-Makovsky, "Selecting and Monitoring External Collection Agencies," *Topics in Health Care Financing* 20 (Fall 1993): 71-80. An excellent overview of the economics of employee incentives is Joseph Ritter and Lowell Taylor, "Economic Models of Employee Motivation," *Federal Reserve Bank of St. Louis Review* 79 (September/October 1997): 3-22.
17. Christian Weller, "Lessons from the 1990s: Long-term Growth Prospects for the US," *Public Policy Research* 9 (March 2002): 57-61; Valrie Chambers and Patrick Crowley, "Capitalism and Accounting Reform," *S.A.M. Advanced Management Journal* 68 (Summer 2003): 44-55. The relationship between stock options and accounting irregularities is now widely accepted; Bill Saporito, "Wall Street's Verdict," *Time* 160 (July 29, 2002): 18ff; Don Durfee, "Better Carrots?" *CFO* (July 9, 2004): 1.
 18. This section is based on Robert E. Wright and George D. Smith, *Mutually Beneficial: The Guardian and Life Insurance in America* (New York: New York University Press, 2004), where detailed discussions and documentation of Guardian's low costs, management, and general agents can be found.
 19. For empirical evidence of the effectiveness of accounting-based deferred compensation incentive programs, see Chandra Mishra, David Gobeli, and Don May, "The Effectiveness of Long-Term Accounting Based Incentive Plans," *Journal of Managerial Issues* 12 (Spring 2000): 48-61.
 20. Except where otherwise noted, this section is based on Robert E. Wright, Timothy Jacobson, and George D. Smith, *Knowledge for Generations: Wiley and the Global Publishing Industry, 1807-2007* (New York: John Wiley & Sons, 2007).
 21. Andre Schiffrin, *The Business of Books: How International Conglomerates Took Over Publishing and Changed the Way We Read* (New York: Verso, 2000).
 22. For more on the "one share, one vote" convention, see Colleen Dunlavy's forthcoming book on shareholder activism, *Shareholder Democracy: The Forgotten History* (Harvard University Press).
 23. Except where otherwise noted, this section is based on Robert E. Wright's forthcoming book on US higher education and Barry LePatner et al., *Broken Buildings, Busted Budgets: How to Keep the Construction Industry from Wrecking Your Organization's Fiscal Foundation* (Chicago: University of Chicago Press, 2007).
 24. See, for example, Robert E. Wright, "The College as Partnership," *Forbes.com* (December 29, 2005), http://www.forbes.com/columnists/2005/12/29/higher-education-partnerships-cx_rw_1230college.html.
 25. This of course is one of the key insights of Adam Smith and Milton Friedman. Smith, *Wealth of Nations*, 716-40; Milton Friedman and Rose Friedman, *Free to Choose: A Personal Statement* (New York: Harcourt, 1990), 175-87.
 26. Smith, *Wealth of Nations*, 713-14; Mill, *Principles*, Book 1, Chap. 9; James P. Henderson, "Agency or Alienation? Smith, Mill, and Marx on the Joint-Stock Company," *History of Political Economy* 18 (1986): 111-31.