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Corporate Law and the Myth of Efficient Market Control

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CORPORATE LAW AND THE MYTH OF EFFICIENT MARKET CONTROL

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Abstract

In recent times, there has been an unprecedented shift in power from managers to shareholders, a shift that realizes the long-held theoretical aspiration of market control of the corporation. This Article subjects the market control paradigm to comprehensive economic examination and finds it wanting.

The market control paradigm relies on a narrow economic model that focuses on one problem only, management agency costs. With the rise of shareholder power, we need a wider lens that also takes in market prices, investor incentives, and information asymmetries. General equilibrium theory (GE) provides that lens. Several lessons follow from reference to this higher-order economic theory. First, the presumption that markets can efficiently coordinate the economy is shown to be unfounded, unless one relies on heroic assumptions. Second, GE shows that shareholders suffer from misaligned incentives, undercutting any normative program grounded in shareholder empowerment. The third lesson is negative, as there are no economically-founded instructions for addressing the trade-offs between agency costs reduction and market inefficiency implied by the new shareholder corporation. Policy implications also follow. Given the lack of a clear normative template, only private ordering can be counted on to address each corporation's specific tradeoffs between agency costs and market inefficiency. This conclusion leads to an endorsement of Delaware's equitable adjudication system, the flexibility of which is well-suited to policing the bargaining process between managers and empowered shareholders.

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INTRODUCTION

A central question in corporate legal theory is whether large corporations should be conceived as hierarchical enclaves that operate apart from markets or as entities that operate within markets and under market control. The majority favors market control,¹ making two basic assumptions: first, shareholders have the right incentives to mitigate the managerial agency problem, and, second, competitive markets are intrinsically superior to institutions as coordinators of production.² Recent developments in practice appear to vindicate this majority view, turning shareholder empowerment from a normative aspiration to a positive reality.³ The rise of hedge funds and other activist investors has brought an unprecedented shift in power from managers to shareholders, who are now empowered to determine business decisions at publicly-traded companies.

We take the occasion of these transformative changes to put corporate legal theory's majority view to the test, through a comprehensive economic examination of the claim of efficient market control. This examination brings to the forefront a substantial theory of markets and prices that has never been explored before in corporate law, general equilibrium theory (GE). Reference to GE yields three major results. First, it exposes the majority view as wanting, vindicating the work of scholars such as Lynn Stout, who had long warned us against the risks of ever increasing shareholder power.⁴ As this Article will show, economic theory does not support a normative template in favor of market control of the corporation but instead poses a fundamental tradeoff between agency cost reduction and market inefficiency. Second, once we take this economic finding back to legal theory, private bargaining emerges as better suited to resolve this tradeoff than would be corporate law reform. Third, this finding also has implications for corporate law, supporting Delaware's equitable adjudication system and its flexible case-by-case approach as especially well-suited to the mediation of the bargaining process between managers and empowered shareholders.

We begin our analysis by tracing corporate legal theory's equation of market control and economic efficiency back to its roots in Jensen and Meckling's (J-M) principal-agent model⁵ and considering *de novo* the model's implications for corporate law.⁶ Key to understanding these implications is a neglected feature of the J-M model: its narrow partial equilibrium framework. Partial equilibrium models deal with one market at a time, taking the market in isolation in

¹ See *infra* Part II.B-C.

² See *infra* Part II.B-C.

³ See *infra* Part I.C.2.

⁴ Lynn Stout was among the most prominent voices to challenge the shareholder-centric view of the corporation, defending an alternative "team-production model" that accounted for the role of other stakeholders in the corporate organization and warned against the inefficiencies of unconstrained shareholder power. See, e.g., Margaret M. Blair & Lynn A. Stout, *A Team Production Theory of Corporate Law*, 85 VA. L. REV. 247 (1999); Lynn A. Stout, *Bad and Not-So-Bad Arguments for Shareholder Primacy*, 75 S. CAL. L. REV. 1189 (2002); Iman Anabtawi & Lynn Stout, *Fiduciary Duties for Activist Shareholders*, 60 STAN. L. REV. 1255 (2008); LYNN STOUT, *THE SHAREHOLDER VALUE MYTH: HOW PUTTING SHAREHOLDERS FIRST HARM INVESTORS, CORPORATIONS AND THE PUBLIC* (2012).

⁵ Michael Jensen & William Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305 (1976). See also Part I.B.1. (discussing the J-M model).

⁶ The original arbitrage was effected by Easterbrook and Fischel, who expanded the model. The general reference is FRANK H. EASTERBROOK & DANIEL R. FISCHEL, *THE ECONOMIC STRUCTURE OF CORPORATE LAW* (1991). See also Part I.B.2. (discussing contractarianism).

determining the equilibrium outcome. More prosaically, these models proceed on the key assumption that “all other things are equal. Thus does the J-M analysis assume that management moral hazard is the firm’s only unsolved problem and then apply market control to minimize the resulting agency costs. In the model’s framework of reference, agency cost reduction, and hence greater shareholder influence, *always* enhances efficiency because all other things are assumed to be not only equal but efficient.

Results produced in partial equilibrium analyses, however, tend to vary with the “details” of the model—with the model’s assumed variables of interest and the mode of exploring the variables’ behavior in an environment in which all other variables are kept fixed. Under the assumption that management moral hazard is the firm’s sole problem, models in the J-M line depict market shareholders as having better-aligned incentives than managers and then automatically attach efficient consequences to shareholder governance. But there is another line of partial equilibrium analysis—models of management “myopia”⁷—which sends a contrary signal. Here the locus of imperfection shifts from management moral hazard to the asymmetric information problem bound up in the fact that market shareholders know less about the business than do its managers. On this different assumption, these models show formally that inefficiencies result under greater shareholder influence.⁸

How then is one to decide which model is “right” when confronted with opposite results, as in the case of the J-M and myopia models? The answer is that we cannot. Both sets of models should be seen as useful examples which can highlight logical shortcomings in normative arguments. But neither can provide the basis for a more general theory with normative implications for corporate governance. This is the infirmity at the core of corporate legal theory: it takes J-M’s brilliant example⁹ and deploys it as a normative theory.

This Article’s introduction of general equilibrium theory to corporate governance seeks to remedy this infirmity. Unlike in partial equilibrium analysis, in a general equilibrium framework the equilibrium concept sweeps in all markets simultaneously and incorporates their interactions. Methodologically, GE looks at the economy as a closed and interrelated system, simultaneously determining the equilibrium values of all variables of interest in all markets. Further, because all relevant variables are considered as endogenous, a change in one variable always results in re-

⁷ See Jeremy C. Stein, *Takeover Threats and Managerial Myopia*, 96 J. POL. ECON. 61, 63-67 (1988) [hereinafter cited as Stein, *Takeover Threats*] (showing formally that, even absent agency costs, managers of the firm threatened by a takeover will sell an underpriced asset); Jeremy C. Stein, *Efficient Capital Markets, Inefficient Firms: A Model of Myopic Corporate Behavior*, 104 Q.J. ECON. 655, 667 (1989) [hereinafter cited as Stein, *Efficient Capital Markets*] (modeling suboptimal investment where managers maximize a weighted average of near-term stock prices and long run value).

⁸ See Jeremy C. Stein, *Takeover Threats and Managerial Myopia*, 96 J. POL. ECON. 61, 63-67 (1988) [hereinafter cited as Stein, *Takeover Threats*] (showing formally that, even absent agency costs, managers of the firm threatened by a takeover will sell an underpriced asset); Jeremy C. Stein, *Efficient Capital Markets, Inefficient Firms: A Model of Myopic Corporate Behavior*, 104 Q.J. ECON. 655, 667 (1989) [hereinafter cited as Stein, *Efficient Capital Markets*] (modeling suboptimal investment where managers maximize a weighted average of near-term stock prices and long run value).

⁹ Corporate legal theory largely ignored myopia models until the financial crisis of 2007-2008. See William W. Bratton & Michael L. Wachter, *The Eclipse of the Shareholder Paradigm* 56, (Jan. 15, 2015) (unpublished manuscript) (on file with authors).

computation of all other variables.¹⁰ This explains why GE can aspire to normative implications where a partial equilibrium model cannot.

At this point, we anticipate an irrelevance objection. This posits that there is such a thing as a theory that is too high—too mathematical and too complicated (GE is both)—to provide a robust basis for real world policymaking. That’s why law and economics, whose job it is to apply microeconomic theory in an imperfect world where things need to get done, avoids confronting GE and instead draws on simpler partial equilibrium models for inspiration. The answer to this objection is that, given the rise of empowered shareholders it is no longer prudent or sensible to ignore GE’s microeconomics of markets. Shareholder empowerment substantially increases the magnitude of market control of business decision-making, holding out cognizable possibilities of perverse results. Mainstream corporate legal theory lacks the tools to conceptualize these possibilities. Things were different during the era of separated ownership and control, when unchecked management power was indeed the salient governance problem. In that context, the economics of agency adequately addressed the policy task at hand. Today we have a different, more complex practice picture with which to grapple. To do so adequately we need to reframe corporate legal theory by reference to GE’s more substantial theory of prices and markets.

Reference to GE yields three crucial lessons. The first concerns the widely-held assumption that economic theory instructs us that consumer surplus is maximized when competitive markets guide production. GE shows that this assumption is unfounded unless one also assumes *complete* markets, as did Arrow and Debreu in the first and fundamental GE model of the economy.¹¹ Complete markets imply a world where everything can be traded and parties can deal with uncertainty by insuring their preferences in advance, almost as if uncertainty did not exist.¹² A reasonable observer quickly will conclude, however, that markets are, in fact, not complete. Once this reality is factored in, GE shows that market control yields inefficient results.

The second lesson follows when one brings GE models of business decision-making by shareholders to corporate legal theory. The models yield a picture of distorted incentives due to market incompleteness, with the shareholders making production decisions based on idiosyncratic consumption preferences rather than fundamental value.¹³ GE models also show uncertainty undermining market pricing accuracy, results that are replicated by contemporary asset pricing theory.¹⁴ Between the two results, corporate law’s prevailing market control paradigm is completely undercut. Microeconomics teaches that it is not safe to assume that agency cost reduction stemming from the shareholder power shift maximizes value. It instead situates us in a world with a two-sided incentive problem, one concerning managers and already well-traversed in corporate legal theory and the other concerning shareholders and only beginning to be acknowledged, much less studied.

¹⁰ ANDREU MAS-COLELL, MICHAEL D. WHINSTON & JERRY R. GREEN, MICROECONOMIC THEORY 511 (1995)

¹¹ See Kenneth M. Arrow & Gérard Debreu, *Existence of an Equilibrium for a Competitive Economy*, 22 *ECONOMETRICA* 265 (1954); GÉRARD DEBREU, *THEORY OF VALUE* (1959). The operative Walrasian mathematics were worked out in Gérard Debreu, *A Social Equilibrium Existence Theorem*, 38 *PRO. NAT’L ACAD. SCI.* 866 (1952). See also *infra* Part II.B. (discussing the A-D model in details).

¹² YVAN LENGWILER, MICROFOUNDATIONS OF FINANCIAL ECONOMICS: AN INTRODUCTION TO GENERAL EQUILIBRIUM ASSET PRICING 20 (2004).

¹³ See *infra* Part III.B.1.

¹⁴ See *infra* Part III.C.

The third lesson is negative, for GE does not tell us how optimally to address the two-sided problem of agency costs and market inefficiency. The shift of decision-making power to shareholders transforms the corporation into a hybrid form that straddles the firm and the markets. As yet no general economic theory tells us the best way to structure this hybrid corporate form. Indeed, economic theory does not even offer any useful presumptions. While the microeconomics of incentives shows (in partial equilibrium examples) that agency cost reduction enhances firm value, GE denudes the assertion of normative salience when it shows that shareholder business decision-making can produce suboptimal results. At the same time, while GE models could appear to support a policy presumption against shareholder empowerment, a closer look teaches a different lesson. Management moral hazard remains in the GE's picture as a source of market incompleteness, thus blocking any anti-shareholder or pro-management presumptions.

We walk away from these lessons with two policy recommendations and a novel economic justification of Delaware's system of judicial decision-making. The first recommendation suggests a moratorium on policy proposals favoring either market control or management insulation. While GE's ultimate normative teaching is negative, it is by no means irrelevant for it implies a presumption that proposals for either market control or for management insulation lack support in economic theory and have distortionary effects in practice. This lesson by itself has radical implications for corporate legal theory.

A second recommendation follows from this cautionary policy outcome, one that restates and updates the old presumption favoring private ordering in corporate governance. Economic theory counsels that in an imperfect world off-market contracting that directs incentives in the proper direction offers a more promising route to productive efficiency than does market control. More promising but not necessarily efficient: in bargaining theory the party with bargaining power controls the result whether or not the outcome is optimal. It follows that the possibility of contracting does not preclude suboptimal outcomes, as it cannot rule out the opportunistic abuse of bargaining power by either managers or empowered shareholders. Today's challenge for corporate law is thus to avoid distortionary dominance of the bargaining process by either contracting party.

We also make a prediction: corporate law, as interpreted and enforced in Delaware, is well-positioned to face the challenges posed by the hybrid corporation. Delaware courts have never imposed maximizing directives based on economic theory. They instead leave the basic alignment of the parties' entitlements to the parties' own bargaining process and address problems that arise in the course of events through a pragmatic process of equitable adjudication. As equity adjudicators, the Delaware chancellors have wide latitude to mold earlier decisions to fit new facts and thereby adapt the law to ever-changing economic circumstances and legal relationships.¹⁵ In light of the results of our analysis, we think this flexible approach can be characterized as economically astute. Of course, equity's flexibility leaves room for residual indeterminacy. But, in the case of Delaware law, this indeterminacy should be welcomed as the consequentialist legal response to GE's indeterminate results. GE fails to tell us how to trade managerial opportunism (agency costs) off against shareholder opportunism (market inefficiency) because the relative costs and benefits cannot be determined ex-ante. But if there is no template for future forms of

¹⁵ William T. Allen, *A Bicentennial Toast to the Delaware Court of Chancery 1792-1992*, 48 BUS. LAW. 363, 365 (1992).

opportunism, then judging cannot follow from rigid rules. Ex-post discretion to address case-specific facts is required instead. Delaware's equity system ensures that its adjudicators possess the requisite skills.

The rest of the Article proceeds as follows. Part I describes the evolution of corporate legal theory and its changing answers to the question of the relative merits of hierarchies and markets. It starts with the hierarchical view of the corporation of the mid-twentieth century, then moves to the 1980s import of the J-M agency model through the contractarian theory of Easterbrook and Fischel, and closes with the rise of the now dominant market control paradigm. Part II introduces GE to corporate governance for the first time, starting at square one with the first and second theorems of welfare economics and the distinction between partial and general equilibrium analysis. It then goes on to describe the evolution of GE, from the Arrow-Debreu model and its assumption-laden picture of market success to the conclusion that markets fail to coordinate the economy efficiently due to market incompleteness. Part III discusses GE's implications for the positive model of the firm and the rise of shareholder empowerment, showing how GE helps to explain particulars of the legal corporate form and describing GE's prediction that shareholder participation in business planning will lead to suboptimal results. Lastly, Part IV explores the legal ramifications of our analysis, looking first at the normative message of GE for current corporate governance, then formulating policy recommendations for corporate legal theory, and finally considering corporate law, as interpreted and enforced in Delaware.

I. MANAGEMENT POWER AND MARKET CONTROL

The theories that inform corporate law have evolved over time in response to events. We accordingly present our case for paradigmatic revision of the market control paradigm as a lesson of history, reviewing the successive responses that corporate legal theory has provided to the question of the relative merits of hierarchies and markets in coordinating corporate production.

We begin, in Section A, with the mid-twentieth century consensus description of large corporations as management-dominated hierarchies that operate outside of markets. Section B takes up the neoclassical reversal of this position that began in the 1970s, when Jensen and Meckling's principal-agent model¹⁶ was unpacked and expanded in the contractarianism of Easterbrook and Fischel,¹⁷ resulting in the assertion that markets and contracts could solve all problems addressed in corporate law. Section C explains how the neoclassical market success story was subsequently transformed into a law reform story when the disappearance of the primary market control, the hostile takeover, was attributed to regulatory interference. The economics of agency were then redirected into a regulatory program to reinstate market control through shareholder empowerment. The advent of empowered shareholders finally brings this about, albeit as the result of changes in the pattern of shareholding and the rise of activist hedge funds rather than from regulatory intervention.

A. Hierarchies Outside of Markets

When observers looked at big companies during the mid-twentieth century they saw empowered hierarchies. Most agreed that management power ineluctably flowed from organizational expertise and that structural impediments foreclosed the possibility of putting hierarchical firms under market control.¹⁸ Markets were seen as intrinsically incapable of providing an environment conducive to complex production.¹⁹ Moreover, based on the experience of the Great Depression, most people thought of markets as generally prone to fail.

The leading description, Adolf Berle and Gardiner Means's *The Modern Corporation and Private Property*, first published in 1932, asserted that the modern corporate economy had superseded the classical, Smithian picture of a successfully self-correcting market economy.²⁰ The Berle and Means diagnosis implied an accountability problem and a regulatory response: if the forces of supply and demand could not regulate the decision-makers at the top of corporate hierarchies, government controls needed to be substituted both as regarded management moral hazard and the coordination of production and pricing decisions with the interests of the wider economy. By the end of World War II, many thought that New Deal reforms had satisfactorily

¹⁶ See Jensen & Meckling, *supra* note 5.

¹⁷ See generally EASTERBROOK & FISCHEL, *supra* note 6.

¹⁸ See William W. Bratton, *The "Nexus of Contracts" Corporation: A Critical Appraisal*, 74 CORNELL L. REV. 407, 413 (1989).

¹⁹ See, e.g., DENNIS HOLME ROBERTSON, *THE CONTROL OF INDUSTRY* 85 (1930)(viewing corporations not as extensions of markets but as islands of conscious power in the markets' ocean of unconscious co-operation).

²⁰ See ADOLF A. BERLE, JR. & GARDINER C. MEANS, *THE MODERN CORPORATION AND PRIVATE PROPERTY* 1, 45-46(Macmillan reissue 1933) (noting that economic power had concentrated in the hands of corporate managers and that the corporate system amounted to a major social institution). See also Gardiner C. Means, *Hessen's Reappraisal*, 26 J.L. & ECON. 297, 297 (1983); MICHAEL MAGILL & MARINE QUINZII, *THEORY OF INCOMPLETE MARKETS* 425 (paperback ed. 2002)(describing Berle and Means as the founders of the economics of management moral hazard).

ameliorated the accountability problem and achieved the requisite degree of coordination.²¹ Indeed, managers came to enjoy great prestige as successful economic planners as the post-war economy expanded.

Hierarchical thinking also found its way into microeconomics. Ronald Coase integrated the classical economic description and the hierarchical view of corporate production in a famous essay published in 1937.²² Coase drew a line between market coordination and production in firms. He posited that if markets held out a framework conducive to complex production, then actors could be expected to produce based on individual transactions in markets and firms would not exist. But firms did exist and production occurred therein. For an explanation, Coase looked to transaction costs. Production through individual contracts would be too expensive.²³ Hierarchical structure reduces this cost, facilitating complex economic endeavor by turning coordination over to an entrepreneur.²⁴

B. The Neo-Classical Revolution

Corporate legal theory turned away from hierarchies to a market-based description of large corporations in the century's closing decades. Things had changed. The 1970s stagflation economy undermined confidence in both the management-dominated corporate production system²⁵ and the regulatory state.²⁶ People were ready to return their trust to markets. Law and economics scholars assured them that improvements would follow—first through the introduction of the neoclassical agency cost model of Jensen and Meckling²⁷ and, next, through Easterbrook and Fischel's legal adaptation and expansion of that model.²⁸

1. *The Principal-Agent Model*

J-M's principal-agent model tells a corporate creation story in which the only problem confronting the firm is management moral hazard, which causes agency costs. In the model's set

²¹ ADOLPH A. BERLE, *THE AMERICAN ECONOMIC REPUBLIC* 82, 91, 99 (1963) (describing interdependence between the state and the economy, with the state taking ultimate responsibility and exercising the higher level of power but intervening only to stabilize performance).

²² Ronald Coase, *The Nature of the Firm*, 4 *ECONOMICA* 386 (1937).

²³ *Id.* at 390-92 (arguing that organizing production through the price mechanism meant incurring the cost of ascertaining the prices and that long-term relationships would be difficult to sustain).

²⁴ *Id.* at 392.

²⁵ See THEODORE ROSENOF, *ECONOMICS IN THE LONG RUN: NEW DEAL THEORISTS & THEIR LEGACIES, 1933-1993*, at 3 (1997) ("Inflation became rampant and stagnation reappeared, not in the form of a cataclysmic Great Depression but by way of minimal growth and sluggishness interrupted by bouts of severe recession and only brief, ephemeral leaps into semblances of a boom.").

²⁶ GERALD F. DAVIS, *THE VANISHING AMERICAN CORPORATION: NAVIGATING THE HAZARDS OF A NEW ECONOMY* 56 (2016); William W. Bratton, *The Separation of Corporate Law and Social Welfare*, 74 *WASH. & LEE L. REV.* 767, 773-75 (2017).

²⁷ The initial cross-reference occurred in Daniel R. Fischel, *Efficient Capital Market Theory, the Market for Corporate Control, and the Regulation of Cash Tender Offers*, 57 *TEX. L. REV.* 1, 8-9 (1978).

²⁸ See, e.g., Frank H. Easterbrook & Daniel R. Fischel, *Close Corporations and Agency Costs*, 38 *STAN. L. REV.* 271 (1986); Frank H. Easterbrook & Daniel R. Fischel, *The Corporate Contract*, 89 *COLUM L. REV.* 1416 (1989) [hereinafter cited as Easterbrook & Fischel, *Contract*]; Frank H. Easterbrook & Daniel R. Fischel, *Limited Liability and the Corporation*, 52 *U. CHI. L. REV.* 89 (1985); Frank H. Easterbrook & Daniel R. Fischel, *Optimal Damages in Securities Cases*, 52 *U. CHI. L. REV.* 611 (1985).

up, but for management moral hazard and shareholders' and managers' arrangements in respect thereof, all other things are not only equal but efficient.²⁹ Agency costs are reduced to the extent that managers find it cost effective to incur bonding costs and investors find it cost effective to incur monitoring costs.³⁰ This does not mean that bonding, monitoring, and contracting will reduce agency costs to zero. Instead, residual agency costs that cannot be cost effectively eliminated will persist as an intrinsic cost of production.³¹ This persistent residuum, however, is unproblematic because, in the model, the equity trading market allocates residual agency costs to the founder-manager at the moment of creation.³²

The J-M model minimizes the importance of authority and hierarchy in the description of corporate production, redirecting attention to contract. It deflects Coase's description, making it possible to show that private ordering in capital markets works effectively in corporate governance, a private ordering comprised partly of market trading and partly of out-of-market negotiated contracting.³³ But the model is also assumption-laden. The only operative factors are (1) a conflict of interest between managers and shareholders arising from the manager's rational incentive to self-serve, (2) the ability of managers and shareholders to contract with respect thereto, and, (3) the stock market's ability to price out the conflict. Separation of ownership and control,³⁴ shareholder votes,³⁵ and hostile takeovers³⁶ are left over for future inquiry, along with every other problem addressed in corporate governance, not to mention the matter of corporate interaction with exterior actors and product markets. The J-M model, in effect, held out a blank canvas on which legal theorists could paint in a thicker description.

2. Contractarianism

Easterbrook and Fischel filled in the canvas, turning what is implicit in J-M into a sequence of normative assertions. They quietly relaxed J-M's limiting assumptions so that the model accommodated the real world's corporate governance framework without needing significant modification. At the bottom line came a radical assertion: between markets and contracts, the main problems addressed in corporate law were already being solved.

²⁹ For exposition of the operation of and limitations on partial equilibrium models, such as the J-M model, *see infra* Part II.A.

³⁰ Jensen & Meckling, *supra* note 5, at 323.

³¹ *Id.* at 327.

³² *Id.* at 313, 318-19.

³³ More particularly, market trading prices management moral hazard and allocates its cost; meanwhile, private contracting obviates any need for state intervention in internal corporate affairs in cases where markets do not work. Authority structures in firms do not disappear. J-M instead change the characterization of what it means to be a hierarchical inferior. For Coase, this implied a sacrifice of liberty that required explanation. For J-M, the hierarchical inferior is a contract counterparty who can always walk away. *Id.* at 310-311. J-M here repeat a point made earlier by Alchian and Demsetz. *See* Armen Alchian & Harold Demsetz, *Production, Information Costs, and Economic Organization*, 62 AM. ECON. REV. 777 (1972) (firms have "no power of fiat, no authority, no disciplinary action," not differing "in the slightest degree, from ordinary market contracting between any two people")

³⁴ Jensen & Meckling, *supra* note 5, at 356 ("One of the most serious limitation of the analysis is that as it stands we have not worked out in this paper its application to the very large modern corporation whose managers own little or no equity.").

³⁵ *Id.* at 314 (the stock sold at the moment of origin is nonvoting).

³⁶ Absent voting stock, a hostile takeover is impossible.

In E-F's transformation of J-M, the "contract" is not just the result of face-to-face bargaining at the moment the public firm is created through an IPO, but corporate law itself and internal corporate legislation (charters and bylaws) enacted over time.³⁷ This "contractarian" restatement also expands the set of market controls of agency costs. In addition to stock market pricing, the accuracy of which is deemed assured by the efficient market hypothesis of financial economics (EMH),³⁸ E-F rely on three additional sources of market control—hostile takeovers (called the "market for corporate control"), the market for the firm's products, and the executive labor market. The four markets operate together to assure agency cost minimization on a multi-period basis, just as J-M predicted.³⁹

Two broad claims about corporate law follow. First, there should be a presumption against having any more of it than already exists. Because rational actors arrange governance in contracts and markets price the contract terms, legal mandates are justifiable only in the unlikely event that "the terms chosen by firms are both unpriced and systematically perverse from investors' standpoints."⁴⁰ Second, the inherited corporate law regime is economically rational,⁴¹ justifying a strong normative presumption in its favor.

E-F's intervention triggered intense debate, a debate that proceeded against the background of a practice shock—the hostile takeover boom of the 1980s. The boom, widely seen as a corrective of deficient management performance, was perfectly timed to import credibility to contractarianism. E-F, by folding the market for corporate control into J-M's moral hazard account, produced a neat explanation of what was going on in the real world: moral hazard had caused agency costs to run to excess and discounted stock prices reflected the value impairment. The discounts in turn attracted control bidders by assuring an arbitrage profit, with the market-based control transfer performing a critical agency cost reductive role.⁴²

³⁷ Easterbrook & Fischel, *Contract*, *supra* note 28, at 1429-31.

³⁸ Markets would be "strong form" efficient if they priced in *all* information, material nonpublic information as well as all public information. It is, however, generally accepted that financial markets are not strong form efficient. *See* STEPHEN A. ROSS ET AL., *CORPORATE FINANCE* 359 (6th ed. 2002). In contrast, the ECMH's "semi-strong" form is generally accepted. This, sometimes called "informational efficiency," posits that the capital markets embed all publicly available information into security prices. *See* Burton G. Malkiel, *Efficient Market Hypothesis*, in 1 *THE NEW PALGRAVE DICTIONARY OF MONEY AND FINANCE MARKETS* 739, 739 (Peter Newman et al. eds., 1992).

³⁹ Easterbrook & Fischel, *supra* note 6, at 4, 18-21, 91, 93, 96-97. The market for corporate control originated with Henry Manne but had no connection to hostile takeovers in Manne's articulation. *See* Henry G. Manne, *Mergers and the Market for Corporate Control*, 73 *J. POL. ECON.* 110, 110, 118, 119 (1965) (describing a market for corporate control and proposing that, absent regulation, stock price declines would trigger disciplinary friendly mergers). Manne changed his view later. *See* Henry G. Manne, *A Free Market Model of a Large Corporate System*, 52 *EMORY L.J.* 1381, 1389 (2003). We also note that reliance on a market triad (control, product, and employment) to control management does ante-date Easterbrook and Fischel's arbitrage of J-M. The cite is Ralph K. Winter, Jr., *State Law, Shareholder Protection, and the Theory of the Corporation*, 6 *J. LEG. STUD.* 251, 262-270 (1977).

⁴⁰ EASTERBROOK & FISCHEL, *supra* note 6, at 21. Easterbrook and Fischel make a strong claim for institutional primacy for the market price without also making claim for strong form market price efficiency. *Id.* at 18-19.

⁴¹ *Id.* at 315.

⁴² Viewed retrospectively, J-M's moral hazard account is unlikely to be satisfactory as a standalone explanation for 1980s takeovers—today's empirical profile holds out a much richer collection of causative factors. *See, e.g.*, Robert Comment & G. William Schwert, *Poison or Placebo? Evidence on the Deterrence and Wealth Effects of Modern Antitakeover Measures*, 39 *J. FIN. ECON.* 3 (1995) (looking at a range of factors to see whether any consistently predict that a firm will become a hostile target and finding that only size proves a consistently successful predictor); Mark I. Mitchell & J. Harold Mulherin, *The Impact of Industry Shocks on Takeover and Restructuring Activity*, 41 *J. FIN. ECON.* 193, 195-96 (1996) (showing that mergers come in waves and focus on specific industries).

E-F's arbitrage never gained ascendance in all particulars, however. The sticking point was the capacious notion of contract,⁴³ which encompasses all interaction between managers, investors, consumers, and the government in a multi-period, dynamic setting that featured few actual negotiations⁴⁴ even as it promised efficient results. But even partial acceptance implied fundamental changes in the way people view corporate law. Henceforth, policy discussions would proceed in a microeconomic framework dominated by two normative presumptions—a presumption disfavoring new regulatory initiatives and one favoring market control.

C. The Market Control Paradigm

1. Market Control

Hostile takeovers changed the way people viewed corporations only to disappear in the wake of the economic collapse of 1989. A public choice story circulated to explain the hostile takeover's disappearance. Managers seeking renewed insulation from the markets had gone to state legislatures and appealed to state judiciaries to promote antitakeover statutes and otherwise validate takeover defensive measures.⁴⁵ It followed that in the post-takeover era agency costs were chronically and suboptimally high.

A reformulation of the contractarian paradigm naturally followed. The new formulation retained the principal-agent model's exclusive focus on management moral hazard along with an information-efficient account of stock market pricing. But now, instead of a contracting field conducive to efficient self-correction as predicted by E-F, we had a field riven with collective action problems, path dependencies, and other failures.⁴⁶ Regulation came back into the picture as a result, but for the limited purpose of adjusting the process framework so that market control of management conduct could work in fact. Corporate governance needed positive law reforms directed to shareholder empowerment so as finally to get us to the equilibrium posited at the start

⁴³ See Easterbrook & Fischel, *supra* note 28, at 1428-34.

⁴⁴ Legal notions of contract could not be stretched far enough to support the E-F characterization. The more particular question was whether the territory of "contract," with its arm's length bargains and equally situated parties, plausibly covered the entire ground swept in by the contractarian firm, much of which was apparently hierarchical in character. The consensus answer was that contractual characterization was insufficiently robust to justify turning all of corporate law into a default regime—fiduciary duties would have to remain mandatory because proxy voting was not a process context suited to effective non-competitive transacting. See, e.g., John C. Coffee, Jr., *No Exit?: Opting Out, the Contractual Theory of the Corporation, and the Special Case of Remedies*, 53 BROOK. L. REV. 919 (1988); Jeffrey N. Gordon, *The Mandatory Structure of Corporate Law*, 89 COLUM. L. REV. 1549 (1989); John C. Coffee, Jr., *The Mandatory/Enabling Balance in Corporate Law: An Essay on the Judicial Role*, 89 COLUM. L. REV. 1618 (1989); Melvin A. Eisenberg, *The Structure of Corporation Law*, 89 COLUM. L. REV. 1461 (1989).

⁴⁵ Roberta Romano, *The Future of Hostile Takeovers: Legislation and Public Opinion*, 57 U. CIN. L. REV. 457 (1988). Since the seminal 1985 decision in *Moran v. Household International, Inc.*, Delaware courts have tilted decidedly toward upholding the primacy of directorial power in deciding whether a takeover bid should move forward. See *Moran v. Household International, Inc.*, 500 A.2d 1346 (Del. 1985).

⁴⁶ See, e.g., Mark J. Roe, *Chaos and Evolution in Law and Economics*, 109 HARV. L. REV. 641, 644-45 (1996). See also Lucian A. Bebchuk & Mark J. Roe, *A Theory of Path Dependence in Corporate Ownership and Governance*, 52 STAN. L. REV. 127 (1999).

by J-M.⁴⁷ Henceforth, the shareholders should have “ultimate control” of the firm.⁴⁸ We call this sequence of assertions the “market control” paradigm.

Market control meant removal of antitakeover barriers, but that was not politically feasible. The policy agenda accordingly looked toward “shareholder empowerment” more generally. Management needed to be forced to yield to shareholder inputs on governance and business planning on a going concern basis. Incentive alignment was the reason. Where managers’ incentives were compromised and suspect, shareholders had a pure financial incentive to maximize value, and thus provided the only unsullied planning inputs.⁴⁹ That information asymmetries might impair the quality of any shareholder inputs was not deemed to be a salient problem, for a market-based performance metric was available—the stock price.⁵⁰

2. *Shareholder Empowerment*

Shareholder empowerment finally came about after the turn of this century, not through law reform but through another practice shock—the massive re-concentration of corporate ownership and the rise of activist hedge funds. Some observers resist the notion that this change is fundamental, arguing that excess management agency costs continue to present a pressing policy problem.⁵¹ Others describe a difference in kind. Gilson and Gordon observe that the separation of ownership and control has disappeared because shareholders now value (and exercise) their franchise to shape business policy.⁵² Activist investors are the transmission mechanism through which dispersed shareholder register their planning preferences.⁵³ Thus do market forces now determine planning outcomes even though the infrastructure of corporate governance remains unchanged.

Gilson and Gordon have the better view. With shareholder empowerment, market prices set by anonymous trading shareholders determine the firm’s business plan on a going concern basis, subordinating management. This is a fundamental break with the hierarchical model of the corporation, a break sharper and more fundamental even than that held out by takeover-centric governance. The takeovers of the 1980s certainly did inject capital market inputs into production decisions. But corporate hierarchies were not displaced as a result.⁵⁴ Takeovers meant leveraged

⁴⁷ See, e.g., Lucian A. Bebchuk, *The Case for Increasing Shareholder Power*, 118 HARV. L. REV. 833, 865-70 (2005) (recommending expansion of shareholder legislative access to the corporate charter and the state of incorporation decision); Lucian A. Bebchuk, *The Myth of the Shareholder Franchise*, 93 VA. L. REV. 675, 699-702 (2007) (recommending a right to replace all incumbents every two or three years).

⁴⁸ Henry Hansmann & Reinier Kraakman, *The End of History for Corporate Law*, 89 GEO. L.J. 439, 440-41 (2001).

⁴⁹ *Id.*, at 449.

⁵⁰ *Id.* at 440-41.

⁵¹ See Lucian A. Bebchuk, *The Myth that Insulating Boards Serves Long-Term Value*, 113 COLUM. L. REV. 1637, 1651 (2013); Mark J. Roe, *Corporate Short-Termism—In the Boardroom and in the Courtroom*, 68 BUS. LAW. 978, 1006 (2013).

⁵² Ronald J. Gilson & Jeffrey Gordon, *The Agency Costs of Agency Capitalism: Activist Investors and the Revaluation of Governance Rights*, 113 COLUM. L. REV. 863, 865, 867, 874 (2013). Governance rights, formerly devalued now are employed for the purpose of value enhancement as the hedge funds use them in tandem with firm-specific informational investment and monitoring. *Id.* at 891.

⁵³ *Id.* at 867 (The hedge funds’ appearance “should be seen as an endogenous response to the monitoring shortfall that follows from ownership reconcentration in intermediary institutions.”).

⁵⁴ See Bengt Holmstrom & Steven N. Kaplan, *Corporate Governance and Merger Activity in the United States: Making Sense of the 1980s and 1990s*, J. ECON. PERSP., Spring 2001, at 121, 122-23, 137 (depicting the takeover wars

restructuring, which tended to be followed by asset sales and cost-cutting. The most effective defense was a voluntary, pre-emptive leveraged restructuring, usually in the form of a private equity buyout. Whether restructuring followed from a hostile takeover or defensive buyout, it was an all-or-nothing, one-time-only event involving control transfer. If the transfer was hostile, an old “entrepreneur” was replaced by a new one; if the transfer was voluntary and defensive, no replacement occurred. Either way, the manager of the restructured firm made production decisions independently from the price system, albeit often from a situation of enhanced constraint due to a debt burden.⁵⁵

Activist interventions are thought to be smaller in size and less threatening than were hostile tender offers. A control change is rarely implicated, with the activist working with the present team rather than throwing it out. But a larger threat lurks behind the smaller numbers. As the cost of engagement falls, the numbers of both hostile intervenors and actual and potential targets expand. The business planning threat becomes generalized. To make this point more clearly, we apply a game theoretic gloss to the fact pattern. We begin this description by distinguishing between two different kinds of market influence over production decisions in the new era. In the first, no activist has appeared but intervention is threatened; in the second, activist intervention has occurred.

Case 1: Investors are not yet active. In this case, the manager knows that if she “disappoints” the market, an activist will show up and likely behave in an antagonistic manner—whether by advancing shareholder proposals, by publicly criticizing the company and demanding change, or by threatening to wage a proxy fight in order to gain board representation. Failure to reach an agreement with the activist means that the proxy fight will materialize. (Takeover bids are sometimes threatened but rarely seen in practice.⁵⁶) Most such contests result in activist success. As a result, rational managers will anticipate the activists’ demands and make the production decision the market prefers. For example, if activists demand (on average) a lower level of research and development and capital expenditure along with increased leverage, managers will amend production and financing policy accordingly.

Case 2: Activist intervention. In this case, the market, or, more specifically, a hedge fund as representative of the market, itself makes production decisions. Indeed, the arrival of an activist typically results in a negotiated settlement

as a one-time only reaction to an external shock caused by economic factors such as deregulation, globalization, and new information and communications technologies, with financial markets showing a temporary comparative advantage over management in undertaking the structural adjustments made necessary by the changes but not necessarily a permanent shift of the locus of production decisionmaking from within the firm to outside markets).

⁵⁵ Significantly, constraining super-high leverage did not persist as a business norm. Post takeover era leverage levels were higher than pre-takeover levels but not so high as to denude management of discretion to reinvest free cash flows. *Id.* at 127-32, 136-37.

⁵⁶ There is no question that activism prompts mergers, but the acquirer is almost always a third party. *See, e.g.,* Nicole M. Boyson, Nikolay Gantchev & Anil Shivdasani, *Activism Mergers*, 126 J. FIN. ECON. 54, 58-59 (2017)(showing a takeover bid occurring in 24 percent of the engagements—from third parties in 19.9 percent and from the activist itself in 3.4 percent).

pursuant to which management either makes concrete business concessions or agrees to put the activist's representatives on the board.⁵⁷

In both Case 1 and Case 2 (although with different intensity) acceding to the preferences of the potential or present activists reduces the manager's risk of removal or diminished influence. Borrowing from game theory, the situation can be characterized as an extensive game in which the manager plays first (by choosing the production plan) and the investors play second (by choosing whether or not to intervene). In this game, there is only one equilibrium, one in which the manager chooses the investment plan the market likes so that the investors remain inactive. That is, the manager anticipates and adopts the market's preference, effectively putting the market in charge of production decisions.⁵⁸

Of course, actions out of the equilibrium path are possible. Some managers will resist by simply failing to take preemptive steps. More likely, managers who believe their business plans to be robust but who fear a negative market response will take proactive and defensive steps to garner support by institutional investors. This is called "shareholder engagement."⁵⁹ Yet the point of our stylized representation of an equilibrium path in which concession is the only rational course remains and it underscores the magnitude of the power shift. Authority over corporate affairs has shifted away from the board of directors to the investors themselves, while the insulated hierarchy of the mid-twentieth century is finally eclipsed in practice.

⁵⁷ William W. Bratton, *Hedge Funds and Governance Targets*, 95 GEO. L.J. 1375, 1402-1408 (2007).

⁵⁸ Management concession to the demands of activist hedge funds can be framed as a subgame perfect equilibrium (SPE). SPE is the concept that restricts the number of (Nash) equilibria that may result in a strategic-form game (that is, a game represented with matrices). *See generally* MICHAEL MASCHLER ET AL., *GAME THEORY* 252-57 (2103); ROGER B. MYERSON, *GAME THEORY – ANALYSIS OF CONFLICT* 183-84 (1991).

⁵⁹ Large institutional investors like BlackRock and Vanguard, which profess an interest in promoting long-term investment, insist that CEOs make direct contact and explain their strategies. *See, e.g.*, Sullivan & Cromwell LLP, *2016 U.S. Shareholder Activism Review and Analysis* 4-6 (Nov. 28, 2016). While co-operatively disposed, these investors also use the threat of intervention to bring themselves into the corporate decision-making process on a going concern basis, with the justificatory burden falling on the managers in tandem with the burden to garner affirmative shareholder support.

II. MARKET COORDINATION UNDER GENERAL EQUILIBRIUM THEORY

Under the market control paradigm, shareholder empowerment is a good thing because it reduces agency costs and gives properly-incented actors a determinative role in business planning. Shareholder control enhances productivity because the directives are market driven, and markets are intrinsically superior to institutions as coordinators of production.⁶⁰ This is the majority view.

A minority argues for a more cautious approach, raising the possibility of negative trade-offs and asking pointed questions about the newly empowered shareholders' incentives and the reliability of the market mechanisms through which their interventions are channelled.⁶¹ These objections and questions tend to be dismissed as expedient, following not from economic theory but from either of two parochial agendas. One is refractory managerialism—the objectors pursue the management agenda and ultimately seek legislative interventions that would cut off the channels facilitating shareholder intervention much as did antitakeover legislation a generation ago.⁶² Alternatively, the objections are dismissed as a progressive ploy. The hidden objective is the displacement of shareholder value maximization as the corporate objective by a stakeholder model, with redistribution rather than productivity as the true motivation.⁶³

In fact, the objections have a powerful grounding in economic theory whatever their proponents' political coloration. But the objections' theoretical legitimacy goes unrecognized because the supporting line of economics—general equilibrium theory (GE)—has never successfully undergone an interdisciplinary transfer from microeconomics to law and economics and corporate legal theory. A second dose of theoretical instruction is overdue. A proverbial gap needs filling. This Part begins to correct this omission introducing GE to corporate governance for the first time⁶⁴ and demonstrating its destabilizing implications for the majority's presumption favoring market coordination. Part III will then move to discuss GE's positive implications for the legal corporate form and shareholder empowerment.

Section A fills in the theoretical background. It first goes back to the source of legal theory's market coordination norm, describing the first and second theorems of welfare economics. Next, the discussion traverses the distinction between general and partial equilibrium modelling and shows how a legal theory that incorporates the market coordination norm by reference to partial equilibrium results—such as the J-M agency model—is intrinsically unsound.

⁶⁰ See Gilson & Gordon, *supra* note 52, at 865, 874.

⁶¹ Anabtawi & Stout, *supra* note 4; William W. Bratton & Michael L. Wachter, *The Case Against Shareholder Empowerment*, 158 U. PA. L. REV. 655, 677-78 (2010); K.J. Martijn Cremers & Simone M. Sepe, *The Shareholder Value of Empowered Boards*, 68 STAN. L. REV. 67 (2016); Zohar Goshen & Richard Squire, *Principal Costs: A New Theory for Corporate Law and Governance*, 117 COLUM. L. REV. 767 (2017); Lynn A. Stout, *Do Antitakeover Defenses Decrease Shareholder Wealth?: The Ex Post/Ex Ante Valuation Problem*, 55 STAN. L. REV. 845, (2002); Lynn A. Stout, *The Corporation as Time Machine: Intergenerational Equity, Intergenerational Efficiency, and the Corporate Form*, 38 SEATTLE U. L. REV. 685 (2015).

⁶² See Bebchuk, *supra* note 51; Roe, *supra* note 51.

⁶³ J.B. Heaton, *The "Long Term" in Corporate Law*, 72 BUS. LAW. 353 (2017).

⁶⁴ The introduction has been made previously, as regards securities regulation, see Yoon-Ho Alex Lee, *The Efficiency Criterion for Securities Regulation: Investor Welfare or Total Surplus?* 57 ARIZ. L. REV. 85, 120 (2015); and financial contracting. Peter H. Huang, *A Normative Analysis of New Financially Engineered Derivatives*, 73 S. CAL. L. REV. 471 (2000).

Section B turns to the fundamental Arrow-Debreu general equilibrium model and its implicit promise that markets can be shown to be efficient coordinators of the economy. We then show how GE models subsequent to Arrow-Debreu failed to make the promised showing. GE was a great normative project motivated by the desire to validate market control, but it foundered on multiple and unstable equilibria and the unsolvable problem of market incompleteness.

A. From Partial to General Equilibrium

Legal theory's norm favoring market coordination is extrapolated from the first and second fundamental theorems of welfare economics. The first fundamental theorem holds that when supply and demand for a product constitute a competitive equilibrium, the allocation of the product among consumers is Pareto optimal; that is, it is impossible to make one consumer better off without making another worse off.⁶⁵ The theorem amounts to a formal statement of Adam Smith's invisible hand⁶⁶—the powerful idea that self-motivated individuals, coordinated only by the price system, can act in mutual compatibility.⁶⁷

The second fundamental theorem of welfare economics holds that any allocation of goods that is Pareto optimal can be the outcome of a competitive equilibrium, after an appropriate lump-sum redistribution of initial endowments. In English, if an efficient allocation of goods is desired, a benevolent state planner can redistribute wealth from consumer A to consumer B and then let the price system generate the efficient outcome.⁶⁸ This implies that problems of efficiency and distribution can be separated and makes a negative suggestion regarding state intervention in the economy. Since the market can get the economy to the efficient production frontier, redistribution of wealth is the only justification for governmental intervention.

Thus stated, the first and second theorems do indeed support the law and economics norm favoring market coordination. But, as we will see in Section B, the support only follows under the strict conditions that delimit the formal models underpinning the theorems. Corporate legal theory, however, ignores these conditions. Instead, it relies on a particularization of the first fundamental theorem in the J-M agency model (combined with the efficient market hypothesis of financial economics).⁶⁹ The model assumes that management moral hazard is the firm's only unsolved problem—that is, but for management moral hazard corporate production and investment would realize a Pareto optimal competitive equilibrium—and applies contractual and market controls to minimize agency costs.

⁶⁵ MAS-COLELL ET AL., *supra* note 10, at 326.

⁶⁶ ADAM SMITH, *AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS* 421 (Cannan ed., 1904) available at <http://oll.libertyfund.org/titles/smith-an-inquiry-into-the-nature-and-causes-of-the-wealth-of-nations-cannan-ed-vol-1>.

⁶⁷ John Geneakoplos, *Arrow-Debreu Model of General Equilibrium*, in *THE NEW PALGRAVE DICTIONARY OF ECONOMICS* 119 (1987). The coordination that takes place through the price system is only implicit, as consumers are price-takers even as their preferences determine the set of prices in the aggregate. In the literature, to emphasize the coordination function of prices, prices are also termed as signals.

⁶⁸ See MAS-COLELL, ET AL., *supra* note 65 at 326-27.

⁶⁹ See *supra* note 38.

The narrow analysis of agency theory is typical of partial equilibrium models. For a comparison, consider the partial equilibrium analysis of the pricing of goods,⁷⁰ which is a mainstay of antitrust analysis. This exercise deals with the market for a single good and determines the market's equilibrium outcome in isolation from all other markets and prices, which are held to be fixed. As in the J-M agency model, the exercise proceeds on the assumption that "all other things are equal."⁷¹ The market under study does not interact with the rest of the economy and has no external effects. Nor do changes in the prices of other markets affect consumer wealth and thereby influence the demand for the good in the market under study.⁷²

GE, in contrast, is a *general* equilibrium model. The distinction, elided in law and economics, is fundamental in economics itself. Unlike partial equilibrium analyses, a general microeconomic theory is constructed from primitive concepts and minimal assumptions and tries to explain phenomena from a general perspective. That is, in a general equilibrium framework, the equilibrium concept sweeps in all markets simultaneously and incorporates their interactions,⁷³ looking at the economy as a closed and interrelated system in which we simultaneously determine the equilibrium values of all variables of interest.

The narrow J-M construct grew as it came to be applied in less rigorous legal contexts, becoming more general and taking on a deep normative coloration. E-F extended the palette of market controls to include, *inter alia*, shareholder intervention by hostile takeover. The later post-takeover extension of E-F took an additional step, assuming unacceptably high residual agency costs and looking to regulation to jumpstart new market controls. But real generality has never been achieved. The framework of reference always hews to J-M's initial assumption that agency cost reduction—and hence greater shareholder influence—always enhances efficiency because all other things are equal and efficient.

It bears noting that other partial equilibrium models problematize shareholder influence, suggesting that it might involve negative trade-offs. These tradeoffs were first introduced in the late 1980s when Jeremy Stein posited that myopic management responses to shareholder-driven stock market pressures could sacrifice value.⁷⁴ Stein's model shifts the locus of imperfection from management moral hazard to another set of asymmetric information—that shareholders know less

⁷⁰ Partial equilibrium analysis is also known as Marshallian partial equilibrium analysis. See generally ALFRED MARSHALL, PRINCIPLES OF ECONOMICS (8th ed., 1920)

⁷¹ See ROSS M. STARR, GENERAL EQUILIBRIUM THEORY: AN INTRODUCTION 3 (1997).

⁷² *Id.*, at 343.

⁷³ Ross Starr clarifies the importance of cross reference with an illustration from the domestic automobile industry, which experienced a sudden downturn in 2005 that continued through the financial crisis. The shift in consumer demand had nothing to do with the car companies' production methods or the quality of the product. It had to do with the price of oil, which rose sharply and stayed high. High oil prices meant high gasoline prices, which caused consumers to shift to fuel efficient cars. Unfortunately, the domestic manufacturers had been concentrating on highly profitable but gas-guzzling sport utility vehicles, and so took a beating when shifts in the natural resources market caused preferences to change. Says Starr: "Because there are distinctive interactions across markets (e.g., among the price of oil, the price of gasoline, and the demand for SUVs) it is important that the equilibrium concept include interactive simultaneous determination of equilibrium prices across markets. The concept can then represent a solution concept for the economy as a whole and not merely for a single market artificially isolated." STARR, *supra* note 71, at 5.

⁷⁴ See Stein, *Takeover Threats*, *supra* note 8; Stein, *Efficient Capital Markets*, *supra* note 8.

than managers when it comes to corporate affairs—and then endogenizes management investment decisions in anticipation of future hostile shareholder action. Inefficiencies result.⁷⁵

Both the analytical constructs in J-M and Stein are quite realistic even as they lead to opposing outcomes regarding shareholder power. But how is one to choose which model is “right”? How can we normatively choose one model over the other? The answer is that we cannot. Both models should be seen as useful examples. They are potentially powerful as such, for examples can highlight logical shortcomings in normative arguments. But when a particular example is not robust to counterexample—as in the case of the J-M and Stein models—it cannot provide the basis for a more general theory with normative implications. This is the infirmity at the core of corporate legal theory: it takes J-M’s brilliant example and deploys it as a normative theory.

The turn toward empirical testing in both financial economics and academic corporate law bespeaks discomfort with the unsatisfactory state of the theory. Unfortunately, it is unlikely that the accumulating factual findings will cure the market control paradigm’s theoretical infirmity by proving that shareholder empowerment always enhances welfare. Corporate decision-making tends to be endogenous. Empirical inquiry into its causes and effects accordingly presents identification problems that make it possible to mistake correlation for causation.⁷⁶ We generally lack exogenous events that we can use to mitigate the problem. Moreover, we lack a measure that can globally capture firm value rather than just shareholder value, which disables the use of empirical testing to support propositions about aggregate welfare. Finally, even if we assume that the stock price provides a reliable proxy for firm value (in the sense of aggregate welfare), we could not be sure that short-term observations proxy for long-term value. Analysis of long time-series is difficult, for it only rarely happens that one has sufficient data and time variation to make the analysis credible.⁷⁷

None of this implies that partial equilibrium models are so constrained as to be useless nor that the empirical project is a failure. It just means that one’s expectations should be limited — partial equilibrium models and empirical testing help us understand what happens at a local (as opposed to general) level when a few variables are changed. Normative propositions, however, presuppose a rigorous general equilibrium analysis of the problem at hand.⁷⁸ This means that only GE studies can aspire to normative implications. We turn to those studies next.

⁷⁵ Stein, *Takeover Threats*, *supra* note 8, at 64-67.

⁷⁶ Compare in this regard K. J. Martijn Cremers, Lubomir P. Litov & Simone M. Sepe, *Staggered Boards and Long-Term Firm Value, Revisited*, 126 J. FIN. ECON. 422 (2017) with Lucian A. Bebchuk & Alma Cohen, *The Costs of Entrenched Boards*, 78 J. FIN. ECON. 409 (2005), which present opposite results on staggered boards and firm value, addressing relevant identification issues differently, with the difference in treatment largely explaining the different results.

⁷⁷ See Cremers & Sepe, *supra* note 61, at 91.

⁷⁸ See MAS-COLELL, ET AL., *supra* note 10, at 343.

B. A Primer on General Equilibrium (GE)

1. *The Arrow-Debreu Model*

The Arrow-Debreu (A-D) model, derived in 1954,⁷⁹ was the first rigorous (that is, formulated in a purely mathematical form) demonstration of the first and second fundamental theorems in a general equilibrium setting. It is thus the cornerstone of GE theory and normative economics.⁸⁰

Specifically, the A-D model derives a competitive equilibrium that connects (1) the *pricing* of multiple (but finite) numbers of commodities (each of which has a quantifiable and directly measurable price), with (2) the *production* of the commodities by firms possessing technologies, and (3) the *consumption* of commodities by consumers possessing endowments of tradable equity securities in all firms in the economy. Restating, the model shows that in a competitive equilibrium, demand and supply simultaneously determine prices, so that the marginal rate of substitution for consumers (i.e., the amount of a good that the consumer is willing to give up for another good) and the marginal rate of transformation for firms (the amount of a good that must be sacrificed in order to produce an additional unit of another good) are equal to relative prices.⁸¹ General competitive equilibrium thus allows for the greatest diversity in goals and resources.⁸² Under it, “any desire of each consumer, no matter how whimsical, is met by the voluntary supply of some producer. And this is true for all markets and consumers simultaneously.”⁸³

This result, however, relies on herculean assumptions. To begin with, an equilibrium can only be “competitive” when all firms are profit maximizing, all consumers are utility maximizers, and there is neither excess demand nor excess supply for each good.⁸⁴ In addition, markets are assumed to be “complete,” meaning that there is a market for each good in the economy,⁸⁵

⁷⁹ See Arrow & Debreu, *supra* note 11.

⁸⁰ GE (in general) is concerned with allocation of commodities across time and under uncertainty, while the A-D model studies the allocations that can be achieved through the exchange of commodities at one moment in time. Accordingly, proving the results in the A-D model is a necessary condition for any further development in GE. In other words, if the model does not work in the A-D description, a fortiori the model does not work with uncertainty and over time. See Geneakoplos, *supra* note 67, at 116. For an historical account of general equilibrium theory, see BRUNA INGRAO & GIORGIO ISRAEL, *THE INVISIBLE HAND: ECONOMIC EQUILIBRIUM IN THE HISTORY OF SCIENCE* (1990).

⁸¹ What matters in the model are the relative prices, as the price level is irrelevant. That is, for the GE analysis of two goods, whether the goods’ prices respectively are 5 and 10 or 10 and 20 is irrelevant as the relative prices are the same. LENGWILER, *supra* note 12, at 20.

⁸² Geneakopolus, *supra* note 67, at 119.

⁸³ *Id.*

⁸⁴ MAS-COLELL ET AL., *supra* note 10, at 314-15.

⁸⁵ *Id.* More particularly, the A-D model poses that technologies, endowments and preferences depend on the state of the world, which provides a complete description of possible uncertain outcomes. To capture this relationship, the model introduces state-contingent commodities—rights to receive a unit of a physical good if and only if a particular state of the world occurs. In the model, titles to these state contingent commodities are transferred via assets or securities. An asset is a right to receive physical goods at a future date in an amount that varies depending on which contingent state occurs. A security is a similar right paying cash instead of physical goods; an “Arrow security” pays 1 if a certain state occurs and 0 in all other states. The market completeness requirement carries over to the Arrow securities—the model assumes that there exists a market for every state-dependent contingency and that these markets open before uncertainty is resolved. (This means that what is being purchased or sold in the market for each contingent commodity is the commitment to receive or deliver amounts of the commodity at hand.) Thus equipped, agents are

information is symmetric (no one knows more than does anybody else),⁸⁶ and all externalities are taken into account and priced (which, as a practical matter means excluding externalities). All producers and consumers must also be price takers; that is, they must be so small in relation to the market that their actions do not affect it, denuding all actors of market power.⁸⁷ Further, consumer preferences, among other things,⁸⁸ must be “convex.” This means consumers have diminishing marginal rates of substitution and always prefer mixtures of goods to extreme bundles (baskets including two bundles of commodities are always at least as good as baskets only including one of the two bundles).⁸⁹ Last, producing firms must have a diminishing marginal rate of transformation and non-increasing returns to scale.

2. *GE's Evolution*

Subsequent GE models attempted to relax the A-D model's strict assumptions. In doing so, however, they ran into serious problems concerning the competitive equilibrium's *uniqueness*, its *stability* and, most importantly, the *completeness* of markets.⁹⁰

First, a robust general equilibrium must be *unique*, for absent this quality, the theory lacks predictive power. To see why, assume that, pursuant to the second fundamental theorem, a benevolent planner redistributes endowments in an A-D economy and then sits back and lets the market reach a new equilibrium. If there are two possible equilibrium outcomes (that is, the equilibrium is not unique) and one is more desirable than the other, the market might converge toward the wrong one.⁹¹ Unfortunately, GE's results on uniqueness have been disastrous. Under the Sonnenschein⁹²-Mantel⁹³-Debreu⁹⁴ theorem (also known as the “Anything Goes” theorem),⁹⁵ the theory cannot get a grip on a characterization of aggregate consumer demand, with the result

unrestricted in their wealth transfers across states and their asset portfolio choices induce the same after-initial period consumption as in a world where uncertainty is excluded. That is, complete insurance against uncertain and negative future outcomes is achieved, allowing Pareto optimality to be reached. *Id.* at 704.

⁸⁶ *Id.* at 550.

⁸⁷ *Id.*, at 314-15, 327.

⁸⁸ Consumers are also able to ordinate their preferences without violating transitivity (if I prefer x to y and I prefer y to z, I cannot prefer z to x) and preferences are local non-satiated, meaning that consumers prefer more than less of a commodity. *See id.*, *supra* note 10, at 42.

⁸⁹ *See* Geneakopolus, *supra* note 67, at 117-18.

⁹⁰ Conversely, GE models have successfully solved problems concerning the existence of the competitive equilibrium. These problems arise due to excess demand (the difference between demand and supply) and the aggregation of heterogeneous consumer preferences. *See* MAS-COLELL ET AL., *supra* note 10, at 580-81. Inquiries into the existence of an equilibrium given excess demand reach highly positive results. *See* Gérard Debreu, *New Concepts and Techniques for Equilibrium Analysis*, 3 INT'L ECON. REV. 257 (1962) (proving the existence of competitive equilibrium under very general hypotheses without serious restrictions on the kind of the economy under description). There is even an equilibrium when consumers fail to satisfy some of the basic A-D assumptions on preferences. Andreu Mas-Colell, *An Equilibrium Existence Theorem without Complete or Transitive Preferences*, 1 J. MATHEMATICAL ECON. 237 (1974) (showing an equilibrium given non-complete and non-transitive consumer preferences).

⁹¹ Frank Ackerman, *Still Dead After All These Years*, in FRANK ACKERMAN, ET AL. (eds.), *THE FLAWED FOUNDATIONS OF GENERAL EQUILIBRIUM: CRITICAL ESSAYS ON ECONOMIC THEORY* 16 (2004).

⁹² H. G. Sonnenschein, *Market Excess-Demand Functions*, 40 ECONOMETRICA 549 (1972).

⁹³ Rolf R. Mantel, *On the Characterization of Aggregate Excess-Demand*, 7 J. ECON. THEORY 348 (1974).

⁹⁴ Gérard Debreu, *Excess-Demand Functions*, 1 J. MATHEMATICAL ECON. 15 (1974).

⁹⁵ MAS-COLELL, ET AL., *supra* note 10, at 598.

that almost any continuous pattern of price movements can occur. This has numerous negative implications, including that the price system may fail to provide a valid system of signals.⁹⁶

Second, a robust general equilibrium needs to be *stable*. To see why, assume that the market converges on a unique and desirable equilibrium but that any minor random event can dislodge the economy from this outcome.⁹⁷ Instability thus implies suboptimality. To predict a stable equilibrium, the theory has to show the process by which the equilibrium is reached—the price adjustment mechanism. References to “the magic of the marketplace” will not do. Stability, however, has been established only under highly restrictive assumptions.⁹⁸ This has, again, important consequences,⁹⁹ including the inability of assuming that quick movement of prices implies an equally quick attainment of equilibrium¹⁰⁰ and the possibility of trading outside of the equilibrium, which in turn means that the equilibrium eventually reached will be path-dependent.¹⁰¹

The third, fundamental, problem with A-D is that, even given unique and stable equilibria, competitive equilibrium requires a complete set of markets. In complete markets, there exists a complete set of state-contingent securities that allows the buying and selling of claims on any good at every future point of time and in all possible economic circumstances.¹⁰² Given this, agents can deal with uncertainty by insuring each state separately, trading securities in such a way as to affect the payoff in one specific state without affecting the payoffs in other states, almost as if uncertainty did not exist.

A reasonable observer of the world quickly will conclude that markets are not, in fact, complete. GE theorists explain this by pointing to a familiar list of real-world imperfections. First, there may be asymmetric information: one party may have “hidden knowledge” of her skills or the quality of the services she performs, which leads to adverse selection, or she may take “hidden

⁹⁶ See Alan Kirman, *The Intrinsic Limits of Modern Economic Theory: The Emperor Has no Clothes*, 99 *ECON. J.* 126 (1989). Additional negative implications include that: (1) as we do not know the excess aggregate function, we could have multiplicity of equilibria; and (2) as we do not know the shape of the aggregate function, we cannot do comparative statics and empirical work is subject to reverse causality problems. *Id.*

⁹⁷ *Id.*

⁹⁸ See Kenneth J. Arrow, H.D. Bloch & L. Hurwitz, *On the Stability of the Competitive Equilibrium II*, 27 *ECONOMETRICA* 109 (1959) (proving the stability of the equilibrium only by imposing the restrictive assumption of gross substitutability for commodities); THORSTEN HENS & BEATE PILGRIM, *GENERAL EQUILIBRIUM FOUNDATION OF FINANCE* 83 (2002) (discussing other cases where it is possible to establish uniqueness, such as an economy with only one representative consumer or in which the distribution of endowments is already Pareto-efficient). Arrow and Hahn attempted to formalize the price setting process only to conclude that “it would be quite wrong to conclude that the price system works from a demonstration of stability.” KENNETH J. ARROW & FRANK H. HAHN, *GENERAL COMPETITIVE ANALYSIS* 282 (1971)

⁹⁹ Frank Hahn summarized the results of the inquiry on stability as follows: “There is at present no satisfactory axiomatic foundation on which to build a theory of learning, of adjusting to errors and of delay times in each of these. It may be that in some intrinsic sense such a theory [of stability] is impossible. But without it this branch of the subject can aspire to no more than the study of a series of suggestive examples.” Frank H. Hahn, *Stability*, in 2 KENNETH J. ARROW & MICHAEL D. INTRILIGATOR, EDs., *HANDBOOK OF MATHEMATICAL ECONOMICS* 745, 747 (1993).

¹⁰⁰ Franklin M. Fisher, *The Stability of General Equilibrium – What Do We Know and Why it is Important?* in: PASCAL BRIDEL (ed), *GENERAL EQUILIBRIUM ANALYSIS – A CENTURY AFTER WALRAS* 37 (2011).

¹⁰¹ *Id.* This further implies that it is very risky to plan a particular economy and then decentralize it using markets. *Id.*

¹⁰² See *supra* note 85.

actions” that are not observable to others, which leads to moral hazard.¹⁰³ Moral hazard, in turn, may limit the availability of credit, which chills the creation of asset markets.¹⁰⁴ Second, there are limits on actors’ ability to project the future. Some events are inconceivable;¹⁰⁵ projections of predictable events are impaired by “bounded rationality” limits on ability to calculate optimal strategies.¹⁰⁶ Third, the cost of establishing and specifying a particular asset market might not be covered by the profit earned by the entrepreneur who opens the market.¹⁰⁷ Transaction costs or other frictions may also inhibit the access to the market by the population of traders who otherwise would make use of it.

The results of studies of the impact of market incompleteness are not encouraging.¹⁰⁸ The studies show that with incomplete markets, there is a commitment problem that may lead to a coordination failure: when a market is missing, consumers are disabled from making forward commitments. The lack of commitment in turn negatively impacts the producers, leading to suboptimal outcomes.¹⁰⁹ Other studies fail to yield equilibria at all¹¹⁰ and still others show that the opening of a new market, which reduces the quantum of incompleteness, can in fact make everybody worse off.¹¹¹

Uniqueness and stability problems, combined with incomplete markets, denude the welfare theorems of much of their predictive power. In the end, microeconomic theory does not predict that competitive markets reliably coordinate the economy. This is the lesson of GE, a lesson that, as we explain next, corporate legal theory can no longer ignore in the wake of the rise of empowered shareholders.

¹⁰³ See Jean-Jacques Laffont, *A Brief Overview of the Economics of Incomplete Markets*, 65 ECON. RECORD 54, 55-56 (1989). In addition, symmetrically available information may be nonverifiable. See *id.*

¹⁰⁴ John Geanakoplos, *An Introduction to General Equilibrium with Incomplete Asset Markets*, 19 J. MATHEMATICAL ECON. 1, 2 (1990).

¹⁰⁵ Laffont, *supra* note 103, at 55.

¹⁰⁶ *Id.*; M. MICHAEL MAGILL & MARINE QUINZII, *THEORY OF INCOMPLETE MARKETS* 13 (paperback ed. 2002).

¹⁰⁷ Laffont, *supra* note 103 at 55.

¹⁰⁸ Much of GE assumes market incompleteness and consequently gives up on the achievement of Pareto optimality. A less demanding criterion, *constrained Pareto efficiency*, is substituted. This defines the optimality of markets relative to the limited ability of agents to redistribute income across future contingencies. See Geanakoplos, *supra* note 104, at 7; MAS-COLELL, ET AL., *supra* note 10, at 710. That is, the result is optimal relative to the set of allocations that can be achieved through the existing (incomplete) market structure. See Oliver D. Hart, *On the Optimality of Equilibrium When the Market Structure is Incomplete*, 11 J. ECON. THEORY 415, 419 (1975).

¹⁰⁹ See Geanakoplos, *supra* note 104, at 4.

¹¹⁰ See John Geanakoplos & Herakles Polemarchakis, *Existence, Regularity, and Constrained Suboptimality of Competitive Allocations When Markets are Incomplete*, in WALTER P. HELLER, ROSS M. STARR & DAVID A. STARRETT, EDs., *ESSAYS IN HONOR OF KENNETH ARROW*, VOL. III 77 (1986). The authors consider an incomplete market setting with real assets. (Markets are incomplete because the number of assets is lower than the possible future states of the world.) *Id.* at 70. However, one of the assumptions needed in the model to obtain the equilibrium, which presupposes the absence of arbitrage, is the very possibility of arbitrage. *Id.* at 70.

¹¹¹ See Hart, *supra* note 108, at 439.

III. CORPORATE GOVERNANCE AND INCOMPLETE MARKETS

The public corporation, once described as an hierarchical model of organization, has been reshaped into a more market-run entity. To evaluate this shift of production decisions to markets we need to bring GE with incomplete markets to the forefront of corporate legal theory.

We do so in four steps. In Section A, we first show how GE does positive work when applied to corporate governance, helping to explain particulars of the legal corporate form and expanding on the Coase's description of corporate production. Section B then moves to GE's implications for shareholder empowerment, discussing its prediction that shareholder participation in business planning will be ridden with incentive problems and lead to suboptimal results. Section C turns to recent asset pricing theory and describes the theory's lesson that pricing based on objective valuation co-exists in an incomplete market with pricing based on supply and demand, which confirms the caution raised in GE about market-driven corporate production. Section D questions a contrasting picture of efficient market completeness advanced by Ron Gilson and Jeffrey Gordon.

A. GE and the Theory of the Firm.

GE aspires to model an economy in which markets work so well as to obviate the need for hierarchical organization. It is in this sense a polar opposite to Ronald Coase's transaction cost-based explanation of hierarchical production.¹¹² But, as we have seen, the GE project stalled because the models showed that markets, due to incompleteness and other problems, cannot accomplish complex production. It follows that once we take incompleteness into account, GE becomes surprisingly compatible with the Coasian perspective and even can be drawn on to explain the basic elements of the *legal* model of the firm.

Where Coase pointed to transaction costs in explaining hierarchical coordination, GE, which posits that hierarchical coordination would be unnecessary in complete markets, would point to the factors that cause market incompleteness. It thereby would repeat Coase's transaction cost explanation and go on to flesh it out, adding imperfect information, and limitations on ability to project.

In this reverse GE mode¹¹³ we can go on to explain the notable features of the legal form of the corporation: locked-in capital, transferable shares, limited liability, centralized management through a board of directors, and perpetual existence. The law provides for these to address problems that arise out of market incompleteness. Conversely, in complete markets, the features would be redundant, for given complete markets, prices would guide production decisions and the system would have no need for centralized, hierarchical planning.

Consider first *capital lock-in*, imposed by the legal form to import stability by preventing individual shareholders (and their creditors) from withdrawing capital contributions to meet

¹¹² See *supra* text accompanying notes 22-24.

¹¹³ We follow Peter Huang & Michael Knoll, *Corporate Finance, Corporate Law and Finance Theory*, 74 SO. CAL. L. REV. 179 (2000), which shows the explanatory power of the Modigliani-Miller hypothesis lies in illustrating why capital structure irrelevance does not obtain in the real world.

liquidity needs. In complete markets, there would be no problem, for individual liquidity needs would never impact production planning because investors could buy a state contingent set of securities providing full insurance against future consumption shocks.¹¹⁴ Locked-in capital would be redundant. The same would go for *transferable shares*, which are only necessary because capital is locked-in, providing a safety valve for investors who need to monetize their investments to meet consumption shocks. *Limited liability* would also not be an equilibrium result under complete markets, as investors could write a set of complete contracts specifying the level of individual liability based on their risk preferences. *Centralized decision-making* would be unnecessary because, as we explain in Section B that follows, investors could directly run the firm and always reach optimal unanimous decisions, for in complete markets investors have the same information, perfect hedging against future consumption shocks, and no collective action problems. Finally, given investor unanimity in complete markets, the requirement of *perpetual existence* would not matter, for investors would make correct, unanimous decisions about future commitment on a going-concern basis.

B. GE Models of Shareholder Decision-Making

Recall that the market control paradigm asserts that shareholder governance makes sense because shareholders have correctly aligned incentives and stock market pricing holds out a robust informational focal point. GE analysis counters both assertions, predicting precisely the opposite.

1. Shareholder Incentives.

Critically, in GE management hierarchies are assumed away¹¹⁵ and the shareholders directly make the firm's production decisions, with the shareholder population simultaneously making up the economy's population of individual consumers. Within this analytical framework, the outcomes (efficient or inefficient) of shareholder decision-making regarding production turn on the distinction between complete and incomplete markets.

Given complete markets, all shareholders place the same value on the firm's future returns. This is because they can deal with uncertainty by insuring their consumption preferences through a set of state-contingent securities that is equal to the number of all possible future states of the world. In such an environment, all shareholders will agree on a single plan of production and investment that pursues the objective of the maximization of the present value of the firm's returns, a value that will equal fundamental value and be manifested in the market price of the firm's securities.¹¹⁶ Market completeness thus fulfils a necessary condition for the operation of the Fisher separation theorem, under which a firm should increase its value to the fullest extent regardless of the preferences of its owners.¹¹⁷

¹¹⁴ See *supra* note 85.

¹¹⁵ Management moral hazard accordingly does not figure into the risks against which the market provide insurance, although it still figures in GE as a source of market incompleteness. For an extension of general equilibrium analysis into environments with moral hazard and adverse selection problems, see Edward C. Prescott & Robert C. Townsend, *Pareto Optima and Competitive Equilibria with Adverse Selection and Moral Hazard*, 52 *ECONOMETRICA* 21 (1984).

¹¹⁶ John Geanakoplos, Michael Magill, Martine Quinzii & Jean Dreze, *Generic Inefficiency of Stock Market Equilibrium When Markets are Incomplete*, 19 *J. MATHEMATICAL ECON.*, 113, 121 (1990).

¹¹⁷ IRVING FISHER, *THE THEORY OF INTEREST* 141 (1930).

With market incompleteness, however, the number of financial assets available to the actors to insure against uncertain future states of the world is less than the number of future states. This means that the actors in the economy can only insure their position by using currently available assets. GE shows mathematically that under this condition market coordination cannot yield an optimal allocation of resources.¹¹⁸

The basic insight can be variously described. One approach focuses on limitations on the actors' available information and ability to project. To see this, imagine that an omniscient planner redistributes the economy's resources at an initial date.¹¹⁹ This change will directly affect the actors' wealth in all possible future states. The change will also indirectly affect equilibrium prices at the future dates. The planner can take into account the two effects simultaneously. Private actors, in contrast, can take into account only the direct effect on their own wealth, because, under the atomistic assumption, they not consider the general equilibrium effect on prices produced by their actions, behaving as the value of their assets would not change.¹²⁰ Inefficient allocations of resources result and the actors end up being underinsured (or over-insured) against future states of the world.¹²¹

Alternatively, one can focus on the actors' limited ability to transfer wealth across states (that is, for future consumption) when markets are incomplete. For example, assume that there are two actors who need to buy financial assets X and Y in order to transfer wealth in states A and B (for insurance purposes), respectively. However, assume that there is no market for X and Y, because markets are incomplete. In response, the actors will buy the available asset Z to the same purpose. As a result, the price of Z will rise too high and the actors will be unable to transfer wealth across states efficiently. In other words, in incomplete markets individuals are not optimally coordinated by the price system and may direct excessive resources toward their state of relative deprivation, without considering the effect (that is, the pecuniary externality)¹²² they impose on others when they trade (such as a higher security price).

The combination of insufficient insurance against uncertain future states of the world and the shareholders' different marginal propensities to consume (some want more in the near future

¹¹⁸ See Geanakoplos, *supra* note 104, at 26.

¹¹⁹ The standard approach of GE is to define an optimum on the assumption that a planner—hypothetical omniscient, benevolent sovereign—can achieve that result and then to verify that the optimum can be decentralized as a market equilibrium. If the markets do not yield the optimal equilibrium allocation (or, under incomplete markets, an equilibrium at all), the theory remits us back to the planner.

¹²⁰ BERNARD SALANIE, *THE MICROECONOMICS OF MARKET FAILURES* 212-213 (2000).

¹²¹ See Joseph Stiglitz, *The Inefficiency of the Stock Market Equilibrium*, 49 *REV. ECON. STUD.* 241, 242 (1982)

With a complete set of risks markets, we know we wish to equalize the marginal rates of substitution between any two states for all individuals. With an incomplete set of markets, we cannot do this, but we may be able to have a more "efficient" distribution of risks (come closer to equalizing, on average, the marginal rates of substitution) if we can change the price distribution (and thus the "profit distribution") associated with the risky asset. The government recognizes that it can change this price distribution by altering the allocation of investment and the ownership shares in the different assets. The market ignores this effect.

¹²² As an application consider the case of fire sales. If the agents acted cooperatively (a condition which contradicts competitive markets), they could reduce the negative effect of fire sales. From a GE perspective, fire sales create a pecuniary externality that is not internalized by the price system, because what each agent expects to lose upon the occurrence of a "bad" state is less than what the economy as whole expects to lose. See Guido Lorenzoni, *Inefficient Credit Booms*, 75 *REV. ECON. STUD.* 809 (2008).

while others are more patient) creates a problem when shareholders govern directly. The question is whether, given heterogeneous consumption preferences, the shareholders will choose the most valuable investment project.

In some situations, GE answers yes. If investors can ascertain the project's value by reference to currently traded securities, which are assumed to reflect the value of the projects of other firms in the economy,¹²³ and the project is very small as regards the economy as a whole, the the project, in the parlance of GE, is "spannable,"¹²⁴ and the shareholders can be expected to make an undistorted choice. Notwithstanding heterogeneous consumption preferences and the lack of full insurance, Fisher separation will still obtain—the shareholders will unanimously approve the value maximizing result and each traded security will accordingly have a unique equilibrium price.¹²⁵

GE, however, counsels this will not be the usual result. Most projects do not satisfy the spanning condition, because one cannot extrapolate a certain projection from existing assets. Indeed, when a firm's investment project is different from those currently offered in the economy—for example, because it involves a new technology or the production of new goods or services—currently traded assets can no longer be relied upon to ascertain the value of the new project. Problems ensue. First, the only way for a shareholder to value the project is to apply her *own* understanding of the working of the economy. As different shareholders naturally see things differently, "quoting" problems may follow. Second, when shareholders lack full insurance and the spanning condition is not satisfied, their heterogeneous consumption preferences *do* affect a project's evaluation. The shareholders anticipate that once the security reflecting the unspannable project starts trading, it can be used to effect wealth transfers across actors in future states (for insurance purposes). The wealth transfers in turn affect supply and demand across the economy for all commodities, leading to a change in relative prices. The price change leads to yet another redistribution of wealth. This in turn loops back to the shareholders' project selection: rational shareholders will look to the wealth allocation effect and the commodity pricing effect in addition to the project's fundamental value.¹²⁶

Under these conditions, shareholder disagreement results regarding project selection. Fisher separation is lost because the goal of profit maximization becomes a matter of subjective decision-making varying with the shareholders' own visions of the economy and idiosyncratic preferences regarding future consumption. An individual shareholder's insurance concerns are not necessarily collinear with the goal of maximizing the firm's present value. The outcome will not be efficient¹²⁷ and security equilibrium prices might well be multiple rather than unique.

Strategies for ameliorating the shareholder selection problem have been suggested in the literature. Drèze shows that it is possible artificially to replicate full insurance through a bargaining mechanism. The logic is similar to that of Coasian bargaining: shareholders can negotiate among

¹²³ See Oliver D. Hart, *Take-Over Bids and Stock Market Equilibrium*, 16 J. ECON. THEORY 53, 53 fn. 3 (1977) ("every feasible production plan of every firm can be expressed as a linear combination of the existing production plans of firms in the economy").

¹²⁴ Or, in the alternative, it satisfies the "spanning condition."

¹²⁵ MAS-COLELL, ET AL., *supra* note 10, at 714-15

¹²⁶ Geanakoplos, *et al.*, *supra* note 116, at 121.

¹²⁷ *Id.*, at 134-35.

themselves and buy from each other a sort of insurance by receiving transfers from the others (if you want me to vote for plan x , you have to pay me transfer t).¹²⁸ DeMarzo turns to blockholders to solve the disagreement problem, showing that a dominant blockholder with a financial incentive to move the firm to a production plan that maximizes value can build a majority coalition.¹²⁹ The outcome, however, presupposes face-to-face bargaining in a highly stylized boardroom.¹³⁰

Both strategies improve the shareholders' lot by bringing in a holder owning a sufficient number of shares to align its interests with the optimal outcome and thereby avoid the incentive misalignment of shareholders with small stakes. Both also interpolate a venue for face-to-face contracting among the shareholders, a requirement that severely limits their potential as regards real world public companies. Ultimately, then, both cast doubt on real world applications of shareholder power in which the catalysts are shareholders holding relatively small blocks of stock, such as hedge funds and other newly empowered shareholders.

2. *Implications for Shareholder Governance.*

GE with incomplete markets sends warning signals regarding the recent power shift in the public corporation. It suggests that there is no reason to presume that shareholder-directed business planning is superior to board-directed business planning and any number of reasons to presume that a fiduciary board, despite the moral hazard problem, will be better-incented.

A potential objection to this reference to GE models needs to be addressed. Actors in GE models are risk averse. Corporate legal theory, in contrast, aspires to a risk neutrality model, making reference to portfolio theory. If shareholders are risk neutral, then they have no need for the risk insurance held out by complete markets¹³¹ and the distortions highlighted in GE should not be expected to follow from real world shareholder decision-making. The suggestion of risk neutrality arguably strengthens with reference to current shareholding patterns. Less than one-third of publicly traded shares are held by retail investors—the investors who most closely resemble the consuming citizens modelled in GE. The institutions that hold most of the stock readily come forth as candidates for characterization as risk neutral.

¹²⁸ Jacques H. Drèze, *Investment Under Private Ownership: Optimality, Equilibrium and Stability*, in ALLOCATION UNDER UNCERTAINTY: EQUILIBRIUM AND OPTIMALITY 129-30 (Jacques H. Drèze ed., 1974). A platform for face-to-face trade is required. There is also a timing problem. The production plan is chosen by new shareholders after shares have been traded in the stock market. This condition, however, is difficult to meet in the real world. For example, Sanford J. Grossman & Oliver D. Hart, *A Theory of Competitive Equilibrium in Stock Market Economies*, 47 *ECONOMETRICA* 293, 293 (1979), observe that this condition prevents the analysis from being extended to a multi-period model.

¹²⁹ Peter M. De Marzo, *Majority Voting and Corporate Control: The Rule of the Dominant Shareholder*, 60 *REV. ECON. STUD.* 713, 719 (1993).

¹³⁰ The board must have agenda control. Its members must either be shareholders themselves or act on behalf of certain shareholders. It must deliberate with unanimity. Every member must have veto power. Finally, the members of the board may bargain with each other over various proposals and negotiate transfers between themselves to win acceptance of a proposal. *Id.*, at 728.

¹³¹ Similarly, in an exchange economy populated by infinitely-lived agents, it has been shown that self-insurance effected through investment in risk-free securities can make market incompleteness irrelevant, given also transitory shocks, common utility functions and limited trading in assets. See David K. Levine & William R. Zame, *Does Market Incompleteness Matter?* 70 *ECONOMETRICA* 1805 (2002),

The risk neutrality picture dissipates on closer inspection, however. Portfolio theory does not posit that economic actors are risk neutral, quite the contrary. It asserts that investor risk aversion should be addressed in portfolio selection by including a greater proportion of risk-free treasury securities rather than by including less risky stocks. There follows a theorem of separation between subjective risk preferences and investment decisions,¹³² a theorem that carries over to management investment decision-making on the assumption that diversified shareholders are risk neutral as regards holdings in particular companies. Retrograde governance implications follow. Full diversification implies rational apathy as regards governance issues at particular companies and so leads to another kind of separation—the separation of ownership and control.

Shareholder empowerment follows from a very different incentive template—that of a modern hedge fund manager rather than that of a passive portfolio investor. The fund manager’s incentives, both as regards equity purchases and sales and governance inputs at particular companies, will be shaped by multiple influences, including, *inter alia*, the fund’s compensation structure and the fund’s relational posture with its own investors. Investor relations in turn imply pressure to yield immediate and verifiable market-beating returns, particularly to the extent the fund’s capital is not locked in. Given short term lock down periods, the manager’s marginal rate of substitution between present and future will be very high. There results a structural prediction that hedge funds will tend to be more impatient than investors whose capital is locked in or whose business model stresses diversification. Once the hedge fund ascends to governance power, such selective incentives will prevent Fisher separation at portfolio companies and can lead to suboptimal investment decision-making.¹³³

In sum, hedge fund activists can be susceptible to subjective influences. Their consumption preferences will be influenced, on the low-side, by the need to cater to investor preferences at the office and make tuition and mortgage payments at home, and, on the high-side, by prospects for magnifying office influence and realizing aspirations for multiple dwellings, trophies of art and sport, and philanthropical recognition. While a special breed of people, they are people all the same and should be modelled as risk averse rational actors.

Now recall Part I’s suggestion that contemporary shareholder intervention by hedge fund activists holds out a more salient challenge to the hierarchical model of the corporation than did the business planning disruptions of the takeover wave of the 1980s. We here extend this analysis in light of GE’s analysis of shareholder incentive misalignment, comparing a contemporary hedge fund to a takeover era control purchaser. Activist interventions are thought to be smaller in size and less threatening than were hostile tender offers, for the activist works with the present team rather than throwing it out. But this has a flip side. The activist playbook implies a smaller investment in the target than that undertaken by a successful tender offeror. The activist accordingly presents a much more severe problem of incentive misalignment. Relatively speaking, a successful control purchaser is locked in because it can only exit by a negotiated sale or a public offering—it is the functional equivalent of DeMarzo’s incentive compatible blockholder. An activist, in contrast, makes sure to limit its stockholding to a percentage amount low enough to

¹³² See WILLIAM W. BRATTON, *CORPORATE FINANCE: CASES AND MATERIALS* 78-85 (8th ed. 2016)

¹³³ See, e.g., John C. Coffee, Jr. & Darius Palia, *The Wolf at the Door: The Impact of Hedge Fund Activism on Corporate Governance*, 41 J. CORP. L. 545, 593 (2016) (opining that “wolf pack” teaming by activists results in excess empowerment).

leave open an exit door to the existing trading market.¹³⁴ The activist buying 5 to 10 percent of the target's stock thus has more "optionality" than the control purchaser who invests in between 51 and 100 percent of the target.

There is also an externality problem. If the activist influences a firm's investment policy and things turn out badly, the activist can still exit readily. Control bidders of the takeover era, in contrast, had to internalize the long-term consequences of their production decisions. The reservation of easily accessible exit seconds the suggestion that activist-driven production decisions will tend to be biased toward the short term, replicating the incentive problem modelled in GE. With activism, "pure" investment incentives described in the market control paradigm are nowhere to be seen.

C. Asset Pricing in Incomplete Markets

We have seen that, in incomplete markets, shareholders make production decisions that accommodate their own consumption preferences and that this theoretical result resonates strongly with real world hedge funds. A bias to production decisions that boost short-term outcomes may indeed follow. A question arises at this point about the role of the stock price. Shareholder advocates rely on the EMH's¹³⁵ assurance of stock price accuracy and posit that asset prices provide a robust informational focal point, helping to address the asymmetry of information between firm insiders and stock market outsiders. Given semi-strong efficient pricing, shouldn't we have a strong circumstantial guarantee against such a skew in a governance system that is stock market driven? The answer is no. Real world stock prices routinely depart from fundamental value and are open to influence from market-based events. This analysis reverses the shareholder paradigm's presumption of pure financial incentives at a fundamental theoretical level.

Shareholder proponents refer to simple models of valuation which teach that long-term value is impounded in the present market price.¹³⁶ But when these simple models confront incomplete markets and unspannable assets, the EMH result disappears. In this environment, the firm's profit maximization is no longer objectively defined, shareholder disagreement may occur in equilibrium, and security prices may fail to reflect optimal production decisions. As a result, mispricing becomes a concrete possibility.¹³⁷

We will unpack the problems arising under the realistic assumption of incomplete markets and unspannable assets in three stages: first, we compare EMH to heterogeneous expectations models of stock pricing that assume incomplete markets; second, we consider the implications of a basic source of market incompleteness, asymmetric information; third, we look at market power as another source of market incompleteness that introduces pricing distortions into the market on an everyday basis.

¹³⁴ See, e.g., Nicole M. Boyson & Robert M. Mooradian, *Experienced Hedge Fund Activists*, working paper, April 3, 2012 available at <http://ssrn.com/abstract=1787649> (finding a mean activist block holding of 8.8 percent upon initial 13d-1 filing and a maximum accumulation mean holding of 12.4 percent).

¹³⁵ Hansmann & Kraakman, *supra* note 48, at 440-41 (the market price provides the "principal measure" of the shareholder interest).

¹³⁶ Bernard Black & Reinier Kraakman, *Delaware's Takeover Law: The Uncertain Search for Hidden Value*, 96 NW. U. L. REV. 521, 522 (2002).

¹³⁷ See Pradeed Dubey et al., *The Revelation of Information in Strategic Market Games – A Critique of Rational Expectation Equilibrium*, 16 J. MATH. ECON. 105 (1987).

1. *Heterogeneous Expectations.*

The economics of heterogeneous expectations explains extreme variance between market price and fundamental value that occurs in a pricing bubble. In this depiction, each investor holds the same set of information but develops her own estimate of fundamental value, with some investors being more optimistic than others. Note that this description assumes market incompleteness and unspannable assets, under which investors cannot value new projects by extrapolating projections from existing assets. Given either complete markets or spannable assets, investors could only have homogenous expectations.

More particularly, heterogeneous expectations models depict stock prices as having two components: first, the fundamental value of the stock; and second, an option which gives the present owner the power to sell its stock to an even more optimistic investor.¹³⁸ The result is that, in equilibrium, the stock price may exceed the fundamental value as optimistic investors may be willing to pay a higher price for the stock because of the option value of selling the stock to an even more optimistic investor.¹³⁹

There are several implications. First, the market price no longer reflects the investment community's consensus estimate of the fundamental value of the firm.¹⁴⁰ This undercuts a critical assumption made by the EMH—that competition among rational investors causes prices to center around an average of expected fundamental value.¹⁴¹ Second, the market price is being driven by demand rather than by information, in what amounts to short term speculation. Third, to the extent the resulting market overvaluation affects investment behavior within the corporation, bad investments will result.¹⁴²

Cognizable discrepancies between market price and fundamental value due to heterogeneous expectations are particularly likely to result in two situations. The first occurs when “glamour” companies exciting investor optimism emerge in the market, a situation associated with “momentum” investing. The second situation occurs when uncertainty runs high because a sector's technology changes or newer businesses with less established track records become an important part of the market.¹⁴³ In other words, price tends to depart from fundamental value when the project is unspannable, just as GE predicts.

¹³⁸ For the original model, see J. Michael Harrison & David Kreps, *Speculative Investor Behavior in a Stock Market with Heterogeneous Expectations*, 92 Q.J. ECON. 323 (1978). For a more recent treatment, see José A. Scheinkman & Wei Xiong, *Overconfidence and Speculative Bubbles*, 111 J. POL. ECON. 1183 (2003).

¹³⁹ The more pronounced the differences of opinion among investors, the more salient the speculative element. See Patrick Bolton et al., *Executive Compensation and Short-Termist Behavior in Speculative Markets*, 73 REV. ECON. STUDIES 577, 578-80 (2006).

¹⁴⁰ See Giovanni Cespa & Xavier Vives, *Dynamic Trading and Asset Prices: Keynes vs. Hayek*, 79 REV. ECON. STUD. 539, 539-40 (2012)

¹⁴¹ *Id.*

¹⁴² Bratton & Wachter, *supra* note 61, at 711-12.

¹⁴³ See Stavros Panageas, *The Neoclassical Theory of Investment in Speculative Markets* 22-23 (Apr. 16, 2005) (unpublished manuscript), available at <http://ssrn.com/abstract=720464>; Bolton, *supra*, note 139, at 578-80.

2. Information Asymmetries.

Under the assumption of market incompleteness, the EMH's conclusion that long-term value is impounded in the present market price is further problematized by information asymmetries. While EMH models do not consider market incompleteness, they do acknowledge the relevance of asymmetric information between firm insiders and outsiders, by distinguishing between a "strong" and "semi-strong" version. Semi-strong EMH posits that the capital markets embed all *publicly available* information in security prices.¹⁴⁴ The limitation to public information leaves semi-strong EMH coexisting at peace with the proposition that undisclosed inside information can lead to significant under- and over-pricing in the market.¹⁴⁵

Semi-strong EMH does not, however, go on to explore the distortionary possibilities, including inefficient investment policy,¹⁴⁶ following from information asymmetries. Consider a firm with an opportunity to take on an unspannable project—a new, complicated, and very promising investment in a nonstandardized, innovative technology in which production requires firm-specific employee investment. Such a project is likely to be mispriced in the stock market.¹⁴⁷ There are two reasons. First, information about the project's long-term value tends to be "soft"—that is, unverifiable by outsiders.¹⁴⁸ Second, the project is likely to entail both a substantial present commitment of capital and a long-time lag between the time of investment and the time that returns from the project enhance the firm's periodic earnings reports. The result is a drop in current earnings, a piece of "hard" information that pushes down the stock price.¹⁴⁹ Given managers who cater to the stock price to minimize the risk of activist intervention, a good investment opportunity is likely to be passed up.¹⁵⁰

3. Market Power.

Until recently, situations in which the market price departs from fundamental value due to speculative demand by investors with market power (investors who are price makers, rather than

¹⁴⁴ See Burton G. Malkiel, *Efficient Market Hypothesis*, in 1 THE NEW PALGRAVE DICTIONARY OF MONEY AND FINANCE MARKETS 739, 739 (Peter Newman et al. eds., 1992), cited in JOHN Y. CAMPBELL ET AL., THE ECONOMETRICS OF FINANCIAL MARKETS 20 (1997). Semi-strong EMH has two implications: first, that no trading strategy based on public information can regularly outperform the market, *id.* at 158, and, second, that insiders who possess nonpublic information can outperform the market when trading in their own stock. See Dirk Jenter, *Market Timing and Management Portfolio Decisions*, 60 J. FIN. 1903 (2005); Lisa Muelbroek, *An Empirical Analysis of Illegal Insider Trading*, 47 J. FIN. 1661 (1992).

¹⁴⁵ See Bratton & Wachter, *supra* note 61, 691-94.

¹⁴⁶ *Id.*, at 698-703.

¹⁴⁷ See Andrei Shleifer & Robert W. Vishny, *Equilibrium Short Horizons of Investors and Firms*, 80 AM. ECON. REV. 148, 148 (1990) (Papers & Proceedings); Stein, *Takeover Threats*, *supra* note 8, at 63-67 (1988). Under some assumptions, the project may well be undervalued – e.g., if investors in equilibrium believe the manager to be a bad type. See Simone M. Sepe, *Board and Shareholder Power, Revisited*, 101 MINN. L. REV. 1377, 1412-16 (2017).

¹⁴⁸ See, e.g., JEAN TIROLE, THE THEORY OF CORPORATE FINANCE 250 (2006) (defining "soft" information as that which "cannot be verified by the investors").

¹⁴⁹ Alex Edmans et al., *The Real Costs of Financial Efficiency when Some Information Is Soft* 2 (Eur. Corp. Governance Inst., Finance Working Paper No. 380/2013, 2015), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2316194.

¹⁵⁰ See Jeremy Stein, *Efficient Capital Markets*, *supra* note 8, at 667 (modeling suboptimal investment where managers maximize a weighted average of near-term stock prices and long run value); M.P. Narayanan, *Managerial Incentives for Short Term Results*, 40 J. FIN. 1469, 1469-70 (1985) (showing that reputational incentives can lead to underinvestment).

price takers) were thought to be relatively rare. This view is changing. Current research emphasizes that under heterogeneous expectations and differential investor information, better-informed investors may rationally choose to exploit their partly private information and act as price-makers rather than price-takers by speculating on short-run price differences.¹⁵¹

The partial equilibrium model of Cespa and Vives offers a particularly good example. It is an integrated model in which the everyday stock market moves back and forth between informationally-based and speculative pricing.¹⁵² They posit a rational expectations environment, long-term time horizons, and residual uncertainty about asset values that varies in magnitude from company to company.¹⁵³ They show that a static market conforms to the prediction of EMH, with the price reflecting the investors' consensus opinion regarding long-term value. In a dynamic market, however, rational investors can find it profitable to speculate on short-term price differentials. Price now depends not only on the quality of the investors' information but on their reaction to changes in aggregate demand.¹⁵⁴ The latter can cause the price to move away from the consensus figure. Given heterogeneous information, this non-consensus price can lie farther from or closer to fundamental value than would the consensus price.

At this point two additional factors come to bear—the degree of uncertainty respecting value and the magnitude of the presence of liquidity traders. Given low uncertainty and trading following a random walk, the price will be aligned with consensus as in a static market and there will be little incentive to speculate on short-term price movement. We would be, in effect, back at a spannable project. Given high uncertainty, departures from the value consensus are more likely.¹⁵⁵ Interestingly, momentum investing, which is triggered by new information, can push the price away from fundamental value even as it reflects a consensus view of value.¹⁵⁶ Ironically, the corrective—reversal of the overpricing stemming from trend chasing—comes from traders who act based on supply-demand considerations.¹⁵⁷ The bottom line assertion is this: whether the market is moving forward with momentum or reverting, it is the investors' consensus opinions about future price movements rather than fundamental value that drive the price.¹⁵⁸

Happily, the Cespa-Vives model predicts a reversion to fundamental value in the very long run. In the meantime, we no longer can model a unitary shareholder. The shareholder disaggregates among short-term types, long-term types, information traders, and liquidity traders. There is accordingly no basis for presuming that shareholder incentives are aligned with maximization of fundamental value and hence that shareholder empowerment adds value. Instead, shareholder empowerment holds out pluses and minuses. GE, read together with the asset pricing literature, inserts a warning into this trade-off picture: the more powerful the shareholders become, the more salient will be the negative effect of market inefficiency. The warning is especially loud whenever a corporation's business plan involves valuation uncertainty. This is a consistent

¹⁵¹MAS-COLELL, ET AL., *supra* note 10, at 715.

¹⁵² Cespa & Vives, *supra* note 140.

¹⁵³ *Id.* at 540.

¹⁵⁴ *Id.* at 541.

¹⁵⁵ *Id.*, at 540.

¹⁵⁶ See Bruno Biais, Peter Bossaerts & Chester Spatt, *Equilibrium Asset Pricing and Portfolio Choice under Asymmetric Information*, 23 REV. FIN. STUD. 1503 (2010) (showing how momentum can arise in equilibrium).

¹⁵⁷ Cespa & Vives, *supra* note 140, at 541.

¹⁵⁸ *Id.* at 542.

message, whether one is considering GE, information asymmetries under semi-strong EMH, or asset pricing theory. It means that activism is most suited to twentieth century brick and mortar producers and ill-suited to the younger, innovative companies on which depends the future of our national economy.

None of this negates the basic conclusion of incentive theory that investors have an incentive to monitor and should use the stock price in so doing.¹⁵⁹ Having investors as monitors—rather than as production decision-makers—is normatively desirable and not inconsistent with GE with incomplete markets. Even as GE tells us that we cannot use market prices to guide production decisions, the price system still provides useful information with which to monitor corporate decision makers. For example, if prices are low for too long, we do get a likely signal that something is wrong. The operative assumption—which is consistent both with GE with incomplete markets and contemporary asset pricing theory—is that prices over time converge to fundamental value. It follows that while prices cannot provide guidance on prospective production decision-making, they can be useful for the ex-post monitoring of corporate decisions.

D. Agency Capitalism Compared

We conclude our discussion in this Part by addressing the different picture of markets advanced by Gilson and Gordon’s agency capitalism analysis. Their analysis focuses on market completeness and contrasts sharply with our application of GE with incomplete markets. They argue, making implicit reference to the A-D model,¹⁶⁰ that the markets have achieved completeness, thereby supporting a positive normative presumption favoring shareholder empowerment precisely because it is market driven.¹⁶¹

Gilson and Gordon situate the power shift within a longer-term account of the evolution of interaction between capital markets and governance institutions. The shift, they say, reflects a long-standing pattern: markets take the lead in adjusting to new developments, while institutions, weighted down by frictions, anomalies, and path dependencies, catch up later.¹⁶² The facilitative market-based developments concern allocations of corporate risk, as to which capital markets in recent decades have managed to achieve completeness, offering new ways to transfer risk from firms to investors.¹⁶³ Market innovations like junk bond financing, derivatives, and structured finance over time have had a critical impact on corporate governance because they open up new ways of transferring corporate risk and permitting more leverage in capital structures.¹⁶⁴ Stepped-up leverage in turn facilitates the emergence of the new activist blockholders and a different alignment of corporate control.¹⁶⁵ Between the hedge fund activists and the large number of companies controlled by private equity firms, we now have a permanent class of informed,

¹⁵⁹ See Jean Tirole, *Corporate Governance*, 69 *ECONOMETRICA* 18-13 (2001) (modelling shareholder monitoring incentives).

¹⁶⁰ In an earlier paper, Gilson on this subject explicitly connected the notion to the A-D model, citing it as “the theoretical framework for the implications of complete capital markets.” See Ronald J. Gilson & Charles K. Whitehead, *Deconstructing Equity: Public Ownership, Agency Costs, and Complete Capital Markets*, 108 *COLUM. L. REV.* 231, 232 n.7 (2008).

¹⁶¹ Gilson & Gordon, *supra* note 52, at 865, 874.

¹⁶² *Id.*, at 873. With this compare the analysis of Holmstrom and Kaplan, *supra* note 54.

¹⁶³ Gilson & Gordon, *supra* note 52, at 868.

¹⁶⁴ *Id.* at 870-71.

¹⁶⁵ *Id.* at 870-71 & n. 30.

institutional investors influencing business policy. Add this up, and you get a claim for efficient, market-driven evolution.

Gilson and Gordon's analysis picks up on a suggestion J-M themselves made at the close of their famous paper, where they discussed general equilibrium theory and the market incompleteness problem. J-M expressed dissatisfaction with the literature's accumulation of inefficient outcomes. So, instead of just assuming market incompleteness as in GE, the time had come to take action—economists needed to ascertain the causes of incompleteness and formulate a positive analysis of the supply of markets, highlighting conditions conducive to the creation of real world markets.¹⁶⁶ Gilson and Gordon make a follow up observation: J-M's market completion project has been carried out in history and completed successfully. The notion is intuitive: more is better than less, so the longer the menu of risk-sharing securities, the better the market satisfies individual preferences, and the stronger the economy.¹⁶⁷

Even so, the notion is not GE. Indeed, GE views the process of opening new markets with suspicion. Hart showed mathematically in an incomplete market setup that the opening of a new market triggered a new equilibrium that made everyone worse off.¹⁶⁸ The result has been replicated and generalized.¹⁶⁹ And, in any event, we do not think that the investment community's recent attribution of value to the shareholder franchise has a market-completing effect. Aggressive use of the franchise does diminish the negative effects of management moral hazard and so ameliorates an imperfection. It thereby may (or may not) create value, but it doesn't add a market. In fact, shareholder empowerment arguably entails an *increase* in market incompleteness because it turns intermediary moral hazard into a potential problem for the first time. When the shareholders were disempowered, the intermediaries' incentives didn't matter. With direct inputs into production plans, intermediary incentives matter a lot.

The growth of intermediaries also implies enhanced intermediary power to influence stock market prices. Such is the effect of ownership re-concentration. As predicted by Cespa and Vives, the increase in market power potentially makes market prices less accurate. When there are more possible equilibria out there in the future, it follows that the price prediction function is performed with less accuracy.

¹⁶⁶ The exact quote from J-M reads as follows:

We are not suggesting that the specific analysis offered above is likely to be sufficient to lead to a theory of the supply of the wide range of contracts (both existing and merely potential) in the world at large. However, we do believe that framing the question of the completeness of markets in terms of the joining of both the demand and supply conditions will be very fruitful instead of implicitly assuming that new claims spring forth from some (costless) well head of creativity unaided or unsupported by human effort.

Jensen & Meckling, *supra* note 5, at 356-57.

¹⁶⁷ See Hart, *supra* note 108, at 419 ("Our intuition tells us that the introduction of additional markets ought to make people better off in some sense.")

¹⁶⁸ *Id.* at 439-442.

¹⁶⁹ See Ronel Elul, *Welfare Effects of Financial Innovation in Incomplete Markets with Several Consumption Goods*, 65 J. ECON. THEORY 43, 43 (1995). A suboptimal outcome, however, is not always inevitable—sometimes the new market does make everyone better off. See Laurent Calvet, Martín Gonzalez-Eiras & Paolo Sodini, *Financial Innovation, Market Participation, and Asset Prices* 39 J. FIN. & QUAN. ANAL., 431 (2004); David Cass & Alessandro Citanna, *Pareto Improving Financial Innovation in Incomplete Markets*, 11 ECON. THEORY 467(1998).

Gilson and Gordon are correct when they point out that the appearance of new devices for corporate risk-sharing and the proliferation of new investment institutions, principally private equity firms and hedge funds, have changed the nature of shareholding. The changes do indeed reduce agency costs. But they have not completed the markets. Full insurance regarding future states remains unavailable and the corporate-level changes identified by Gilson and Gordon do not obviate the results of GE models and deliver us to a world that realizes Arrow-Debreu. There is accordingly no basis in economic theory for attaching an efficiency presumption.

IV. LEGAL RAMIFICATIONS

Our analysis yields three major points:

(i) As corporate ownership has become concentrated in the hands of institutional and active investors, power has shifted from managers to shareholders, vesting decision-making capability in the shareholders for the first time. The shift appears to be permanent; there will be no return to the insulated hierarchical corporation.

(ii) Contrary to the general assumption that markets can efficiently coordinate corporate production, GE predicts that when shareholders make business decisions, equilibria are likely to be multiple and inefficient. This implies that shareholder intervention in business planning imports a trade-off between positive effects due to containment of management agency costs and negative effects of market inefficiency.

(iii) Economic theory provides general results on how to organize firms separately from markets (the Coasian theory of the firm) and general results on markets (GE). However, the shift of decision-making power to shareholders transforms the corporation into a hybrid form that straddles the firm and the markets.¹⁷⁰

We now turn now to the legal ramifications of these points, looking first, in Section A, at the negative normative message of GE for corporate governance, then turning, in Section B, to the formulation of policy recommendations for corporate legal theory, and finally considering corporate law, as interpreted and enforced in Delaware.

A. The Negative Normative Message of GE

Like most law and economics scholars, we are consequentialist. We thus share the view that corporate law should assist the maximization of aggregate social welfare.¹⁷¹ Our intervention, however, teaches that we cannot rely on normative indications derived from microeconomic theory to advance that goal. This is unfortunate, for clear theoretical guidance makes life easier. If microeconomics could provide a general theory of the corporation—a theory offering robust results on the tradeoff between agency costs and market inefficiency—a regulatory template would follow readily. For example, if we had general results on the welfare increasing properties of market coordination, then the consequential policy would be to forbid the board to implement any defense against market intervention and to accord enhanced governance powers to shareholders. Similarly, if we had results globally favoring the corporation as a centralized and insulated bureaucracy, the consequential policy would be to give all the bargaining power to the board, along

¹⁷⁰ We note that Williamson posits an intermediate category. See Oliver E. Williamson, *The Theory of the Firm as Governance Structure: From Choice to Contract*, 16 J. ECON. PERSPECTIVES 171, 180-81 (2002). But, in our view, today's shareholder-directed public corporations are not the firm described in Williamson's intermediate category but the firm described in his hierarchy category.

¹⁷¹ As put by Kaplow and Shavell, "Welfare economics. . . , is consequentialist in nature, because welfare economic assessments of legal rules depend (entirely) on the effects of the rules. . . . [I]t is based (exclusively) on a particular set of consequences, namely, those that bear on individuals' well-being." Louis Kaplow & Steven Shavell, *Fairness versus Welfare*, 102 HARV. L. REV. 961, 969 n. 8 (2001).

with an unassailable right to adopt defensive measures. We would in either case have a much better idea of where we stand.

Unfortunately, however, public corporations have evolved into hybrids. The analysis here shows that higher-order economic theory—GE with incomplete markets—fails to tell us how to work through the trade-offs implicated by the hybrid form.¹⁷² This does not mean that our analysis leaves nothing on the table for corporate law and economics. The teaching is negative, but important: it involves a presumption against proposals in favor of either shareholder empowerment, or, alternatively, management insulation. Both proposals lack support in economic theory and have distortionary effects in practice. While the economic theory of incentives does indeed assert that agency cost reduction enhances value, GE denudes the assertion of policy salience when it shows that shareholder inputs regarding production choices can have suboptimal results. Contrariwise, a policy presumption against shareholder empowerment could be *prima facie* taken to follow from GE. A closer look however, reveals that management moral hazard, which is indirectly modeled in GE as a source of market incompleteness, remains in the picture, similarly preventing an anti-shareholder presumption from arising.

The negative presumption makes law reform very hard to justify. This conclusion bears devastating implications for the law reform agenda articulated pursuant to the market control paradigm—a list of legislative and administrative interventions designed to jumpstart shareholder empowerment.¹⁷³ The agenda clearly needs to be shelved, and not only because it lacks theoretical support. It also has been mooted by events. Shareholders are now empowered in fact and need no regulatory assist. The fact that power flowed to them in the absence of root and branch law reform is telling.¹⁷⁴ It turns out that the system was never as embedded as the shareholder paradigm predicted.

¹⁷² In philosophy, the term “theoretical reason” is used to refer to a standpoint of reflection that is directed at finding explanations for matters of fact. Jay R. Wallace, *Practical Reason*, *THE STANFORD ENCYCLOPEDIA OF PHILOSOPHY* (Summer 2014 Edition), Edward N. Zalta (ed.), <https://plato.stanford.edu/archives/sum2014/entries/practical-reason/>. To search for explanations behind facts is to seek to answer normative questions that speak for or against particular conclusions one might draw about the way the world is. That is, theoretical reason involves reflection with an eye to the truth of propositions, to the ultimate end of building a system of norms regulating beliefs. In the current corporate environment, however, we lack a theory that can offer “truth propositions” that tell us the best way to structure the corporation *ex ante*.

¹⁷³ See Bratton & Wachter, *supra* note 61, at 669-73.

¹⁷⁴ This does not go to say that law reform has played no role in the shift of shareholder-management power. It is just that the law in question is not corporate law but federal securities law. Two adjustments have played a significant facilitative role. One went to the proxy rules, which do a lot of the heavy lifting regarding the shareholder franchise. In 1992, the Securities and Exchange Commission (SEC) modified the rules so as to permit short slates. See *Regulation of Communications Among Shareholders*, 57 FED. REG. 48,276, 48,289 (October 16, 1992), codified at 17 C.F.R. pt. 240.14a-4). The modification long antedated hedge fund activism, but, when the occasion finally arose, opened a process door for hostile engagement short of control transfer. The second change came in 2003, when the SEC imposed on investment advisors a duty to vote portfolio shares on a considered basis and in the beneficiary’s best interests. See SEC, *Proxy Voting by Investment Advisors*, 17 CFR Part 275, Release No. IA-2106 (March 10, 2003). This mandate deprived management of a built-in base of voting support. It also enhanced the influence of informational intermediaries like ISS and Glass Lewis, who met a sudden increase in demand for voting advice emanating from smaller advisors for whom internal decision-making on voting was not cost effective. If we set these adjustments against the broader background of corporate law and securities regulation, we see that shareholder empowerment required very little in the way of a regulatory assist.

B. From Market Control to Off-Market Contracting

Given the lack of a clear normative theory for the new hybrid corporation, the question is what alternative palliative microeconomic theory offers to corporate legal theory. We answer that one needs good incentives prodded by effective contracts. Given incomplete markets, economic theory counsels that contracting that directs incentives in the proper direction is a more promising route to productive efficiency than is market control. There follows a second presumption in favor of private ordering, as the means to enable market actors to adequately address the specific tradeoffs between agency cost and market inefficiency.

While it is hard to make predictions on the directions that manager-shareholders' private bargaining will take, our private view, supported by recent empirical evidence,¹⁷⁵ is that bargaining for additional insulation from shareholder attack clearly will be value-enhancing at some companies some of the time. To this end, there is already a toolbox of devices individual companies can include in their charters—staggered boards, supermajority voting provisions, and tenure voting schemes. We expect the collection to grow in coming years as the inevitable outcome of off-market contracting in the wake of shareholder empowerment, and predict that structural reform will occur at individual companies.

Corporate actors may not as yet fully appreciate the negative possibilities held out by the trade-off between agency costs and market inefficiency. But the actors' reaction sets and governance prescriptions can be expected to change as the set of results expands and contractual settlements accumulate and evolve. There already are signs that institutional investors are taking a more nuanced view of activist intervention.¹⁷⁶ Shareholder response patterns have changed in recent years. Proxy contest outcomes no longer unilaterally favor activists.¹⁷⁷ Large institutional investors, even as they invoke the rubric of management "engagement" to get seats at the business planning table,¹⁷⁸ also express support for the long-term plans of companies against activist attacks and withhold support of activists who primarily seek to force companies into share buybacks and

¹⁷⁵ See, e.g., Cremers & Sepe, *supra* note 64, at 100-108 (documenting an increase in value after the adoption of a staggered board, especially in more innovative firms, firms with more intangibles, and firms with more stable stakeholder relationships); William C. Johnson et al., *The Bonding Hypothesis of Takeover Defenses: Evidence from IPO Firms*, 117 J. FIN. ECON. 307 (2015) (empirically documenting that in IPO firms, takeover defenses reduce the possibility that a change in control will harm the firm's stakeholders, promoting more favorable contracting terms and increasing firm value).

¹⁷⁶ See Sullivan & Cromwell LLP, *supra* note 59, at 4-6. This new trend on the side of investors rejects a contractarian objection that our contractual approach is likely to invite—the "if there's a problem they can just make a contract and if they haven't already done so there can't be a problem" argument. Under this argument, if shareholder power actually implicated inefficiencies, we should expect to see contractual constraints on shareholder power to be in place already. See Bebchuk, *supra* note 51, at 1683-84; Roe, *supra* note 51, at 987-89. However, while we are beginning to see these constraints, in an imperfect world one need not expect the widespread adoption of contracts that limit shareholder power to happen right away. There are path dependencies aplenty in the world of corporate governance, not the least of them fixed views regarding the positive productivity implications of shareholder inputs and the presence of influential governance intermediaries with vested interests in those views' continued prevalence. In short, the absence of more contracting to contain shareholders does not imply that shareholder power isn't a problem.

¹⁷⁷ DuPont's defensive victory in 2015 is the leading example. See, e.g., Stephen Gandel, *DuPont's Victory: A Big Win for Ellen Kullman, but Activist Investors Aren't Finished*, FORTUNE (May 23, 2015) available at <http://fortune.com/2015/05/13/dupont-ellen-kullman-shareholder-activism/>.

¹⁷⁸ See *supra* note 59 and accompanying text.

extraordinary distributions.¹⁷⁹ We are hopeful that boards of directors and institutional investors can learn from experience and cooperate in implementing protections against destructive intervention.¹⁸⁰

Our recommendation for a presumption favoring private ordering recalls the E-F contractarian paradigm of the 1980s. But the similarity is more apparent than real.¹⁸¹ In E-F's picture, market inputs assure efficient results from private contracting.¹⁸² Under GE, in contrast, private contracting offers a corrective response to the inefficiencies arising in incomplete markets. The notion is that governance terms grounded in shareholder-manager contracting and business decisions made within such a negotiated governance framework will be superior to governance terms and business decisions resulting from direct shareholder inputs in incomplete markets.

Superior, but not necessarily efficient. In bargaining theory, control goes to the party with the bargaining power whether or not the outcome is optimal. It follows that the possibility of contracting does not preclude suboptimal outcomes. More particularly, bargaining theory teaches that the disagreement point of the bargaining parties determines the outcome. If one party has a disagreement point that is "too low" relative to the other party, the counterparty will be in a position substantially to determine the outcome. As applied to the current corporate scenario, this means that if, for example, a manager fears removal from the activist investors, she will be more likely to give in to any investor requests because the threat of removal ensures that the manager has a low disagreement point.¹⁸³ Yet the opposite may hold. For example, if a board successfully entrenches itself, it may instrumentally use defensive measures to force decisions on shareholders.

¹⁷⁹ This was in BlackRock chairman Larry Fink's 2016 letter to CEOs. See Ben McLannahan, *Fink Backs New Breed of Shareholder Activism*, FIN. TIMES (Feb. 5, 2016) available at <https://www.ft.com/content/5f05b082-cbd3-11e5-84df-70594b99fc47>.

¹⁸⁰ We anticipate an anti-contractual objection: that the contracts in the firm nexus are intrinsically incomplete and that therefore contract cannot be relied to avoid inefficiencies. Tirole noted that there's completeness question bound up in his governance creation story but signaled that he did not think there is a problem. *Id.*, at 14. A contingent control transfer can be set up without a projection of all future contingencies. See Eric Maskin & Jean Tirole, *Unforeseen Contingencies and Incomplete Contracts*, 66 REV. ECON. STUD. 83 (1999), which sets out a foundational critique to incomplete contracts providing an irrelevance theorem. They make a very simple point: "If parties have trouble foreseeing the possible *physical* contingencies, they can write contracts that *ex ante* specify only the *possible* payoff contingencies." *Id.*, at 84.

¹⁸¹ We do, however, keep market constraints in the picture, as in E-F. Thus, product markets can still be relied upon to import production discipline, the stock market to facilitate investor monitoring of firm decisions, and the market for management employment to lead to contracts that direct management incentives in productive directions.

¹⁸² In E-F, this result comes from the combination of pure shareholder incentives, the claim of market price accuracy, and the reliance on a takeover corrective. See *supra* Part I.B.2. We, of course, drop insistence on any of these claims

¹⁸³ The leading partial equilibrium model of contractual corporate governance—Jean Tirole's retelling of the J-M creation story—formally explores the possibility of suboptimal outcomes from shareholder-management bargaining, concluding that shareholder-generated production decisions might be "biased." See Jean Tirole, *Corporate Governance*, 69 ECONOMETRICA 18-13 (2001). In Tirole, just as in J-M, the moment of creation is the moment the entrepreneur takes the firm public, with the yield to the entrepreneur and the firm rising or falling depending on the availability of devices that reduce agency costs. *Id.* at 8-13. Tirole, however, extends J-M analysis, describing shareholder monitoring in detail and bringing in control transfer. *Id.* at 13-16. Once the possibility of control transfer comes into Tirole's model, an interesting thing happens: the need to raise capital at creation can lead the founder-manager to give up control to the investors even though the investors will make inefficient choices. *Id.* at 15. The shareholders seek to maximize their own returns, which are not collinear with overall value maximization (exactly as predicted by GE). The control transfer thus sacrifices enterprise value. In the model, the only way the founder-manager can be *insulated* from suboptimal investor interference is to have a sufficient *ex ante* base of capital that tilts the bargaining power its way at the IPO contracting table. *Id.* at 16, 30.

Therefore, today's challenge is to avoid systemic dominance by one contracting party—whether the managers or the shareholders—and the inefficient distortion of the bargaining process that results.

C. Delaware Adjudication and the New Hybrid Corporation

Our last prediction is that corporate law, as interpreted and enforced in Delaware, is well-suited to the mediation of future bargaining between managers and empowered investors. Delaware courts have never imposed maximizing directives based on economic theory. Instead, they leave the basic alignment of power between managers and shareholders to the parties themselves and only review the bargaining process on an ex-post, case-by-case basis when problems arise. Delaware courts excel at this pragmatic exercise, drawing on a variety of analytical devices in their decision-making, including common sense, insights from economics, empirical results, historical comparison, and logical inference. This excellence—and hence Delaware's superior ability to mediate shareholder-manager conflicts—follows from a distinctive feature of the Delaware's judiciary system: the central role played by equitable adjudication.

1. Delaware's Equity Model

Modern equity has its historical roots in feudal England. It reaches back to the time when the English Crown established the High Court of Chancery of Great Britain¹⁸⁴ to provide a remedy in cases where parties would have suffered a wrong because of the procedural rigidity or practical problems affecting the application of the common law.¹⁸⁵ This emphasis on providing relief suited to the circumstances when no adequate remedy is available at law remains a central feature of the Delaware Court of Chancery, the nation's preeminent business court.¹⁸⁶

Indeed, while equity adjudication is a constitutive component of American corporate law as articulated in every state,¹⁸⁷ Delaware is among the few states that have not moved toward a

¹⁸⁴ See William T. Quillen & Michael Hanrahan, *A Short History of the Delaware Court of Chancery – 1792-1992*, 18 DEL. J. CORP. 819, 819 (1993). Equity evolved in feudal England as a natural outgrowth of the King's inherent power and duty to do justice, as people could directly petition the King for aid when they could not obtain adequate relief from a local court. JOHN H. LANGBEIN, ET AL., *HISTORY OF THE COMMON LAW: THE DEVELOPMENT OF ANGLO-AMERICAN LEGAL INSTITUTIONS* 18–19, 90-91 (2009). The office of the Chancellor, and then the Chancery Court, developed by 1400 to alleviate the need for people to seek relief directly from the King and his council. See Michael T. Morley, *The Federal Equity Power*, 59 B.C.L. REV. 217, 226 (2018).

¹⁸⁵ The paradigmatic example was the English Chancellors' grant of "common injunctions" against the collection of judgments on sealed instruments issued by law courts, at the time when these courts refused to recognize fraud as a defense to an action on a sealed instrument. In fraud cases, the petitioner would thus ask the Chancellor not to overturn or invalidate the law court's judgment, but instead to enjoin the judgment creditor from enforcing the judgment, because enforcement under the circumstances would be unfair. Jack B. Jacobs, *The Uneasy Truce between Law and Equity in Modern Business Enterprise Jurisprudence*, 8 DEL. L. REV. 1, 4-5 (2005). Other paradigmatic cases of inadequacy of the common law to provide a remedy included, for example, the fact that a plaintiff was unable to satisfy a technical element or evidentiary requirement for obtaining relief at law, or that the common law lacked a writ for the harm the plaintiff had suffered, or still that a common-law jury could be prejudiced against the plaintiff. See David W. Raack, *A History of Injunctions in England Before 1700*, 61 IND. L.J. 539, 555–61 (1986).

¹⁸⁶ See Quillen & Hanrahan, *supra* note 185, at 819.

¹⁸⁷ See, e.g., Stuart R. Cohn, *Corporate Natural Law: The Dominance of Justice in a Codified World*, 48 FLA. L. REV. 551, 552 (1996) ("[E]quitable principles rather than statutes and other seemingly authoritative sources answer many of the most substantial corporate law questions."). For a thorough discussion of the use of equitable remedies in current American law, see Samuel L. Bray, *The System of Equitable Remedies*, 63 UCLA L. REV. 530 (2016).

consolidation of law and equity jurisdictions in the same courts, but rather maintains a separate court of equity.¹⁸⁸ Under this separation, the Chancery Court has exclusive jurisdiction to hear and determine cases involving equitable rights (such as trusts and fiduciary duties)¹⁸⁹ and equitable remedies (such as injunctions and specific performance).¹⁹⁰ The Court also has non-exclusive jurisdiction over suits involving Delaware's General Corporation Law and other business entities, as well as business litigation involving charters, bylaws and merger agreements.¹⁹¹

The equity identity of the Chancery Court also means that the court has no jury trials, only bench trials.¹⁹² All cases are decided, and the underlying facts investigated, by the Chancellor or Vice-Chancellor. As equity adjudicators, the chancellors have wide latitude to craft remedies and mold earlier decisions to fit particular fact patterns. Very much in the tradition of the Chancery Court's English ancestor,¹⁹³ Delaware's chancellors are not bound by strict notions of precedent, but rather retain broad discretion to do justice in individual cases based on moral principles, standards of fairness and flexible remedies.¹⁹⁴ This trait of equity decision-making¹⁹⁵ gives Delaware's chancellors the ability to adapt the law to ever-changing economic circumstances and legal relationships.

2. *Equity's Residual Indeterminacy*

¹⁸⁸ See Quillen & Hanrahan, *supra* note 185, at 825-26 (explaining that Delaware's decision to create its Chancery Court in 1792 contradicted the historical trend of the time away from chancery courts). It is unclear whether policy or pragmatic reasons motivated Delaware to move from a consolidated jurisdiction to separated systems of law and equity. *See id.* at 826-831.

¹⁸⁹ Trust and fiduciary duties have long been equity's most important legal doctrines, whose development dates back to the jurisdiction of the English Chancery Court. *See id.* at 821; Jacobs, *supra* note 185, at 5.

¹⁹⁰ 10 Del. C. § 341. Absent special statutory authorization, the Court of Chancery lacks jurisdiction "to determine any matter wherein sufficient remedy may be had by common law, or statute, before any other court or jurisdiction of this State." 10 Del. C. § 342. These matters belong, instead, to the Superior Court of Delaware, which is a court of law, which has "jurisdiction of all causes of a civil nature, real, personal and mixed, at common law," as well as over criminal matters. Del. Const. art. IV, § 7.

¹⁹¹ 8 Del. C. § 111(a); 6 Del. C. §§ 17-111, 18-111. Cases can be transferred between the Court of Chancery and the Superior Court to ensure the appropriate court relief. *See, e.g., Candlewood Timber Group, LLC v. Pan Am. Energy, LLC*, 859 A.2d 989 (Del. 2004), where the Court of Chancery transferred a case to the Superior Court upon concluding that the plaintiffs' request for specific performance would not adequately remedy the environmental damage that Pan American's oil drilling allegedly caused to Candlewood's property in Argentina.

¹⁹² *See, e.g., Paron Capital Mgmt., LLC v. Crombie*, 2012 WL 214777, at *1 (Del. Ch. Jan. 24, 2012); *In re Del Monte Foods Co. S'holders Litig.*, 2010 WL 5550677, at *2 (Del. Ch. Dec. 31, 2010). However, a little used provision exists that authorizes the Court of Chancery to refer matters of fact in dispute to Superior Court for trial. 10 Del. C. § 369. *See also Norm Gershman's Things to Wear, Inc. v. Dayton*, 1992 WL 368587, at *2 (Del. Ch. Dec. 11, 1992) ("I furthermore have the discretion to grant a jury trial on the liquated damages claim should I determine that it is warranted.").

¹⁹³ John R. Kroger, *Supreme Court Equity, 1789-1835, and the History of American Judging*, 34 HOUS. L. REV. 1425, 1435 (1998). It is worth noting, however, that the English system of equity was eventually assimilated to the common law system, through the use of binding precedents and more rigid court practices. Morley, *supra* note 185, at 229-30. Delaware, in contrast, has carefully avoided to turn equity adjudication into a fixed system, bound by precedents and rigid principles, and instead preserved the original equity focus on specific holdings and ad-hoc remedies. Quillen & Hanrahan, *supra* note 185, at 821.

¹⁹⁴ William T. Allen, *A Bicentennial Toast to the Delaware Court of Chancery 1792-1992*, 48 BUS. LAW. 363, 365 (1992).

¹⁹⁵ *Id.* (describing equity as "the dynamic, creative component of the judicial system").

The Chancery Court's flexibility does not come without costs, though. Discretion to undercut the future applicability of precedents also makes the law less predictable, leading to a tension between flexibility and predictability. The criticism that equity decisions may vary with the length of the Chancellor's foot has long been out there.¹⁹⁶ More recent versions of this criticism suggest that Delaware purposefully maintains an excessive level of indeterminacy in its corporate law, whether to benefit the Delaware bar (as indeterminacy promotes litigation)¹⁹⁷ or to maintain Delaware's primacy in interstate competition (as indeterminacy makes the Delaware's model more difficult to mimic).¹⁹⁸

We reject this criticism, making a two-part defense of Delaware's equitable adjudication. First, the indeterminacy arising from Delaware's equity decision-making is not as severe as portrayed by some commentators. Second, and most important for the purpose of this Article, Delaware's approach is economically rational.

(a) *The matter of degree.* Academic discussions around the tension between flexibility and predictability in equity decisions echo the wider corporate law debate on the merits of rules and standards as regulatory techniques.¹⁹⁹ Rules favor predictability over flexibility, prescribing behavior *ex ante* and being typical of the "law model" of jurisprudence,²⁰⁰ under which what matters is the certainty of the system, even when it may occasionally produce "harsh result in individual cases."²⁰¹ By contrast, standards privileges flexibility, "leaving discretion for adjudicators to determine *ex-post* whether violations have occurred,"²⁰² thereby escaping the rigidity of bright-line rules. Commentators who criticize Delaware's equity system for indeterminacy thus tend to describe it as centered around the "ample use of vague standards."²⁰³

This characterization of the Delaware's equity model, however, is misleading. The Delaware judiciary works vigorously to minimize the uncertainty stemming from its decisions. As put by former Justice (and Vice-Chancellor) Jacobs, Delaware judges, both on the Chancery and Supreme Courts, have exerted a common effort "to create a 'bright line' around equity to enable practitioners and their clients to predict when otherwise legally valid corporate acts would become subject to equitable nullification."²⁰⁴ They have done so through the progressive

¹⁹⁶ JOHN SELDEN, TABLE TALK 49 (BOOKS FOR LIBRARIES PRESS 1972) (1855).

¹⁹⁷ See Jonathan R. Macey & Geoffrey P. Miller, *Toward an Interest-Group Theory of Delaware Corporate Law*, 65 TEX. L. REV. 469, 491-98 (1987).

¹⁹⁸ See Ehud Kamar, *A Regulatory Competition Theory of Indeterminacy in Corporate Law*, 98 COLUM. L. REV. 1908, 1909 (1998).

¹⁹⁹ Henry E. Smith, *An Economic Analysis of Law Versus Equity* (Draft Oct. 22, 2010), available at http://www.law.yale.edu/documents/pdf/LEO/HSmith_LawVersusEquity7.pdf. For the canonical view on the rules v. standards debate, see Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE LAW REVIEW 557 (1992).

²⁰⁰ See Jacobs, *supra* note 185, at 4 (contrasting the "law model" of corporate law with the "equity model"). More particularly, in corporate law, rules are usually employed in matters that affect a corporation's relationship with its creditors and investors, such as dividend restrictions, minimum capital requirements, tender offers and proxy voting. See Reinier R. Kraakman and Henry Hansmann, *Legal strategies for Reducing Agency Costs*, in THE ANATOMY OF CORPORATE LAW – A COMPARATIVE AND FUNCTIONAL APPROACH 24 (1st ed. 2004).

²⁰¹ See Jacobs, *supra* note 185, at 4.

²⁰² See Kraakman & Hansmann, *supra* note 200, at 24.

²⁰³ Kamar, *supra* note 198 at 1909.

²⁰⁴ See Jacobs, *supra* note 185, at 15. Jacobs also reports the view of other commentators who suggest that, in brief, the bright-line around equity mandates that "acts that comply with the corporate statute are subject to invalidation on

refinement of equitable doctrines, as articulated in both their reasoned opinions and in the course of their extra-judicial activities, which include frequent speeches and articles and participation as policy makers in professional organizations.²⁰⁵

The appearance and evolution of the so-called heightened, or “intermediate” scrutiny of a board’s actions offers a prime example of the effort made by the Delaware judiciary to make equity more predictable. At first, Delaware only had two standards of review, the business judgment rule²⁰⁶ and the entire fairness test.²⁰⁷ Then the Delaware courts began to add content to (and guidance in the application of) the two standards.²⁰⁸ Next, in response to the new realities and issues of the takeover era, came the creation of an entirely new, “intermediate” set of principles in landmark cases such as *Unocal*²⁰⁹ (and its further elaboration in *Unitrin*),²¹⁰ *Revlon*²¹¹ (and its further elaboration in *Paramount v. QVC*),²¹² and *Blasius*,²¹³ with each subsequent case offering a refinement of the new heightened standards.²¹⁴

equitable grounds, but equitable principles may not be used to salvage a corporate act that violates the corporate statute.” *Id.* (quoting Kurt M. Heyman and Christal Lint, *Recent Developments in Corporate Law: Recent Supreme Court Reversals and the Role of Equity in Corporate Jurisprudence*, 6 DEL. L. REV. 451, 487 (2003)).

²⁰⁵ See Myron T. Steele & J.W. Verrett, *Delaware’s Guidance: Ensuring Equity for the Modern Witenagemot*, 2 VA. BUS. L. REV. 189, 192 (2007).

²⁰⁶ The business judgment rule (BJR) presumption that the directors acted on an informed basis, in good faith and in the interest of the company can only be rebutted if the board’s decision is irrational or the plaintiff can show a breach of the duty of care or loyalty, in which case the burden shifts to the directors to demonstrate that their action was fair to the corporation and its shareholders. See *Aronson v. Lewis*, 473 A.2d 805, 812 (Del. 1984); *In re Walt Disney Co. Derivative Litig.*, 906 A.2d 27, 52 (Del. 2006).

²⁰⁷ The entire fairness test is the most the most onerous standard of review of directorial conduct (i.e., standing at the opposite end of the spectrum of the BJR). It applies whenever the directors propose or effect a transaction where they have a self-interest which conflicts with that of the shareholders. The paradigmatic case is an “interested” cash-out merger between a parent corporation and its subsidiary. See Jack B. Jacobs, *Fifty Years of Corporate Law Evolution: A Delaware’s Judge Retrospective*, 5 HARV. BUS. L. REV. 141, 155 (2015).

²⁰⁸ For example, the entire fairness standard, which had been there since the inception of Delaware’s equity adjudication, lacked specific content that facilitated predicting the outcome of litigation until the decision in *Weinberger v. UOP, Inc.*, when the Delaware Supreme Court specified that the inquiry into fairness would consider both the decision-making process and the transaction price. *Weinberger v. UOP, Inc.*, 457 A.2d 701, 711 (Del. 1983). For the subsequent evolution of the entire fairness standard, see Jacobs, *supra* note 207, at 155-60.

²⁰⁹ *Unocal Corp. v. Mesa Petroleum Co.*, 493 A.2d 946 (Del. 1985). In *Unocal*, the Delaware Supreme Court announced that the fiduciary propriety of a target company’s board’s adoption of antitakeover defenses would turn upon whether the board’s decision was a proportionate response to a reasonably perceived threat. See *id.* at 955.

²¹⁰ *Unitrin, Inc. v. Am. Gen. Corp.*, 651 A.2d 1361 (Del. 1995). In *Unitrin*, the Supreme Court refined the proportionality prong of *Unocal* to tilt the balance in favor of respecting the judgment of the target board. See *id.* at 1367-68.

²¹¹ *MacAndrews & Forbes v. Revlon, Inc.*, 506 A.2d 173 (Del. 1986). In *Revlon*, the Supreme Court refined the *Unocal* standard by announcing that whether a target company board acted properly in committing the company to a sale or change of control transaction would turn upon whether the board’s decision-making process, and its result, were reasonable. See *id.* at 182.

²¹² *QVC Network v. Paramount Communications, Inc.*, 637 A.2d 34 (Del. 1994). In *QVC*, the Supreme Court specified the criteria for “the range of reasonableness” of directors’ actions in *Revlon*-like situations. See *id.*, at 45-46.

²¹³ *Blasius Indus., Inc. v. Atlas Corp.*, 564 A.2d 651 (Del. Ch. 1988). In *Blasius*, the Court of Chancery held that where a board’s antitakeover defense involves a purposeful interference with the exercise of the shareholders’ right to vote, that defense would be invalid unless the board can show a compelling justification.

²¹⁴ For an exhaustive treatment of the evolution of the heightened standards of review in the Delaware jurisprudence, see Jack J. Jacobs, *supra* note 207, at 160-68. See also T. Richard Giovannelli, *Revisiting Revlon: The Rumors of Its Demise Have Been Greatly Exaggerated*, 37 WM. & MARY L. REV. 1513 (1996).

Granted these principles are not exact. But they are more predictable than recognized by the critics of Delaware courts. They amount to a *tertium genus* between rules and (vague) standards.²¹⁵

(b) *Economic rationality.* Delaware's *tertium genus* leaves a residuum of indeterminacy in the adjudication of business litigation. But some level of indeterminacy should be welcomed as beneficial in light of the indeterminate results yielded by economic theory. Recall that GE fails to tell us how to work through the tradeoff between agency costs and market inefficiency implied by the new hybrid corporation. Our recommendation in favor of private contracting directly follows from this systemic indeterminacy. But if the economic system is indeterminate, then the judicial system must also leave room for indeterminacy under the rubric of discretion in adjudication. With the rise of the hybrid corporation, the range of possible outcomes, including openings for taking opportunistic advantage, becomes wider than ever.²¹⁶

As put by Henry Smith in his analysis of equity jurisdiction, opportunism is a “behavior that is undesirable but that cannot be cost-effectively captured—defined, detected, and deterred—by explicit ex ante rulemaking.”²¹⁷ This open ended definition of opportunism captures both the traditional risk of moral hazard by managers, new forms of self-interest on the side of empowered shareholders (such as short-termist behavior) and the risk of abuses of bargaining power by either managers or shareholders. Indeed, we view manager-shareholder contracting as an outcome that is superior to the unilateral shareholder imposition of business decisions but not immune from inefficient distortions arising from abuse of bargaining power. Equitable adjudication is the instrument that allows the Delaware courts to ex-post define, detect, and deter these distortions.²¹⁸

Viewed through this lens, the landmark decision in *Schnell v. Chris Craft Industries, Inc.*—which commentators regard as the beginning of an era in which the equity model progressively came to dominate the law model in Delaware jurisprudence²¹⁹—provides a paradigmatic example of the use of equitable adjudication to prevent managerial opportunism. In that decision, reversing the prior ruling of the Chancery Court,²²⁰ the Delaware Supreme Court sanctioned the board's unilateral, and opportunistic, amendment of the company's bylaws to the detriment of the

²¹⁵ Cf. Smith, *supra* note 199, at 40 (arguing that “decision making that is a hybrid between law and equity is likely to be superior to law or equity alone.”). Our view is that overall Delaware's “predictable” equity is a hybrid between pure equity and law.

²¹⁶ The view of equity as appropriately undetermined has deep historical roots, going back to the Aristotles' Nicomachean Ethics. As explained in Aquinas' Commentary on the Nicomachean Ethics, Aristotles believed that: “because the material of human acts is indeterminate . . . the law[] must be indeterminate in the sense that it is not absolutely rigid.” 1 THOMAS AQUINAS, COMMENTARY ON THE NICOMACHEAN ETHICS 466 (C.I. LITZINGER TRANS., 1964).

²¹⁷ Smith, *supra* note 199, at 9. The view of equity as appropriately undetermined has deep historical roots, going back to the Aristotles' Nicomachean Ethics. As explained in Aquinas' Commentary on the Nicomachean Ethics, Aristotles believed that: “because the material of human acts is indeterminate . . . the law[] must be indeterminate in the sense that it is not absolutely rigid.” 1 THOMAS AQUINAS, COMMENTARY ON THE NICOMACHEAN ETHICS 466 (C.I. LITZINGER TRANS., 1964).

²¹⁸ Likewise, the flexibility of equity adjudication is the means that allows judges to detect and mitigate the externalities that manager-shareholder contracting may impose on third parties, but the discussion of this use of equity exceeds the scope of this paper.

²¹⁹ Jacobs, *supra* note 185, at 5.

²²⁰ *See id.* at 7.

company's shareholders by holding that "inequitable action [by corporate fiduciaries] does not become permissible simply because it is legally possible."²²¹

Using the same lens, reconsider now the philosophy of the Delaware courts in employing heightened standards of review for the evaluation of the board's adoption of defensive measures. When, during the takeover era, Delaware first allowed boards of directors to deploy the poison pill to impose on hostile tender offerors the added time and expense of control transfer by proxy contest,²²² responses grounded in agency theory were understandably condemnatory. Today, with the hybrid corporation in view and the benefit of hindsight, we can recharacterize the takeover era cases as a defensible grant to the board of bargaining power against investors. However, as made evident by the progressive refinement of the heightened standards of review, the grant was never so absolute as to leave investors defenseless. The equity tools employed in those evaluations, embodied in open-ended concepts like "proportional" and "draconian," reflect the insight that opportunistic abuses must be dealt with equitably, on the specific facts of the case.

Along similar lines, Delaware has also recently taken the lead in limiting the assumption that collective action problems make public shareholders incapable of self-protection and uniquely susceptible to exploitation.²²³ Law that follows from these assumptions is beginning to be revised as courts and legislatures reappraise the shareholders' ability to use their governance levers. Stepping up to the plate of this revision process, Delaware has limited the application of enhanced fiduciary scrutiny of mergers,²²⁴ streamlined the shareholder merger approval process,²²⁵ and refrained from imposing strict scrutiny on actions that increase the level of difficulty for activist hedge funds.²²⁶

It would be wrong to read these cases as the rote response of courts structurally unsympathetic to the prerogatives of newly empowered shareholders. Rather, these decisions are better viewed as directed against opportunistic exploitation of new shareholder prerogatives. Cases on hedge fund activism are especially telling. In *Yucaipa America Alliance Fund II, L.P. v. Riggio*,²²⁷ for example, the Delaware Chancery Court refused to apply the line of cases that prohibits management impairment of the shareholder franchise²²⁸ to invalidate a poison pill with

²²¹ Schnell v. Chris-Craft Industries, Inc. 285 A.2d 437, 439 (Del. 1971). In *Chris-Craft*, the incumbent directors decided to amend the bylaws to the sole purpose of setting the annual meeting date five weeks earlier than the original date so to materially disadvantage the dissidents and substantially perpetuate their control over the corporation. *Id.*

²²² See, e.g., Moran v. Household Int'l, Inc., 500 A.2d 1346 (Del.1985). 65

²²³ See Jacobs, supra note 207, at 172.

²²⁴ See Kahn v. M&F Worldwide Corp., 88 A.3d 635 (2014)(confirming that the business judgment standard of review applies to a parent-subsidary merger that cashes out minority shareholders where the merger has been conditioned upon the approval of both an independent and adequately-empowered special committee of directors and an uncoerced and informed vote of a majority of the minority stockholders); Corwin v. KKR Financial Holdings LLC, 125 A.3d 304 (2015)(confirming that business judgment is the appropriate standard of review in post-closing damages suits involving a merger subject to Revlon scrutiny that has been approved by a fully informed, uncoerced majority of the disinterested stockholders). This is a significant cutback of a merger's zone of exposure to fiduciary scrutiny under Revlon doctrine.

²²⁵ See DEL. GEN. CORP. L., § 251(h)(introducing the medium form merger a new mode that relies on friendly tender offers and bypasses the shareholder vote where the acquirer does not hold a 90% stake of the target ex ante).

²²⁶ See, e.g., Yucaipa America Alliance Fund II, L.P. v. Riggio, 1 A.3d 310 (Del. Ch. 2010), aff'd 5 A.3d 2318 (Del. 2011); Third Point LLC v. Ruprecht, 2014 WL 1922029 (Del. Ch.);

²²⁷ 1 A.3d 310 (Del. Ch. 2010), aff'd a5 A.3d 2318 (Del. 2011).

²²⁸ The line begins with Blasius Indus., Inc. v. Atlas Corp., 564 A.2d 651, 659 (Del.Ch.1988).

a 20 percent ownership threshold promulgated to frustrate a proxy contestant. The ruling channeled activist objections to management defensive tactics to the more permissive *Unocal* standard of review,²²⁹ appropriately recalibrating the parties' bargaining power. In *Third Point LLC v. Ruprecht*,²³⁰ the Chancery Court went further still, rejecting a *Unocal* claim brought by an activist proxy contestant against a poison pill with an innovative 10 percent ownership threshold on the grounds that the contestant had power to influence results and had an unobstructed path to appeal to the wider shareholder voting population. And in the most recent case, *In re PLX Technology Inc. Stockholders Litigation*,²³¹ the Delaware Chancery Court went so far as to find conflicted misconduct by the activist hedge fund, while remarking that “[a]ctivist hedge funds...are impatient shareholders, who look for value and want it realized in the near or intermediate term. They tell managers how to realize the value and challenge publicly those who resist the advice, using the proxy contest as a threat.” The court once again focused on the imbalance in the parties' bargaining power, an imbalance created by hedge funds' ability to exploit the proxy contest to lower the manager's disagreement point.²³²

Commenting on these developments, former Justice Jacobs suggests that “we may witness a replay of the 1980s, where the [Delaware] courts were forced to fashion new principles to redefine the power of the board to oppose hostile takeover bids by third-party bidders.”²³³ The significant difference is that “[t]his time ... the ‘outsiders’ will literally be ‘insiders’”²³⁴—the corporation's own shareholders, which have grown sufficiently empowered unilaterally to determine corporate outcomes even in the context of off-market contracting rather than by using market levers. If, as we suggest, shareholder power is here to stay, we expect the trend toward the reversal of prior shareholder solicitude in Delaware decisions to continue, with equitable adjudication providing the legal platform to support this trend.

We have a final remark. A generation ago, Ed Rock effectively defended the Delaware courts against charges of management capture by highlighting the moral aspect of their decision-making.²³⁵ We here add an additional characterization: the Delaware courts have proven themselves to be economically astute. Their equitable, consequentialist approach turns out to display a better grasp of the operative economics than that of the law professoriate that derived a legal theory from J-M's partial equilibrium model.

CONCLUSION

If one goes to Westlaw and searches the phrase “general equilibrium theory” in the law review database, one learns that markets can be presumed to work and that regulation for purposes other than wealth reallocation is justified only by an affirmative showing of market failure and,

²²⁹ See *Unocal Corp. v. Mesa Petroleum Co.*, 493 A.2d 946, 955 (Del.1985); *Moran v. Household Int'l, Inc.*, 500 A.2d 1346 (Del.1985); *Unitrin, Inc. v. Am. Gen. Corp.*, 651 A.2d 1361, 1388 (Del.1995).

²³⁰ 2014 WL 1922029 (Del. Ch.).

²³¹ *In re PLX Technology Inc. Stockholders Litigation*, 2018 WL 5018535 (Del. Ch. 2018).

²³² See *supra* text accompanying note 183.

²³³ Jacobs, *supra* note 207, at 171.

²³⁴ *Id.*

²³⁵ Edward B. Rock, *Saints and Sinners: How Does Delaware Corporate Law Work?* 44 U.C.L.A. LAW REV. 1009 (1997).

even then, must be further tested for political failure under public and social choice theory.²³⁶ This normative extension of GE might have been justified around 1960, before contemporary law and economics even existed, but thereafter the extension had no theoretical support. Until recently, however, the only harm was inaccuracy, while structural problem remained only nascent. This has changed with the rise of empowered shareholders. For market-based coordination of business planning has now become a fact of corporate life, making it no longer possible to ignore the real lesson of GE. This is that market cannot efficiently coordinate the economy, unless one is willing to rely on herculean assumptions.

It follows that it is not safe to assume that the agency cost reduction stemming from shareholder empowerment maximizes value. Instead, this Article has shown that, in the present context, economic theory poses a fundamental trade-off between agency costs and market inefficiency. Under these tradeoffs, no template for efficient corporate law reform as yet exists. The question is where the theory of the firm should go from here. We answer that a fresh start will be needed. Even as agency theory's moral hazard account no longer suffices to describe the salient problems in corporate governance, there can be no reversion to the earlier view of corporations as hierarchies operating outside of markets, for market forces now direct business decisions at the highest level.

An attempt to provide a new operational model of the firm goes beyond the scope of this Article—that formidable job will most likely require a whole literature rather than a single intervention. We can, however, go back to basics and suggest which bodies of economic theory can assist the enterprise. Our last prediction is that the future lies with the economics of mechanism design, which can assist in answering several questions about the efficient structuring of the corporate bargaining process. Among others, these questions include issues of optimal board decision making, shareholder biases, conditions that may trigger such biases, as well as questions on how to internalize externalities that incomplete markets cannot internalize and how to provide managerial incentives that are compatible with not only the shareholder interest but the interest of society as a whole.

²³⁶ Robert D. Cooter, *Normative Failure Theory of Law*, 82 CORNELL L. REV. 947, 951-52 (1997). See also Robert D. Cooter, *Decentralized Law for a Complex Economy: The Structural Approach to Adjudicating the New Law Merchant*, 144 U. PA. L. REV. 1643, 1690 (1996) (“Adam Smith suggested, and general equilibrium theory proved, that competition for wealth in markets allocates resources efficiently.”). One also learns that general equilibrium theory upholds the shareholder value maximization norm. Roberta Romano, *Corporate Governance in the Aftermath of the Insurance Crisis*, 39 EMORY L.J. 1155, 1169 (1990). Our search, conducted July 22, 2017, yielded 122 articles. In the overwhelming majority GE is cited in passing in connection with a reference to neoclassical economic theory or within a book title. Only four articles (one of which was co-written by one of us) highlighted the difficulties discussed herein. See K.J. Martijn Cremers & Simone M. Sepe, *The Shareholder Value of Empowered Boards*, 68 STAN. L. REV. 67, 109-117 (2016); Yoon-Ho Alex Lee, *supra* note 64, at 120; Alejandro Nadal, *Coasean Fictions: Law and Economics Revisited*, 5 SEATTLE J. FOR SOC. JUST. 569 (2007); Peter H. Huang, *supra* note 64.