

NEOCLASSICISM AND THE SEPARATION OF OWNERSHIP AND CONTROL

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Introduction

The idea that the large business corporation is characterized by “separation of ownership and control” will forever be identified with Adolf A. Berle and Gardiner C. Means’ *The Modern Corporation and Private Property*.¹ The idea itself was not theirs. Already in *The Wealth of Nations* Adam Smith wrote about business firm managers of “other people’s money,” who would be unlikely to manage it with the “same anxious vigilance” shown by the active partners in a smaller firm.² For the modern business corporation in the United States, the idea was well established in Thorstein Veblen’s *Absentee Ownership* in the 1920s.³ Nevertheless, Berle and Means’ much

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¹ ADOLF A. BERLE & GARDINER C. MEANS, *THE MODERN CORPORATION AND PRIVATE PROPERTY* (1932). On Berle, see JORDAN A. SCHWARZ, *LIBERAL: ADOLF A. BERLE AND THE VISION OF AN AMERICAN ERA* (1987); Richard S. Kirkendall, *A. A. Berle, Jr.: Student of the Corporation, 1917–1932*, 35 *BUS. HIST. REV.* 43 (1961). On Means, see WARREN J. SAMUELS & STEVEN G. MEDEMA, *GARDINER C. MEANS, INSTITUTIONALIST AND POST KEYNESIAN* (M.E. Sharpe 1990). On the writing of *The Modern Corporation*, see Thomas K. McCraw, *In Retrospect: Berle and Means*, 18 *REVIEWS IN AM. HIST.* 578 (1990).

² ADAM SMITH, *THE WEALTH OF NATIONS*, Ch. I, Part 3, Art. 1 (1776). Speaking of directors of joint stock companies, Smith continued:

Like the stewards of a rich man, they are apt to consider attention to small matters as not for their master’s honour, and very easily give themselves a dispensation from having it. Negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such a company.

Smith then opined that, in foreign trade at least, joint stock companies would seldom be able to compete effectively with “private adventurers.” *Ibid.*

³ THORSTEIN VEBLEN, *ABSENTEE OWNERSHIP AND BUSINESS ENTERPRISE IN RECENT TIMES: THE CASE OF AMERICA* (1923). On this book’s unfortunate history see Rosalind Schulman, *Absentee Ownership Reread*, 21 *AM. J. ECONOMICS & SOCIOLOGY* 319 (1962) (reviewing Wesley Mitchell’s “Lectures Notes on History of Economic Thought, 1934-1935”). On numerous other writers who had commented on the problem during the two decades prior to *The Modern Corporation*, see HERBERT HOVENKAMP, *ENTERPRISE AND AMERICAN LAW, 1836-1937* at 349–65

more approachable and graphic formulation brought the idea of separation of ownership and control into public discourse and, according to *Time Magazine*, made their book the “economic Bible” of the Franklin D. Roosevelt Administration.⁴ The *Modern Corporation* and particularly Berle himself significantly influenced New Deal policy making, including the passage of the Securities Act of 1933⁵ and the Securities Exchange Act of 1934.⁶

The Modern Corporation remains a critically important historical artifact in the law of corporations and the history of the New Deal. It is widely cited to this day, although probably negatively as often as positively.⁷ The book is arguably the most enduring legacy of pre-War Institutionalist economics. Institutionalism, with its historical, fact intensive approach to economics, reliance on evolutionary theories, and its distrust of markets, became the dominant economic philosophy of both the New Deal and the Legal Realists. To some degree, at least, the book has suffered the same fate as Institutionalism generally—frequently castigated by neoclassicists for being excessively descriptive and unscientific, and lauded by more left leaning dissenters.

But the separation of ownership and control is hardly a distinctively Institutionalist notion. It was embraced equally by marginalist neoclassicists, long prior to the publication of *The Modern Corporation*. The important difference was attitude. Not only for classicists like Adam Smith, but also for Veblen, Berle and Means, and New Deal Institutionalists generally, the separation of ownership and control was a serious economic and social problem, explaining why corporations did not act in either the interests of their shareholders or the public interest.

(1991); Forest G. Hill, *Veblen, Berle and the Modern Corporation*, 26 AM. J. ECON. SOCIOLOGY 279 (1976).

⁴Robert Hessen, *The Modern Corporation and Private Property: A Reappraisal*, 26 J.L. & ECON. 273, 279 (1983) (quoting TIME, April 24, 1933, at 14).

⁵ 48 Stat. 74 (codified at 15 U.S.C. § 77a (et seq.) (May 27, 1933)).

⁶ 48 Stat. 881 (codified at 15 U.S.C. § 78a (et seq.) (June 6, 1934)).

⁷ See, e.g., George J. Stigler & Claire Friedland, *The Literature of Economics: the Case of Berle and Means*, 226 J.L. & ECON. 337 (1983).

In sharp contrast, neoclassicists embraced the separation of ownership and control as a fundamental principle of efficient firm behavior. The principal fields of microeconomics that are external to the firm, namely price theory and industrial organization, treat the firm largely as a black box whose only goal is maximization of value. To the extent shareholder preferences differ from this goal, they almost never show up. In the neoclassical model of markets separation of ownership and control has become a virtual prerequisite to productive management and risk taking.⁸

While Berle and Means claimed the rhetoric of “separation of ownership and control,” their economic analysis suffered the same fate as Institutionalist economic analysis generally. It was overly historical and preoccupied with detail, much too descriptive, and inherently suspicious of the phenomena it was examining. Most importantly, Institutionalism was unable to devise useful theory with predictive power. The Institutionalist certainly had a point when they insisted that economics cannot be separated from social science, history and even evolutionary biology. But in the process of attempting to incorporate everything they gave up too much of the elegance that neoclassicism's much simpler forward looking models produced.⁹ As other Institutionalist writings, Berle and Means was heavily historical and drawn to largely descriptive accounts of the

⁸ See, e.g., Eugene F. Fama and Michael C. Jensen, *Separation of Ownership and Control*, 26 J.L. & ECON. 301 (1983); MARK J. ROE, *STRONG MANAGERS, WEAK OWNERS: THE POLITICAL ROOTS OF AMERICAN CORPORATE FINANCE* (1994).

⁹ Institutionalism's modern stepchild is the much more technical New Institutional Economics (NIE), which combines neoclassical methodologies, including its mathematics, with an increased appreciation of institutions and a positive research agenda. See Oliver E. Williamson, *The New Institutional Economics: Taking Stock, Looking Ahead*, 38 J. ECON. LIT. 595 (2000). See also Kenneth J. Arrow, *Reflections on the Essays*, in *ARROW AND THE FOUNDATIONS OF THE THEORY OF ECONOMIC POLICY* 727-734 (1987) (contrasting the old and new institutional economics and giving a similar explanation about why the old institutionalism failed).

For overviews see generally *HANDBOOK OF NEW INSTITUTIONAL ECONOMICS* (Claude Menard & Mary M. Shirley eds., 2005); EIRIK G. FURUBOTN & RUDOLF RICHTER, *INSTITUTIONS AND ECONOMIC THEORY: THE CONTRIBUTION OF THE NEW INSTITUTIONAL ECONOMICS* (1997); THRAINN EGGERTSSON, *ECONOMIC BEHAVIOR AND INSTITUTIONS* (1990).

dispersion of corporate ownership, as well as anecdotes about corporate power and its abuse. The empirical studies in the book deal with the fact of separation of ownership and control. They are generally irrelevant to the conclusions that Berle and Means drew about managerial irresponsibility. By contrast, within neoclassical economics, including law and economics, separation of ownership and control has become an essential part of the analysis of the business firm and its financial structure. In addition, it is fundamental to our assumptions about the markets in which firms operate.

The principal technical differences between the Institutionalists and the neoclassicists lay in two things. First was the importance of marginalism as a theory of economic choice. Second was the two schools' profound differences about utility measurement and the scientific possibility of interpersonal utility comparisons.

On the first, neoclassicism started with quantitative rules that purported to account for individual choice when resources are scarce. Economic actors equate their utilities at the margin, continuously preferring things whose incremental utility is highest. Further, preferences are rational in the sense that they are transitive,¹⁰ and "revealed" in the sense that they are exercised through the making of observable choices, particularly in markets. This collection of observations led to a rather complete theory of prices, production, and demand and satisfaction.

By contrast, Institutionalists at least since Thorstein Veblen were deeply suspicious of marginalism's professed ability to explain all elements of economic behavior.¹¹ Veblen found marginalism to be both reductionist and counterfactual. It was reductionist because it purported to account for both demand and production from an entirely static picture of the economy, with no sense of movement. It was counterfactual because it did not seem to account for the complex ways that people and firms actually behave.

Marginalists at the turn of the century, when basic models for

¹⁰ That is, if an actor prefers A over B and B over C she must also prefer A over C.

¹¹ Thorstein Veblen, *The Limitations of Marginal Utility*, 17 J. Pol. Econ. 620 (1909).

the social sciences were being formed, were continuously criticized for adopting a narrow view of humanity that did not take biological evolution into account.¹² For example, Veblen criticized marginalist economics for not being an "evolutionary" science.¹³ Marginalist economics stripped humanity down to a set of utility functions that equated human behavior with desire and completely ignored inherited characteristics. To be sure, the theory of evolution was just as reductionist, recasting desire as nothing more than the instinct to survive. But the two models developed very different mechanisms for determining appropriate social policy. The differences showed up most starkly in theories about controlling deviant behavior and criminality. Marginalists would control crime by creating financial disincentives or limiting liberty, acting on the premise that human beings as autonomous actors responded by degrees to various amounts of pain and pleasure. By contrast, Darwinians would control criminal behavior by identifying those "types" that were thought to be prone to it, and then using sterilization or other means to ensure that they could not reproduce their kind. What is often unappreciated today is the extent to which both models guided Progressive Era policy making.¹⁴

The second important difference between neoclassicism and the institutionalists lay in the value they placed on the measurement of utility and the scientific possibility of interpersonal utility

¹² See GEOFFREY M. HODGSON, *THE EVOLUTION OF INSTITUTIONAL ECONOMICS: AGENCY, STRUCTURE AND DARWINISM IN AMERICAN INSTITUTIONALISM* (Routledge 2004); WARREN J. SAMUELS, *THE LEGAL-ECONOMIC NEXUS: FUNDAMENTAL PROCESS* (Routledge 2007). On institutional economics, see James R. Stanfield, *The Scope, Method and Significance of Original Institutional Economics*, 33 J. ECON. ISSUES 231 (1999).

¹³ Thorstein Veblen, *Why is Economics Not an Evolutionary Science*, 12 Q.J. ECON. 384 (1898). Legal Realist Walton Hamilton echoed the criticisms a generation later. See Walton H. Hamilton, *The Institutional Approach to Economic Theory*, 9 AM. ECON. REV. 309 (1919).

¹⁴ See Herbert Hovenkamp, *Insanity and Criminal Responsibility in Progressive America*, 57 N.D. L. REV. 541 (1981); Herbert Hovenkamp, *Evolutionary Models in Jurisprudence*, 64 TEX. L. REV. 645–85 (1985); MARK HALLER, *EUGENICS: HEREDITARIAN ATTITUDES IN AMERICAN THOUGHT* (New Brunswick 1984) (1963); DONALD PICKENS, *EUGENICS AND THE PROGRESSIVES* (1966).

comparisons.¹⁵ Until the early 1930s marginalist writers generally worked from the premise that all human beings had utility functions that were more-or-less the same – or, at least, that economists could work from that assumption. As a result they could conclude that involuntary as well as voluntary transfers increased welfare. To illustrate: suppose Peter has more carrots than he needs and fewer peas. This is another way of saying that the marginal value, or utility, of the last carrot that Peter owns is less to him than the marginal value of the last pea. He would prefer to substitute carrots for peas to the point that the marginal value of the two were the same, giving him the optimal mixture. Suppose that Mary has fewer carrots than she needs and an excess of peas. She would also prefer to equate her utilities, which she could do by substituting in the opposite direction – more carrots for fewer peas. At that point all economists, whether classical, neoclassical, or Institutionalist, would agree that a voluntary exchange would be productive. By exchanging some carrots and peas with one another both Peter and Mary could arrive at points that gave them greater utility than did their starting point. That transaction would be a Pareto improvement: both Peter and Mary would be better off.

The problem occurred in situations that suggested the possibility of increased utility from an *involuntary* transfer. Suppose that Peter had an excess of carrots and the right amount of peas, while Mary had the right amount of peas but a shortage of carrots. Neoclassicists prior to the 1930s generally assumed that welfare, or utility, would be increased if someone simply forced Peter to give some of his carrots to Mary. After all, he had more than he needed, so the marginal value he placed on the excess must be quite low; she had fewer than she needed, so the marginal value she placed on them would be high. A forcible transfer would then move the carrots from a lower to a high value use. The influential marginalist economists at Cambridge University in the late nineteenth and early twentieth century, including Alfred Marshall, Arthur Cecil Pigou, and Joan Robinson, all accepted some version of this proposition.¹⁶

¹⁵ See Herbert Hovenkamp, *The First Great Law and Economics Movement*, 42 STAN. L. REV. 993, 1013–30 (1990).

¹⁶ See *id.* at 993; Robert Cooter & Peter Rappoport, *Were the Ordinalists Wrong about Welfare Economics?*, 22 J. ECON. LIT. 507 (1984). On Pigou in particular, see Herbert Hovenkamp, *The Coase Theorem and Arthur Cecil Pigou*, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1275987.

Followed to its logical conclusion, this result led to socialism. The notion that people had similar utility functions that could be compared from one person to another indicated that welfare would be increased if wealth was transferred away from people who had more than they needed for basic wants, and toward people who were poor. The marginal value of a dollar to a rich person must be much less than its marginal value to someone who needs it for her next meal.

The problem was, How do we know that people's utility functions are in fact similar? Writing in the 1930s, during the heyday of scientific positivism and verificationism, Lionel Robbins from the London School of Economics powerfully rejected the proposition that such comparisons were even meaningful. The Cambridge economists had simply assumed without question that people have identical utility functions, but in fact there is no empirical test one can perform in order to verify or falsify that proposition:

[S]uppose that we differed about the satisfaction derived by A from an income of £1000, and the satisfaction derived by B from an income of twice that magnitude. Asking them would provide no solution. Suppose they differed. A might urge that he had more satisfaction than B at the margin. While B might urge that, on the contrary, he had more satisfaction than A. We do not need to be slavish behaviourists to realise that here is no scientific evidence. There is no means of testing the magnitude of A's satisfaction as compared with B's. If we tested the state of their blood-streams, that would be a test of blood, not satisfaction. Introspection does not enable A to measure what is going on in B's mind, nor B to measure what is going on in A's. There is no way of comparing the satisfactions of different people.¹⁷

With that decisive statement "ordinalism," or the idea that interpersonal comparisons of utility are impossible, entered the mainstream of neoclassical economics and has for the most part

¹⁷ Lionel Robbins, *An Essay on the Nature and Significance of Economic Science* 139–41 (1st ed. 1932); *cf. id.* at 123–24. On the influence of positivism on the first ordinalists, see WILLIAM H. BEVERIDGE, *THE LONDON SCHOOL OF ECONOMICS AND ITS PROBLEMS, 1919-1937* 46–58 (1960).

been there ever since. Voluntary exchange requires no such comparison because each trader needs to know only her own utilities: Peter knows that, given what he already has, he values peas more than carrots; Mary concludes the opposite. Each makes the exchange without caring too much about how the other's wants are satisfied. But one cannot say the same thing about the involuntary transfer: some outside observer would have to conclude that the world would be better off if Peter had fewer carrots and Mary had more.

While this discussion may seem quite far off the issue of corporate ownership and control, in fact it is central to understanding the way that this concept was developed within neoclassicism. Shareholders are human beings with utility functions. Within the neoclassical framework corporations are economic actors who have *profit* functions. For them, the term "utility" function as ascribed to human preferences is meaningless insofar as it purports to describe anything other than profits measured in a constant unit such as dollars. In the wake of the ordinalist revolution business economics, or price theory, and welfare economics acquired rather different focuses. Welfare economics became focused mainly on questions of general welfare, Pareto efficiency, social choice, and the derivation of a social welfare function under the constraints of ordinalism.

By contrast, business economics very largely lost its concern with utility apart from observed individual purchasing behavior. Rather, it became concerned with the behavior of markets under competitive or less competitive conditions. The relevant medium of trade became currency (dollars), and dollars-as-dollars are both quantifiable and comparable as they are transferred from one actor to another. Within this model the goal of the system is maximization of wealth and the concept of utility is largely ignored or assumed to be the same thing as wealth. Firms have "profit" functions and the global assumption within neoclassicism is that a firm acts rationally when it maximizes profits. Any distinctive concept of "utility maximization" of a business firm is entirely meaningless.

Further, the concept of profit maximization is indifferent to the identity and distribution of either shareholders or managers. The entire thrust of neoclassical corporate finance theory was to turn the shareholder into nothing more than an investor, who was presumed

to have no interest other than the maximization of firm value, ignoring what his or her actual interest might be. The manager became nothing more than the agent of profit-maximizing decision making. Until the rise of agency cost models, which occurred in the 1960s, neoclassicism largely assumed the ownership/control problem away by positing that both the firm and its shareholders had only profit-maximization in mind.¹⁸

Of course, this does not change the fact that, at bottom, all shareholders are natural biological persons¹⁹ and natural persons still have a set of desires and values that may include things other than profit-maximization. Under the constraints of ordinalism we cannot quantify scientifically what these utility functions are, but we certainly cannot say that anything that maximizes the value or profits of a firm necessarily maximizes the utility of its shareholders. This is hardly a problem for the neoclassical economics of the firm. It either ignores the separate utility preferences of shareholders or assumes that the shareholders' collective utility function is identical to the corporation's profit function.

As this paper develops in subsequent sections, within the neoclassical model the rational behavior of a business firm has nothing to do with the preferences of shareholders to the extent that the shareholders have preferences for things that are any different than the maximization of firm value or profits. This conception of the relationship between shareholders (ownership) and managers (control) has been remarkably robust in neoclassical theory since the beginning of the twentieth century and has manifested itself in several ways, including:

- Yale economist Irving Fisher's "separation theorem" and its offspring, which showed that the profit goals of the business

¹⁸. See Harold Demsetz, *The Structure of ownership and the Theory of the Firm*, 26 J.L. & ECON. 387 (1983). See also George J. Stigler & Claire Friedland, *The Literature of Economics: the Case of Berle and Means*, 26 J.L. & ECON. 241 (1983).

¹⁹ Some corporate shares are owned by other corporations, but ultimately a natural person or perhaps in a few instances the government owns the shares.

firm were completely separate from the utility functions of its diverse shareholders;²⁰

- Coase's pathbreaking article on "The Nature of the Firm" (1937), which showed that every one of a firm's production decisions, including those about its size and the extent of its integration into other markets, is entirely a consequence of comparison of the marginal value of internal production against that of market transactions;²¹
- The various corporate finance theorems of the 1950s, including the Modigliani-Miller theorem and later the efficient capital market hypothesis (ECMH), which served to disaggregate shareholders from the firm's financial structure even further by treating debt and equity (ownership) as fungible and the distribution between them as irrelevant to the firm's value or its production decisions;²²
- Inefficiencies resulting from interest conflicts between management and shareholders were generally treated as a problem of agency costs, which are transaction or monitoring costs that are internal to the firm.

On the final point, neoclassical theory also recognized that firms might make inefficient choices or have inferior financial structures, but it came to do so in the guise of "agency" costs. While a transaction cost is a cost of using a market, or producing an exchange between two independent actors, an agency cost is a cost of making a decision within the firm.²³ While neoclassicism saw

²⁰ See discussion *infra*, text at notes ___.

²¹ See discussion *infra*, text at notes ___.

²² See discussion *infra*, text at notes ___.

²³ The classic treatment is Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305 (1976). See also Ronald J. Gilson, *Controlling Shareholders and Corporate Governance: Complicating the Comparative Taxonomy*, 119 HARV. L. REV. 1641, 1651 (2006); Armen A. Alchian & Harold Demsetz, *Production, Information Costs, and Economic Organization*, 62 AM. ECON. REV. 777 (1972). For a good, brief explication of the relationship between transaction costs in markets (separate economic actors) and agency costs within the firm, see RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 408, 416–18 (6th ed. 2003).

nothing inherently inefficient in the separation of ownership and control, to the extent such separation did lead to inefficiencies these would be characterized as agency costs. One important characteristic of the great theorems of corporate finance, such as Fisher's separation theorem or the Modigliani-Miller theorem is that they worked in financial markets that were presumed to be perfectly competitive, and without agency costs. As a result, observers could identify problems with possible legal solutions by inquiring into situations where these costs were positive.²⁴ A little later the concept of agency costs came to perform the same role within the firm that transaction costs performed in the market -- by determining where legal policy could make a difference and then assigning legal entitlements in such a way so as to ensure wealth maximizing outcomes.²⁵

Fisher's Separation Theorem

Already in the first decade of the twentieth century the brilliant Yale neoclassicist Irving Fisher worked out the beginning details of what was to become his "separation theorem."²⁶ Fisher's began his analysis with the fact that shareholders and firms are different. Shareholders, like all natural persons, set out to maximize their utility. They have "consumption" functions, which are simply a list of desires, limited resources, and a set of values for prioritizing them. Firms, in contrast, set out to make profits. Indeed, a fundamental premise of both classical and neoclassical economics is that profit maximization is the goal of the firm.

If that is the case, however, then the firm's profit function

²⁴. See Douglass C. North, *Comment on Stigler and Friedland*, 26 J.L. & ECON. 269 (1983) (arguing that Berle and Means were in fact the first to address the problem of agency costs within the corporation, and did so long before anyone else did so; noting that Ronald Coase, *The Nature of the Firm*, 4 *ECONOMICA* 386 (1937), was published five years later).

²⁵. The Coase Theorem operates to like effect in markets. See Ronald Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960).

²⁶. Fisher worked the fundamental theory out in Irving Fisher, *The Nature of Capital and Income* (1906) and *The Rate of Interest* (1907), but he presented the mature theorem in Irving Fisher, *The Theory of Interest: As Determined by the Impatience to Spend income and Opportunity to Invest it* (1930).

cannot be shown to be a consequence of the shareholders' collective utility function. Indeed, it is intuitively obvious, particularly when we take the ordinalist revolution into account. If shareholder utility functions are unknowable they certainly cannot be equated with firm profit-maximization functions, which are a relatively simple matter of deciding on the course of action that produces the most profit.

Fisher assumed that shareholders have utility preferences that are not capable of being specified but that show up in individual consumption decisions. He then showed that in an efficient market for capital a business firm will choose value maximization as a strategy regardless of shareholders' utility preferences for dividends or reinvestment or their preferences as to how profits should be spent. A simple statement of the Fisher Separation theorem is:

Given perfect and complete capital markets, the production decision is governed solely by the profit-maximization objective, and the decision is separated from the consumption decision that is governed solely by utility-maximization.²⁷

Once it had accepted this formulation of the issue, the neoclassical theory of the business firm might make any of these assumptions: (1) it might assume that the firm has a "utility function" which is some kind of aggregate of the utility functions of its aggregate shareholders; or (2) assume that the shareholder's utility is nothing other than the profit-maximization of the firm; or that any profit-maximizing thing the firm does has the unanimous consent of the shareholders; or (3) stop caring about what the shareholders' utility function is and treat the firm as a unitary profit-maximizing entity.

Consistent with Fisher's analysis, neoclassical theory of the firm, of corporate finance, and even of price theory adopted some version of either (2) or (3). Neoclassicists who feel obliged to rationalize the complete separation of ownership and control in

²⁷ For a moderately technical explanation of the theorem see Irving Fisher's *Theory of Investment*, available at <http://cepa.newschool.edu/het/essays/capital/fisherinvest.htm>. See also RICHARD A. BREALEY, STEWART C. MYERS & FRANKLIN ALLEN, *PRINCIPLES OF CORPORATE FINANCE* (8th ed. 2006).

widely held corporations might simply assume that shareholders want to maximize their corporation's value. Perhaps they note that shares are held in large part by retirement funds, mutual funds and other instruments where maximization of value is the articulated goal. But for the most part the formal theory of corporate finance pays very little attention to the actual preferences of shareholders insofar as they might wish for the corporation to do something other than maximize its dollar value. In short, the theory assumed as a matter of technique that shareholders were unanimous in wanting value maximization. Until the rise of agency cost models, which did not occur until after 1960, neoclassicism largely assumed the ownership/control problem away by positing that both the firm and its shareholders had only profit-maximization in mind.²⁸

During the 1970s in particular, corporate finance theory was quite beset by this assumption of shareholder unanimity that seemed inherent in the neoclassical theory of the firm. By and large this literature did not sample actual shareholder preferences to see if they were unanimous. Rather, it simply assumed that all shareholders were profit-maximizers, although they might have different attitudes about risk.²⁹ But for the most part the distinctive preferences of shareholders are simply ignored. That which maximizes the value of the firm is more-or-less conclusively presumed to be what the shareholders prefer, and that is the end of the matter. Indeed, *actual* polling of shareholder preferences on most

²⁸. See Harold Demsetz, *The Structure of ownership and the Theory of the Firm*, 26 J.L. & ECON. 387 (1983). See also George J. Stigler & Claire Friedland, *The Literature of Economics: the Case of Berle and Means*, 26 J.L. & Econ. 241 (1983).

²⁹The literature, much of which was quite technical in its use of mathematics, includes Mark Rubinstein, *Competition and Approximation*, 9 BELL J. ECON. 280 (1978); Steinar Ekern & Robert Wilson, *On the theory of the Firm in an Economy with Incomplete Markets*, 5 BELL J. ECON. 171 (1974); Oliver Hart, *On Shareholder Unanimity in Large Stock Market Economies*, 47 ECONOMETRICA 1057 (1979); Raymond Makowski, *Competition and Unanimity Revisited*, 73 AM. ECON. REV. 329 (1983); Hayne E. Leland, *Information, Managerial Choice and Stockholder Unanimity*, 45 REV. ECON. STUD. 527 (1977); Grossman, Sanford J. & Joseph E. Stiglitz, *Stockholder Unanimity in the Making of Production and Financial Decisions*, 94 Q.J. ECON. 543 (1980); Roy Radner, *A Note on Unanimity of Stockholders' Preferences among Alternative Production Plans: A Reformulation of the Ekern-Wilson Model*, 5 BELL J. ECON. MGMT. SCI. 181 (1974); Robert C. Merton & Marti Subrahmanyam, *The Optimality of a Competitive Stock Market*, 5 BELL J. ECON. & MGMT. SCI. 147 (1974).

production and finance decisions becomes a costly, frustrating waste of time and resources. As Eugene Fama and Merton Miller would say in the 1970s:

Where there exist organized capital markets in which shares can be freely bought and sold and where these markets are perfect ... it is possible to develop an objective, operational decision criterion for management that (1) does not involve stock holder utility functions directly but (2) leads to precisely the same investment and operating decisions that each stockholder would make if he were running the firm himself.³⁰

The basic logic of Fisher's separation theorem was that the goal of the firm is always to maximize the size of overall returns, which thus gives the shareholders in the aggregate the maximum opportunity to spend the profits as they please.³¹ Today, Fisher's separation theorem is regarded as a building block for the more general Modigliani-Miller (MM) theorem of corporate finance, developed in the 1950s, which states that in an efficient market for capital a firm's value is not a function of the way it is financed—i.e., its ratio of debt to equity. In this model the number, identity, or interests of shareholders became entirely irrelevant when the conditions of the theorem were satisfied.³² Of course, this model as all neoclassical models is severely reductionist. It assumes that profits are the only things that shareholders want. To the extent an

³⁰ EUGENE FAMA & MERTON MILLER, *THE THEORY OF FINANCE* 69 (Holt, Reinhardt & Winston 1972). For an enthusiastic embrace of separation of ownership and control as permitting specialized decision making and reducing agency costs, see Eugene F. Fama & Michael C. Jensen, *Separation of Ownership and Control*, 26 *J.L. & ECON.* 301 (1983).

³¹ See Remus D. Valsan & Moin A. Yahya, *Shareholders, Creditors, and Directors' Fiduciary Duties: A Law and Finance Approach*, 2 *VA. L. & BUS. REV.* 1, 35–36 (2007).

³² See discussion *infra*, text at notes ____; and see Harold Demsetz, *The Structure of Ownership and Control and the Theory of the Firm*, 26 *J.L. & ECON.* 375 (1983) (corporate performance does not depend on identity or configuration of shareholders); Harold Demsetz & Belen Villalonga, *Ownership Structure and Corporate Performance*, 7 *J. CORP. FIN.* 209 (2001) (shareholders will eventually adopt the ownership for that maximizes returns).

individual shareholder believes the firm should be pursuing some goal inconsistent with profit maximization his or her wishes are simply ignored.

Assumptions such as Fisher's separation theorem became particularly important in the analysis of highly competitive markets, where profit-maximizing behavior is an essential prerequisite to firm profitability. That is, the more competitive the market in which a firm operates the more important it becomes to ignore the divergent wishes of shareholders.³³

Ironically, this view stated the Berle and Means concern somewhat backwards. For them, separation of ownership and control was a problem in bigness and, at least to a degree, of monopoly as well.³⁴ But in fact substantial market power creates more tolerance for firm discretion than competition does. Or to say it somewhat differently, for the widely held firm in a highly competitive market, separation of ownership and control becomes a matter of survival.

Value Maximization and the Nature of the Firm

After Fisher, the next great statement of the neoclassical business firm was Ronald Coase's *The Nature of the Firm*, which was published in 1937 while Coase was still at the London School of Economics.³⁵ Coase simply assumed what Fisher had labored to prove. While Coase's article discussed decision making in several large, widely held American firms, it never so much as mentioned the diverse desires of shareholders. Coase began with the premise that the firm invariantly seeks to maximize its profits and queries how its managers decide how large the firm will be and the number of markets in which it will operate. Perhaps the best thesis statement of *The Nature of the Firm* is the one that Coase himself gave a half century later:

³³ On this point, see Fama & Jensen, *supra* note ____.

³⁴ See particularly BERLE & MEANS, *MODERN CORPORATION*, *supra* note ____, Book I, ch. 3, "The Concentration of Economic Power."

³⁵ Ronald H. Coase, *The Nature of the Firm*, 4 *ECONOMICA* (n.s.) 386, 404 (1937).

Whether a transaction would be organized within the firm . . . or whether it would be carried out on the market by independent contractors depended on a comparison of the costs of carrying out these market transactions with the costs of carrying out these transactions within an organization, the firm.³⁶

In making any production or distribution decision, from whether to switch suppliers, or not to use a supplier at all but to make something internally, a firm relentlessly and continuously compares costs and benefits, always taking the course that is most profitable. The Coasian firm *never* consults shareholders except insofar as one of them might have some information or expertise to offer. If the shoe manufacturer considers whether to continue purchasing laces from an independent supplier or to integrate vertically into lace production by building its own lace factory, it simply compares the costs and benefits of doing it either way. Importantly, these decisions are not simply “operational,” they are also “structural.” The aggregation of all of these decisions establishes how large the firm is horizontally, how many different products it produces, and also how large it is “vertically,” in the sense that it integrates different steps in the manufacturing and distribution process.³⁷

Coase has repeatedly professed that *The Nature of the Firm* was based on hard empirical work in the field. To be sure, the claim is not that his article was based on quantitative methods.³⁸ Rather, Coase claims that he formulated his ideas by examining the details of how production decisions are made in real life firms. Throughout his career Coase wrote with irritation about armchair economists who

³⁶ Ronald H. Coase, *The Nature of the Firm: Origin*, 4 J.L., ECON. & ORG. 3, 17 (1988).

³⁷ See Herbert Hovenkamp, *The Law of Vertical Integration and the Neoclassical Business Firm: 1880-1960*, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1268328.

³⁸ To the contrary, in speaking of his enlightening visit to a Ford Motor plant he observed that people were more willing to talk to him because “I do not want statistics. All I want are statements that are suggestive from the point of view of fitting into a theory of integration.” Coase, *Nature of the Firm: Origin*, *supra* note ___ at 14. Ronald H. Coase, *The Nature of the Firm: Origin*, 4 J.L., ECON. & ORG. 3, 17 (1988).

think of economics in terms of “markets” or “functions” which are entirely abstracted from reality.³⁹ Much of Coase’s work, particularly *The Problem of Social Cost*, has been made the subject of empirical studies.⁴⁰ And in his 1991 Nobel Prize lecture he railed at “armchair” economists whose principal work is a set of abstractions.⁴¹

³⁹Ronald H. Coase, *The Lighthouse in Economics*, 17 J.L. ECON. 357 (1974). In 1997 Coase said,

I don't reject any policy without considering what its results are. If someone says there's going to be regulation, I don't say that regulation will be bad. . . . What we discover is that most regulation does produce, or has produced in recent times, a worse result. But I wouldn't like to say that all regulation would have this effect because one can think of circumstances in which it doesn't. . . . Almost all the studies--perhaps all the studies—suggested that the results of regulation had been bad, that the prices were higher, that the product was worse adapted to the needs of consumers, than it otherwise would have been. I was not willing to accept the view that all regulation was bound to produce these results. Therefore, what was my explanation for the results we had? I argued that the most probable explanation was that the government now operates on such a massive scale that it had reached the stage of what economists call negative marginal returns. Anything additional it does, it messes up.

Thomas Hazlett, *Looking for Results: Nobel Laureate Ronald Coase on Rights, Resources, and Regulation*, REASON, Jan. 1997, at 40.

⁴⁰ E.g., ROBERT C. ELICKSON, ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES (Harvard Univ. Press 1991); Elizabeth Hoffman & Matthew L. Spitzer, *The Coase Theorem: Some Experimental Tests*, 25 J.L. & ECON. 73 (1982); Glenn W. Harrison, Elizabeth Hoffman, E.E. Ruström & Matthew L. Spitzer, *Coasian Solutions to the Externality Problem in Experimental Markets*, 97 ECON. J. 388 (1987); Elizabeth Hoffman & Matthew Spitzer, *Experimental Tests of the Coase theorem with Large Bargaining Groups*, 15 J. LEGAL STUD. 149 (1986). See also George J. Stigler, *Two Notes on the Coase Theorem*, 99 YALE L.J. 631 (1989) (defining the Coase Theorem as saying that prices in two areas subject to trade “will differ by no more than the cost of movement of the goods between the markets.”). On the empirical testing of mathematical propositions see Steven G. Medema & Richard O. Zerbe, *The Coase Theorem*, in 1 THE ENCYCLOPEDIA OF LAW AND ECONOMICS 836–92 (Gerrit de Geest & Boudewijn Boukaert, eds., 2000); Herbert Hovenkamp, *Marginal Utility and the Coase Theorem*, 75 CORNELL L. REV. 783 (1990).

⁴¹Coase, *The Institutional Structure of Production* (1991 Nobel Prize lecture), available at http://nobelprize.org/nobel_prizes/economics/laureates/1991/coase-lecture.html:

This neglect of other aspects of the system has been made easier by another feature of modern economic theory - the growing abstraction of the analysis, which does not seem to call for a detailed knowledge of the actual

Notwithstanding these protests, *The Nature of the Firm* is an exercise in pure theory. As Coase wrote:

It is hoped to show in the following paper that a definition of a firm may be obtained which is not only realistic in that it corresponds to what is meant by a firm in the real world, but is tractable by two of the most powerful instruments of economic analysis developed by Marshall, the idea of the margin and that of substitution, together giving the idea of substitution at the margin.⁴²

Why does a firm producing an undifferentiated product in competition not continuously produce more and more of that product, rather than committing its resources to producing a second product? In the real world we readily observe that firms produce multiple products. Coase's answer was that "there may be a point where it is less costly to organize the exchange transactions of a new product than to organize further exchange transactions of the old product."⁴³

economic system or, at any rate, has managed to proceed without it. Holmstrom and Tirole, writing on *The Theory of the Firm* in the recently published *Handbook of Industrial Organization*, conclude at the end of their article of 63 pages that "the evidence/theory ratio... is currently very low in this field". Peltzman has written a scathing review of the *Handbook* in which he points out how much of the discussion in it is theory without any empirical basis. What is studied is a system which lives in the minds of economists but not on earth. I have called the result "blackboard economics". The firm and the market appear by name but they lack any substance. The firm in mainstream economic theory has often been described as a "black box". And so it is. This is very extraordinary given that most resources in a modern economic system are employed within firms, with how these resources are used dependent on administrative decisions and not directly on the operation of a market. Consequently, the efficiency of the economic system depends to a very considerable extent on how these organisations conduct their affairs, particularly, of course, the modern corporation. Even more surprising, given their interest in the pricing system, is the neglect of the market or more specifically the institutional arrangements which govern the process of exchange. As these institutional arrangements determine to a large extent what is produced, what we have is a very incomplete theory.

⁴² Coase, *Nature of the Firm*, *supra* note __, at 386.

⁴³ *Id.* at 402. In *The Nature of the Firm* Coase used "marketing costs" to describe what would later be characterized as transaction costs. See *Nature of the Firm*, *supra* note __, at 403: "To determine the size of the firm, we have to consider the marketing costs (that is, the costs of using the price mechanism) . . .

Given that both markets and internal production have costs, a firm maximizes its profits by choosing among the most profitable alternatives, continuously comparing the marginal costs and returns of doing something “in house” against the costs and returns of purchasing from or selling to someone else.

To be sure, Coase made several observations to the effect that purchasers in companies are continuously searching for the best deal.⁴⁴ And he expanded this to include the idea that a firm might decide to manufacture one’s own shoe laces when the market conditions for purchasing them are too unfavorable. But this is largely common sense and common knowledge, and certainly does not establish the elegant theory of production choice that Coase developed in *The Nature of the Firm*. The theory underlying Coase’s brilliant paper is no more empirical than the observations of the early marginalists such as Jevons and Marshall that individuals have declining marginal utility and equate their utilities at the margin. One might observe that the home shopper who has three dozen eggs in the refrigerator but no milk will go to the store to purchase milk and not eggs. But that observation tells us little about the theory that consumers equate their utilities at the margin.

Toward the end of his article Coase queried to himself and his readers whether his concept of the firm “fits in with that existing in the real world.” He did so, not by looking at firms, but rather by examining the legal relationship of master and servant. After quoting

.” See also *id.* at 405, describing the businessman combines the functions of “initiative,” which refers to use of the market, and “management,” which refers to supervision of internal production, and that the resulting combination is the result of “marketing costs.” Fifty years later, when recalling the writing of *The Nature of the Firm*, Coase spoke of the same costs as transaction costs. See Coase, *Nature of the Firm: Origin*, *supra* note ___ at 17 (“The solution [to the problem of understanding why firms integrate vertically rather than purchasing] was to realize that there were costs of making transactions in a market economy and that it was necessary to incorporate them into the analysis.”)

⁴⁴ See Ronald H. Coase, *The Nature of the Firm: Origin*, 4 J.L., ECON. & ORG. 3, 8–10, 13 (1988) (recounting that while visiting the United States prior to writing *The Nature of the Firm*, he visited the purchasing department at a Union Carbide plant and listened to telephone conversations that “gave me a lively sense of the possibilities of substitution”; also recounting discussions at General Motors about acquisition of Fisher Body works, its former trading partner, and being told that it was to ensure that Fisher’s plant would remain located close to GM).

a lengthy definition from an English Jurist, Francis Raleigh Batt,⁴⁵ Coase concluded that what the employee (servant) and agent (buyer or reseller) had in common was not the presence of a fixed wage or commission, but rather the degree of freedom that an agent could exercise.⁴⁶ Coase concluded:

When we are considering how large a firm will be the principle of marginalism works smoothly. The question always is, will it pay to bring an extra exchange transaction under the organizing authority? At the margin, the costs of organizing within the firm will be equal either to the costs of organising in another firm or to the costs involved in leaving the transaction to be “organized” by the price mechanism. Business men will be constantly experimenting, controlling more or less, and in this way, equilibrium will be maintained.”⁴⁷

The Nature of the Firm did for firm structure what Fisher’s separation theorem had suggested for firm finance: it turned the firm into an engine whose only goal was the pursuit of profits, which it achieved by continuously comparing the marginal costs and benefits from doing things in different ways. The result was a “moving equilibrium,” within which managers made continuous decisions about how and what to produce, and how and what to purchase. At the margin, internal and external costs are equalized. Significantly, however, this was a set of purely technical problems, resolved for the manager by experience and the economist by price theory and industrial organization. To the extent they might differ, the independent wishes of shareholders had no place.

The Financial Structure and Value of the Corporation

The earliest neoclassical theorems in corporate finance, such as Irving Fisher’s separation theorem, assumed that capital markets were efficient.⁴⁸ In fact, the roots of the modern Efficient Capital

⁴⁵ FRANCIS RALEIGH BATT (1890-1961), *LAW OF MASTER AND SERVANT* (4th ed. 1950) (1928) (quoting p. 6).

⁴⁶ Coase, *Nature of the Firm*, *supra* note ___ at 404 (quoting BATT, *id.* at 7).

⁴⁷ Coase, *Nature of the Firm*, *supra* note ___ at 404–05.

⁴⁸ See discussion *supra*, text at notes ___.

Market Hypothesis (ECMH) were developed in neoclassical marginalism early on. As the early marginalists observed in the late nineteenth century,⁴⁹ people tend to equate their utilities. They purchase a good until the marginal utility of that good declines to the level they experience for some other good. The corollary in finance is that people equate their returns. Stocks became investment vehicles whose prices are calculated to produce the same level of return, once adjusted for risk.⁵⁰

One important difference between classical and neoclassical value theory lay in the treatment of risk and uncertainty. Because classicism measured value by looking at past averages, the theory did not explicitly incorporate the risk of uncertain future events. Things such as the value of labor or of a business firm were measured by reference to previous investment, and risk of future events did not formally fit into the theory. To be sure, business persons investing in the nineteenth century certainly took anticipated risks into account, but the classical value model did not account for them.⁵¹ In very sharp contrast, marginalism's criteria of willingness-to-pay, or expected value, almost always involved a certain amount of uncertainty. For longer run investments or less stable markets the uncertainty could be considerable. Figuring out how to accommodate uncertainty about the future into economic modeling proved to a central problem of neoclassical economics in the first half of the twentieth century.

Before modern corporate finance theory could emerge several things had to be worked out. *First*, marginalism had to develop a robust theory of competition. Because of its forward looking nature that was a theory in which information, risk, and uncertainty acquired heightened importance.⁵² *Second*, this theory had to be applied to

⁴⁹ See Herbert Hovenkamp, *The Marginalist Revolution in Legal Thought*, 46 VAND. L. REV. 305, 309-315 (1993); Herbert Hovenkamp, *The First Great Law and Economics Movement*, 42 STAN. L. REV. 993, 1001 (1990).

⁵⁰ See, e.g., FRANK H. KNIGHT, RISK, UNCERTAINTY, AND PROFIT 64-66 (1921).

⁵¹ See Herbert Hovenkamp, *The Marginalist Revolution in Corporate Finance: 1880-1965*, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1141291.

⁵² See Herbert Hovenkamp, *The Neoclassical Crisis in U.S. Competition*

the corporate equity market. The theory, coupled with a set of empirical studies of commodity and stock market behavior, led to the formulation of the Efficient Capital Market Hypothesis.⁵³

The initial impact of marginalist economics was a great deal of doubt about the competitiveness and even the robustness of markets, and many of the earliest marginalists abandoned the commitment to free markets that was explicit in classical political economy. Some even toyed with socialism as an alternative to free markets.⁵⁴ Prominent neoclassicists backtracked considerably from the classical hostility toward economic regulation.⁵⁵ Major technical controversies within neoclassical economics served to create significant doubts about the efficiency of markets.⁵⁶

Gradually neoclassicism was able to formulate the details of a more-or-less robust model of competition, although the domain of so-called "perfect competition" within marginalism was never as broad as the classicists' faith that strenuous competition prevailed in nearly every market. The neoclassicists had to deal with numerous complexities that the marginalist model contemplated, such as increasing returns to scale, which gave larger firms a cost advantage over smaller ones,⁵⁷ and product differentiation, which generally

Policy, 1890-1955, available at
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1156927.

⁵³ See discussion *infra*, text at notes ___.

⁵⁴ See John W. Mason, *Political Economy and the Response to Socialism in Britain, 1870-1914*, 23 HIST. J. 565 (1980).

⁵⁵ See WILLIAM S. JEVONS, *THE STATE IN RELATION TO LABOUR* 1–21 (1882). See also HENRY SIDGWICK, *THE PRINCIPLES OF POLITICAL ECONOMY* 518–44 (1887) (prominent marginalist criticizing laissez faire position of the classicists). On the attitudes of early marginalists toward wealth distribution see Robert Cooter and Peter Rappoport, *Were the Ordinalists Wrong about Welfare Economics?*, 22 J. ECON. LIT. 507 (1984).

⁵⁶ See HERBERT HOVENKAMP, *ENTERPRISE AND AMERICAN LAW, 1836-1937*, at chs. 22-25 (1991); and see, e.g., JOAN ROBINSON, *THE ECONOMICS OF IMPERFECT COMPETITION* (1933); EDWARD CHAMBERLIN, *THEORY OF MONOPOLISTIC COMPETITION* (1933).

⁵⁷ See Hovenkamp, *Neoclassical Crisis in Competition Policy*, note ___; Henry Carter Adams, "Relation of the State to Industrial Action," 1 *Pub., Am. Econ. Assn.*

made marginal cost pricing unworkable.⁵⁸ In addition, marginalist corporate finance theory had to work out some important problems regarding the relationship between a business firm's market incentives, its selection of sources of capital, and the possibly quite separate incentives of its stockholders. The Fisher separation theorem discussed above was an important first step. The great corporate finance theorems of the middle of the twentieth century were another.

Modigliani-Miller: The Fungibility of Ownership for Debt

Today, Irving Fisher's separation theorem is regarded as a building block for the more general Modigliani-Miller (MM) theorem of corporate finance, developed in the 1950s, which states that in an efficient market for capital a firm's value is not a function of the way it is financed—i.e., its ratio of debt to equity. In this model the number, identity, or interests of shareholders became entirely irrelevant to the firm's financial decisions, assuming that the conditions of the theorem were satisfied.⁵⁹

In the traditional law and theory of the business firm ownership and debt had always been regarded as two very distinctive things. Ownership was a set of property rights in the assets of the firm, or the stock if it was a corporation; owners also made operational decisions. By contrast, debt was contractual and gave creditors a right to collect periodic interest payments and eventually receive their principal back, but ordinarily debt gave them no say in the firm's operations. A business firm commonly has both owners and creditors and also has considerable control over the amount of equity (ownership) and debt that it has. For example, if it is thinking of building a new plant it might finance the project by issuing additional shares (ownership) or else by borrowing money.

7, 52, 59–64 (1887) (arguing that industries subject to significant scale economies must be regulated by the government). See also HOVENKAMP, ENTERPRISE, *supra* note __, at Ch. 23.

⁵⁸ See CHAMBERLIN, note __.

⁵⁹ Franco Modigliani & Merton H. Miller, *The Cost of Capital, Corporation Finance and the Theory of Investment*, 48 AM. ECON. REV. 261 (1958).

Under traditional notions of corporate finance a firm could reduce its cost of capital and thus increase its value by taking on debt. Typically debt is cheaper because the rate of return on bonds is lower than the returns to capital, reflecting the fact that bonds have lower risk. However, if a firm borrows too much – that is, if it becomes excessively leveraged – then risk begins to rise and both stockholders and bondholders will demand higher returns, so the cost of capital will start to rise again. As a result, under traditional notions of corporate finance the cost of capital fell as the corporation took on more debt, reached bottom at a certain point, but then rose again as the amount of debt was regarded as excessive. One important way of maximizing the firm's value by reducing its cost of capital was to find the optimal debt/equity ratio. Both too little and too much debt were regarded as costly.

The Modigliani-Miller theorem was named after its developers. Franco Modigliani was an Italian born Jewish economist who fled Europe during the Italian Fascist purge, eventually settled in the United States and made his career mainly at MIT. Merton Miller was an American economist who spent most of his senior career at the University of Chicago. The Modigliani-Miller theorem was worked out in a series of articles written in the late 1950s and early 1960s.⁶⁰ The theorem states that in a perfectly functioning market for capital, debt and equity are completely fungible. As a result, it does not matter what proportion of debt to equity a firm has, and its value is determined entirely by its stream of earnings in the product and services markets where it operates.⁶¹

⁶⁰ Franco Modigliani & Merton H. Miller, *The Cost of Capital, Corporation Finance and the Theory of Investment*, 48 AM. ECON. REV. 261 (1958); Franco Modigliani & Merton H. Miller, *Dividend Policy, Growth and the Valuation of Shares*, 34 J. BUS. 411 (1961) (payment of dividends has no affect on valuation of firm); Franco Modigliani & Merton H. Miller, *Corporate Income Taxes and the Cost of Capital: A Correction*, 53 AM. ECON. REV. 433 (1963). See also Franco Modigliani & Merton H. Miller, *The Modigliani-Miller Propositions After Thirty Years*, 2 J. ECON. PERSP. 99 (1988).

⁶¹ See FRANCO MODIGLIANI, 3 THE COLLECTED PAPERS OF FRANCO MODIGLIANI xiii (A. Abel ed., 1980), stating the basic theorem as:

with well-functioning markets (and neutral taxes) and rational investors, who can 'undo' the corporate financial structure by holding positive or negative amounts of debt, the market value of the firm - debt plus equity - depends only on the income stream generated by its assets. It follows, in particular, that the value of the firm should not be affected by the share of

Modigliani and Miller reasoned that in a perfectly functioning capital market all participants will be able to optimize. For example, suppose there are two firms, Xequity and Xdebt, identical in every way except that all of Xequity's entire capital comes from stock ownership, while Xdebt's capital is based 60% on equity and 40% on debt. How much would a prospective owner be willing to pay for each of these firms. The traditional answer would say that the firm with the 60%/40% debt equity ratio would be worth either more or less than the debt free firm depending on how close it was to the optimal debt/equity ratio.

By contrast, the Modigliani-Miller analysis said that the value of the two firms would be precisely the same because in a perfectly functioning capital market purchasers and sellers could make their *own* offsetting debt-equity substitutions. For example, an investor could purchase the debt free firm but borrow 40% of the money, leaving herself in a debt-equity position precisely equal to that of the leveraged firm's position. As a result, if one firm was priced more highly than the other she would take the cheaper one without regard to the debt-equity ratio. Any time the market tended to value one of the two firms higher than the other based simply on its debt-equity ratio, rational investors would borrow a complementary amount of money, purchase the cheaper option, and trade the value back to the equilibrium point. Ultimately the mixture of equity to debt would have no impact on the value of the firm. Under this concept stock ownership, or equity, became nothing more than one of two completely interchangeable ways of providing capital to the firm.

The theorem applies only to perfectly competitive markets without transaction costs. As a result, it comes with the same caveats as the Coase Theorem does. That is, its relevance is not the little story about what happens in a world of perfect, costless

debt in its financial structure or by what will be done with the returns - paid out as dividends or reinvested (profitably).

Relatedly, see Harold Demsetz, *The Structure of Ownership and Control and the Theory of the Firm*, 26 J.L. & ECON. 375 (1983) (corporate performance does not depend on identity or configuration of shareholders); Harold Demsetz & Belen Villalonga, *Ownership Structure and Corporate Performance*, 7 J. CORP. FIN. 209 (2001) (shareholders will eventually adopt the ownership for that maximizes returns); Michael Klausner, *The Contractarian Theory of Corporate Law: A Generation Later*, 31 J. CORP. L. 779 (2006).

capital markets. Rather, the policy concerns are with what happens and what the appropriate policy responses should be in the world that we live in, where markets are less than perfect and transaction costs are positive. For example, to the extent that debt receives tax treatment that is more favorable than the treatment given to dividends, the impact will be to shift firms more toward debt. This could result in excessive leverage and fixed interest cost commitments that cannot be paid in the event of a financial downturn.

The Modigliani-Miller theorem can also be seen as a specific application of Coase's idea in *The Nature of the Firm* that a firm's managers will always choose the more profitable course of operation.⁶² Modigliani-Miller extends this observation to choices about the firm's financial structure. In the absence of transaction or agency costs the value of the firm is invariant to the way that it is financed – that is, by the spreading of ownership or an increase in debt. The corollary is that in the presence of such costs the firm will select the more profitable alternative. As a result, the firm's choice about whether to issue more shares or taken on more debt is driven entirely by the presence of frictions in the system, which could be taxes, agency problems or other internal inefficiencies, imperfect information, but not by any notion that the firm is inherently more valuable under one or another form of organization.⁶³

*Competition and Equity Markets:
the Efficient Capital Market Hypothesis*

As the modern neoclassical model of perfect competition developed through the first half of the twentieth century the role of information became increasingly important. Perfect competition depended on markets with a fairly large number of buyers and sellers, lack of significant scale economies, and the free flow of information. University of Chicago economist Frank Knight stressed it in his important 1921 book *Risk, Uncertainty and Profit*, which identified the costless flow of information as a precondition to

⁶² See discussion *supra*, text at notes ____.

⁶³ MARK RUBINSTEIN, A HISTORY OF THE THEORY OF INVESTMENTS: MY ANNOTATED BIBLIOGRAPHY 138 (Wiley 2006).

effective competition.⁶⁴ In addition, Knight introduced the concepts of risk and certainty as inherent in marginalism's emphasis on reasonable expectations. For Knight "risk" referred to variations in the future whose probability was knowable. With good foreknowledge of probabilities risks could be traded under competitive conditions. For example, a precisely one in ten chance of making a \$1000 oil discover is worth \$100. In contrast, "uncertainty" referred to future events whose probability could not be known. In such cases investors would demand a premium as compensation for exposure to an adverse outcome whose chance of occurrence was unknowable.

Many of the early marginalists viewed the stock market with suspicion, regarding it as not conforming to the usual laws of supply and demand. Certainly the boom-bust stock price cycles of the late nineteenth and early twentieth century served to frustrate application of basic competition theory to stock pricing. Prices appeared to gyrate wildly, with no apparent relation to the value of the underlying firm.⁶⁵ Under this line of thinking technical analysis flourished, with stock traders hoping to pick winners by trying to find predictable similarities in past pricing behavior.⁶⁶

But a more theoretical purist strand in neoclassical economics developed the view that, notwithstanding the frenzy with which stocks are often purchased and sold, overall pricing tends to reflect fundamental values. For example, Irving Fisher, author of the separation theorem, consistently argued that stock prices reflected intrinsic values in which returns to stocks operated as an "implied" rate of interest in which owners were compensated with higher

⁶⁴ FRANK H. KNIGHT, RISK, UNCERTAINTY, AND PROFIT 78–87 (1921).

⁶⁵ See, e.g., JOHN MAYNARD KEYNES, GENERAL THEORY OF EMPLOYMENT, INTEREST AND MONEY, Ch. 12 (1936) (arguing that stock market operates as a kind of "beauty contest" in which shares prices were based not on fundamental value but rather one each buyer's prediction of what valuation others would place on a firm's shares). See also JOHN HICKS, VALUE AND CAPITAL: AN INQUIRY INTO SOME FUNDAMENTAL PRINCIPLES OF ECONOMIC THEORY (1939); ROBERT RHEA, THE DOW THEORY (1932).

⁶⁶ See LAWRENCE E. MITCHELL, THE SPECULATION ECONOMY: HOW FINANCE TRIUMPHED OVER INDUSTRY 274 (BK Pub. 2007).

returns in exchange for taking on greater risk.⁶⁷ John Burr Williams also insisted that the price of shares reflected the intrinsic value that they represented -- namely, objectively reasonable expectations of future earnings and dividends. Mathematically, the value of a corporation is the expected value of its stream of future earnings.⁶⁸ Building on Williams' work, University of California economist Harry Markowitz then developed the idea that the development of an optimal portfolio of stocks consists in selecting stocks of differing risk levels, and that riskier investments were offset by higher rates of return, although greater variability as well.⁶⁹

The efficient capital market hypothesis was very much constructed on the marginalist theory of perfect competition, in which every market participant is a price taker and the price of a stock quickly moves toward an equilibrium that tends to equalize its risk adjusted return to that of other stocks and financial instruments.⁷⁰ The thinking developed in stages, from the observation that returns at the margin will be equalized; to the observation that to the extent the market discounts all information about a stock into the price the current price is always the "correct" one; to the observation that even high risk and low risk stocks should produce the same return in the

⁶⁷ IRVING FISHER, *THE RATE OF INTEREST* 10 (1907) (speaking of an "implied rate of interest" in stocks that reflect the investor's anticipation of returns; see also *id.* at 216, on the differential returns of stocks and bonds, noting that the intrinsic value of stocks is such as to produce a higher rate or return because they are also accompanied by more risk). More than two decades later Fisher returned to the same themes. IRVING FISHER, *THE THEORY OF INTEREST: AS DETERMINED BY THE IMPATIENCE TO SPEND INCOME AND OPPORTUNITY TO INVEST IT* (1930).

See also BENJAMIN GRAHAM & D.L. DODD, *SECURITY ANALYSIS: PRINCIPLES AND TECHNIQUE* (1951) (emphasizing a strategy of "value investing" by studying fundamentals in search of undervalued stocks).

⁶⁸ JOHN BURR WILLIAMS, *THEORY OF INVESTMENT VALUE* (1938).

⁶⁹ See Harry Markowitz, *Portfolio Selection*, 7 J. Fin. 77 (1952).

⁷⁰ See Jean-Jacques Laffont & Eric S. Maskin, *The Efficient Market Hypothesis and Insider Trading on the Stock Market*, 98 J. POL. ECON. 70 (1990), who notes that the ECMH assumes nearly perfect competition and breaks down under oligopoly, where prices and the release of information may be strategic. If transaction costs are positive or there are serious asymmetries in information then various versions of the hypothesis may not apply.

long run because high risk will be compensated through a stock price that yields a higher return.⁷¹ As a result, any randomly selected mixture of stocks should perform just as well as any other similarly diversified mixture.

From that point the only missing ingredient was informational efficiency -- or the idea that the market price of a security is a reflection of the information that is publicly known about it. To the extent that information is both accurate and relatively quickly disseminated this price will tend to reflect rational expectations about fundamental value.⁷² Already in 1900 Louis Bachelier, a French mathematician, had written a doctoral dissertation entitled *The Theory of Speculation*, arguing that the history of commodity prices shows that they are in fact randomly distributed, making it impossible to predict future prices from past price histories.⁷³ Beginning in the 1930s a number of studies suggested the same thing for stock prices.⁷⁴ For example, detailed recording of a series of throws of a

⁷¹ Harry Markowitz, *Portfolio Selection*, 7 J. FIN. 77 (1952).

⁷² Eugene F. Fama's doctoral dissertation, often credited with assembling the data and proofs that created the modern efficient market hypothesis, was published as Eugene F. Fama, *The Behavior of Stock-Market Prices*, 38 J. BUS. 34 (1965). See also Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. FIN. 383 (1970) (initially proposing the "strong," "semi-strong" and "weak" forms of the efficient market hypothesis). See also Eugene F. Fama, *Efficient Capital Markets II*, J. FIN. 1575 (1991); EUGENE F. FAMA, FOUNDATIONS OF FINANCE (1976). See also SANFORD GROSSMAN, THE INFORMATIONAL ROLE OF PRICES (1989).

On the history of the efficient market hypothesis, see MICHAEL C. JENSEN & CLIFFORD W. SMITH, JR., THE MODERN THEORY OF CORPORATE FINANCE 2–20 (1984).

⁷³ LOUIS BACHELIER, THE THEORY OF SPECULATION (Princeton Univ. Press 2006) (1900).

⁷⁴ See Holbrook Working, *A Random Difference Series for Use in the Analysis of Time Series*, 29 J. AM. STATISTICAL ASSN. 11 (1934) (stock prices appeared to move randomly, making technical forecasting impossible); Alfred Cowles, *Can Stock Market Forecasters Forecast*, 5 ECONOMETRICA 309 (1933) (concluding that professional stock pickers did not do better than a random walk in selecting stocks for their clients); Alfred Cowles & H.E. Jones, *Some A Posteriori Probabilities in Stock market Action*, 5 ECONOMETRICA 280 (1937) (similar). See Maurice G. Kendall, *The Analysis of Economic Time-Series*, 96 J. ROYAL STATISTICAL SOC. 11 (1953) (similar).

single die provides information that there is a one in six chance of getting a five, but no sequence in historical throws provides any useful information about predicting a sequence in future throws. As a result an efficient investor might as well forget the research and purchase shares without even a minimal knowledge of a firm's business or its prospects.

In his now famous doctoral dissertation Eugene Fama assembled this theory about competition, information dispersion as well as the empirical studies of pricing behavior into what has become known as the efficient capital market hypothesis (ECMH). The hypothesis states in its most generalized version that in any market in which information flows without restraint current market prices reflect investors' collective beliefs about the value of the goods that are being traded. While ECMH can be applied to any market that satisfies its conditions and has frequently been applied to commodities markets,⁷⁵ its main impact has been in the analysis of stock market pricing. The ECMH comes in three versions: weak, semistrong, and strong. The weak version states that current prices reflect all the information contained from observations of previous investment prices. As a result, historical pricing information is not useful for predicting future pricing, making so-called "technical" analysis from price movements useless as a predictor of future prices. Under the semistrong version current prices reflect all public information, including technical information but also information pertaining to "fundamentals," which is information about the performance and prospects of a firm, its assets and liabilities, P/E ratio, and the like. If you learn something about a firm in the newspaper the market price has already reflected that news and trading on it is of no use. Further, there is no point studying a firm's fundamentals in order to identify under- or over-valued stocks. Thus neither technical analysis nor fundamental analysis will work. Finally, the strong form adds to this that even private information is discounted into the stock price. As a result even information from such activities as insider trading will be included.⁷⁶

⁷⁵ E.g., Roger W. Gray & David J.S. Rutledge, *The Economics of Commodity Futures Markets: A Survey*, 39 REV. MKTG. AGRIC. ECON. 3 (1972).

⁷⁶ See STEPHEN A. ROSS, RANDOLPH W. WESTERFIELD & JEFFERY F. JAFFE, *CORPORATE FINANCE* 352–57 (7th ed. 2005).

Both the strong and the semistrong strong version of EMCH have strong policy implications for corporate disclosure and finance. Principally, they mitigate strongly against hard regulation, although in favor of disclosure of information.⁷⁷ With respect to information, mandatory disclosure is more important for smaller companies than for larger publicly traded companies that are likely to be followed by a large number of analysts.⁷⁸ In general, the amount of regulation of information that should be supplied varies inversely with the amount of information actually available and disseminated by private analysts.⁷⁹ Finally, the type of financing a firm chooses, or its production or expansion decisions will always be reflected in the market price, thus making command-and-control regulation largely unnecessary.

Conclusion: the Separation of Ownership and Awareness

Nearly every interesting assertion in Berle and Means' *Modern Corporation and Private Property* has been disputed, including the fact of separation of ownership and control itself. Stigler and Friedland disputed that ownership and control were substantially separated in any functional sense at all.⁸⁰ Other scholars doubt that stock ownership was as dilute in the 1930s and earlier as Berle and Means suggested,⁸¹ or believed that even in

⁷⁷ See Charles R. Plott, *Markets as Information Gathering Tools*, 67 S. ECON. J. 1, 9–10 (2000). The Supreme Court approved what amounted to the semistrong form of ECMH in *Basic, Inc. v. Levinson*, 485 U.S. 224 (1988). It had been applied previously in many circuits. See, e.g., *Blackie v. Barrack*, 524 F.2d 891 (9th Cir. 1975), cert. denied, 429 U.S. 816 (1976). On the *Basic* litigation and the reaction, see JOEL SELIGMAN, *THE TRANSFORMATION OF WALL STREET* 660–65 (3d ed. 2003). On this history of the fraud on the market hypothesis in litigation prior to *Basic*, see Barbara Black, *The Strange Case of Fraud on the Market: A Label in Search of a Theory*, 52 ALB. L. REV. 923 (1989).

⁷⁸ See Jeffrey N. Gordon & Lewis A. Kornhauser, *Efficient Markets, Costly Information, and Securities Research*, 60 N.Y.U. L. REV. 761, 810–11 (1985).

⁷⁹ *Id.*

⁸⁰ George J. Stigler & Claire Friedland, *The Literature of Economics: the Case of Berle and Means*, 226 J.L. & ECON. 337, 344 (1983).

⁸¹ See, e.g., Leslie Hannah, *The Divorce of Ownership from Control from 1900: Re-calibrating Imagined Global Historical Trends*, 49 BUS. HIST. 404 (2007). Contra EDWARD S. HERMAN, *CORPORATE CONTROL, CORPORATE POWER: A*

widely held corporations organized blocks of stockholders preserve effective ownership control.⁸² Yet other literature disagrees strongly and gives evidence that, at least as a factual matter, Berle and Means were correct. In many large corporations stock ownership is in fact diffuse and managers are not effectively controlled by owners.⁸³ In any event, the separation of ownership and control that Berle and Means claimed to identify would be a crucial component in the formation of corporate governance and finance theory for the balance of the twentieth century.⁸⁴

Of course, in an important sense the historical fact of separation of ownership and control is but a detail. Much more important are the conclusions to be drawn. For Berle and Means and other Institutionalists, the Legal Realists, and also for more recent critics such as Ralph Nader,⁸⁵ the result was corporate autocracy and waste. For the neoclassicists, by contrast, it was an essential

TWENTIETH CENTURY FUND STUDY (Cambridge Univ. Press 1981) (finding widespread dispersion of stockholders already by 1900).

⁸² Clifford G. Holderness, *The Myth of Diffuse Ownership in the United States*, REV. OF FIN. STUDIES (forthcoming 2008), *currently available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=991363. (96% of a sample of publicly traded firms in the United States have blockholders that, on average, own 39% of the shares in their corporation).

⁸³ See Brian Cheffins & Steven Bank, *Is Berle and Means Really a Myth?* (working paper 2008), *available at* www.finance.ox.ac.uk/NR/rdonlyres/B9D57DE9-8810-4A5D-891B-5C6BB10CB005/0/20081126BrianCheffins.pdf. The empirical work leading up to *The Modern Corporation* was developed in Gardiner C. Means, *The Separation of Ownership and Control in American Industry*, 46 Q. J. ECON. 68 (1931). See also R.A. Gordon, *Stockholdings of Officers and Directors in American Industrial Corporations*, 50 Q.J. ECON. 622 (1936) (essentially confirming Berle and Means' factual hypothesis); R.A. Gordon, *Ownership by Management and Control Groups in the Large Corporation*, 52 Q. J. ECON. 52 367 (1938) (similar); Raymond Goldsmith *et al.*, *The Distribution of Ownership in the 200 Largest Non-financial Corporations*, T.N.E.C. Investigation of Concentration of Economic Power, Monograph No. 29 (Washington D.C., 1940) (similar).

⁸⁴ JAMES P. HAWLEY & ANDREW T. WILLIAMS, *THE RISE OF FIDUCIARY CAPITALISM: HOW INSTITUTIONAL INVESTORS CAN MAKE CORPORATE AMERICA MORE DEMOCRATIC* (2000).

⁸⁵ See RALPH NADER, *THE CONCORD PRINCIPLES: AN AGENDA FOR A NEW INITIATORY DEMOCRACY* (1992).

prerequisite to theory. By the 1970s marginalism and price theory came to define every aspect of the business firm, including its behavior, its market structure, and its financial structure. Stock ownership became no more than a detail, and even when it was relevant did no more than explain deviations from the norm.

So the result of marginalist finance theory, particularly the efficient capital market hypothesis, was to take Berle and Means' separation of corporate ownership and control one step further, to the separation of ownership and awareness. In an efficient capital market investors can maximize their returns without even knowing anything about the products a firm makes, the markets in which it operates, or even the name of its CEO. A random selection of stocks produces the same return as the most careful research.⁸⁶ Indeed, under the strong version of ECMH even the actions of managers become irrelevant because they will immediately be reflected in the stock price as well. The effect was to move the shareholder in the publicly traded corporation to the furthest extent possible from the nineteenth century vision of the classical corporation as a device for limiting liability and facilitating investment by a group of active owner-operators.

⁸⁶ See DONALD R. STABILE, FORERUNNERS OF MODERN FINANCIAL ECONOMICS: A RANDOM WALK IN THE HISTORY OF ECONOMIC THOUGHT, 1900-1950 (2005).